THE REVIEW PRESENTS

THE GREEN ISSUE

Jerry Clifton speaks on renewable energy, cars, air pollution

SHREYA GADDIPATI
Managing News Editor

Nearly eight months after winning Newark's mayoral election and discussing his goals toward sustainability for the city, Jerry Clifton touched upon the issues of establishing renewable energy, combating the effects of pollution caused by vehicles and maintaining a clean environment in Newark.

In a previous interview with The Review, Clifton elaborated on his plans to partner with the private sector when it came to supplying the city of Newark's electricity, in hopes that it would provide price consistency to consumers, as well as making a responsible decision to choose an environmentally friendly option.

"Until people show that there is a market for it, the price isn't going to come down, and we've got to all participate— the state, the county and anyone who is involved in the sale of electric— in showing the world that we want renewable and we're willing to start the process to that end," Clifton said.

He previously detailed partnering with a private company that would "stabilize [Newark residents'] rates for a decade or two" in the effort to get renewable energy with "rates [being] locked in for a long period of time." However, this plan has since fallen through.

"The company who had reached out to me said 'Well, we'll stabilize your rates for 20 years,'" Clifton said. "[They suggested] a cost of a [consumer price index] escalator. Well, that's where the problem begins. I think in 10 years, the cost of renewable energy is going to start to come down because of more and more people going to that resource, and why would I go for the 20-year contract and then for a cost escalator?"

The consumer price index (CPI) is a measure of the average change over time in the prices paid for a market basket of goods and services. Escalation agreements often use CPI to adjust payment for changes in price over time. However, Clifton states that in this particular negotiation, the CPI would be used in order to maintain or increase electricity rates even if the cost of production went down.

"[The company was] going to tie increases to that," Clifton said. "Even if their cost of doing business went down, our cost of buying their product would be stabilized and actually creep up a little bit."

Since, Clifton has favored working with the Delaware Municipal Electric Corporation (DEMEC) when it comes to providing electricity to Newark citizens.

"In retrospect, what I was looking for controlling costs for the neighbors of Newark, but I think it became clear to me [that it isn't] going to happen through a private sector company because DEMEC [is controlled] by the member cities," Clifton said. "Tom Coleman, the city manager, sits on the board of DEMEC, because we are a member city. And we own about 35% because we use 35% of the power."

DEMEC represents and serves the nine different cities and towns, also known as the member cities, located throughout Delaware by fulfilling their electrical needs. According to Clifton, since DEMEC is a government agency, each city can control of portion of DEMEC through their governmental representatives that is proportional to the amount of power they use. One of these cities is Newark.

"We have the best of both worlds because we have reliable energy, and we have energy that is starting to nonetheless move towards a renewable portfolio," Clifton said. "But the

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SAM FORD/THE REVIEW

What really happens to the recycling on campus?

VICTORIA CALVIN
Copy Editor

Nearly every classroom, residence hall, office, apartment, student center or other inhabited area on campus has a little blue bin in it. Sometimes these are marked "single-stream recycling" or just "recycling" in residence hall rooms.

However, recently students have raised concerns regarding how efficient the recycling system on campus really is.

In a presentation that Michelle Bennett, the university's sustainability manager, has given to multiple classes and organizations on campus, she warns about the consequences of specifically recycling contamination and the increased costs it may have on the university.

According to Bennett's presentation, a common concern shared among those involved in the recycling process on campus is that, while the university has said that recycling gets sent to the recycling

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LOUIS MASON/THE REVIEW

"Fed up with the dump:" The issue of food waste on campus

KELSEY WAGNER
Staff Reporter
SUNYU KANG
Senior Reporter

It's 6:30 p.m. and Caesar Rodney Dining Hall is buzzing with activity. As students finish their meals, they place their plates, still loaded with food, onto the conveyor belt to be washed. The filled plates slowly disappear from view and from memory. The conveyor belt always sits ready to devour what the students haven't.

College campuses all across the nation face the issue of food waste, and the University of Delaware is no exception.

"It's a big problem on campus, and students should think more about what they put on their plates," senior environmental studies major Jacquelyn Attardi said.

In dining halls, students tend to grab more food than they can finish. The leftover food cannot be repurposed, resulting in excessive quantities of food waste.

"It's pretty bad, honestly, like seeing the conveyor belts with plates with uneaten food, all that stuff," Freshman Rita Palko said.

In an effort to mitigate this problem, the university implemented food digester machines, which liquify food waste so it can be disposed of in a more sustainable fashion. The liquid waste from the digesters can be sent to agriculture sites, such as South Campus, to be used as fertilizer. The use of these machines, diverts food waste from landfills, which emit significant amounts of methane, a potent greenhouse gas.

In the month of October, 9,500 pounds of food waste from Caesar Rodney Dining Hall went through the digesters. However, these machines are still not enough to combat the amount of waste leftover by students.

Other factors, such as overproduction of

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Electric cars part of a solution for a cleaner electric grid

RACHEL SAWICKI
Senior Reporter

Carbon emissions from transportation make up nearly one-third of the overall greenhouse gas pollution in the United States. The science of electric cars are a potential saving grace to cut out these emissions, and the university is receiving more and more requests to accommodate such vehicles each year.

There are currently 10 charging stations scattered around the university's campus, including one behind Hullihen Hall and one in the Perkins Garage, both of which require a permit or are pay-by-plate.

McKay Jenkins, an English and journalism professor, owns a Prius Hybrid. He drives an hour from Baltimore every day, and his car goes 25 miles on a full charge before switching over to gas. By the time Jenkins arrives at school, he needs a place to charge his car. But more often than not, the spaces around campus that have a charging station are already occupied.

"How frustrating is it to have an electric car and have nowhere to plug it in?" Jenkins said.

A lack of charging stations is not the only reason that people may be deterred from buying an electric vehicle. Mike Anderson, a junior communication interest major, owns a 2007 Ford F-250, which gets about 14 miles per gallon. But, his family often takes camping, hiking and boating trips, where his truck comes in handy as a heavy-duty vehicle able to handle dragging along their boat and outdoor supplies. However, most electric vehicles made today are small sedan models.

"I'd be totally down for having an electric vehicle," Anderson said. "If the technology is there and I can do what I need to do with it, I have no issue with it being electric instead of gas."

Toyota, the manufacturer behind the hybrid Prius, released a hybrid pickup in 2018, but the wait for a fully-electric truck won't be long for truck owners like Anderson. The popular electric car manufacturer, Tesla, is set to unveil their electric pickup model, the "Cybertruck," on Nov. 21 on the last day of the Los Angeles Auto Show. Ford could however become a serious competitor for Tesla. Ford also announced in 2018 that a fully-electric truck was in the works and will be released

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LOUIS MASON/THE REVIEW

19 TUES

Festival of Nations, 5:30 p.m., Trabant Multipurpose Rooms
Jon Bellion Concert, 7 p.m., Bob Carpenter Center
Quizzo, 7 p.m., Perkins West Lounge

20 WED

Office of Equity and Inclusion Book Club: "Bad Feminist," 3 p.m., Allison Hall 131
Clothing Swap, 4:30 p.m., Trabant Multipurpose Room A
Recovery Yoga, 7 p.m., Christiana Engagement Center
National Agenda 2019 with John Della Volpe, 7:30 p.m., Mitchell Hall Theater

21 THURS

Clothing Swap, 5:30 p.m., Perkins Bacchus Theater
Agatha Christie's Murder on the Orient Express, 7:30 p.m., Thompson Theatre

22 FRI

International Coffee Hour, 4 p.m., Trabant University
Agatha Christie's Murder on the Orient Express, 7:30 p.m., Thompson Theatre
Perkins Live, 10 p.m., Perkins Student Center

23 SAT

Agatha Christie's Murder on the Orient Express, 2 & 7:30 p.m., Thompson Theatre

24 SUN

Agatha Christie's Murder on the Orient Express, 2 p.m., Thompson Theatre

25 MON

Thanksgiving Break

#TBT

Oct. 30, 1998

New Castle plant released non-toxic cloud, which hovered over Newark

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KAYLEEN AURES/THE REVIEW

Jerry Clifton speaks on renewable energy, cars, air pollution

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citizens of Newark, through the government [control] the system. I've got to tell you, I'm a strong proponent of public power, because I think they do a far better job than the private sector in controlling costs and providing consistent power to their consumers."

University professor and director of the Center for Research in Wind, Jeremy Firestone, detailed the nuances that the city of Newark must face when trying to purchase sustainable energy. One of the complications is the mere presence of the university, which owns the land it was built upon and therefore doesn't pay property taxes.

"They've got this big land mass that isn't generating property taxes, so the city generates a lot of its revenue through fees on electricity, water, sewer and storm," Firestone said. "It's in part a complicated factor because the city in part relies on electricity revenues for its budget."

Another reason that Newark has not purchased as much energy as other cities in Delaware is due to the fact that it is under no mandate to do so. The City of Newark recently decreased their goal of reaching 50% sustainable energy by the year 2025 to 25%.

"Other cities, like Wilmington, are a part of Delmarva Power, and they were under state law mandates for a longer period of time about renewables," Firestone said.

Clifton finds that the most detrimental cause of climate change and air pollution in Newark is actually the usage of fossil-fuel consuming cars. Since becoming mayor, Clifton has established several electric car charging stations in the hopes to encourage Newark residents to use electric cars.

"It's also up to us to have charging stations in various places throughout the city, so that if someone comes to Newark with an electric vehicle, they know they can charge it while they're having dinner or shopping, and so forth without having to fear that if [they're] low on charge when [they] leave the house, they'll have no place to replenish their battery," Clifton said.

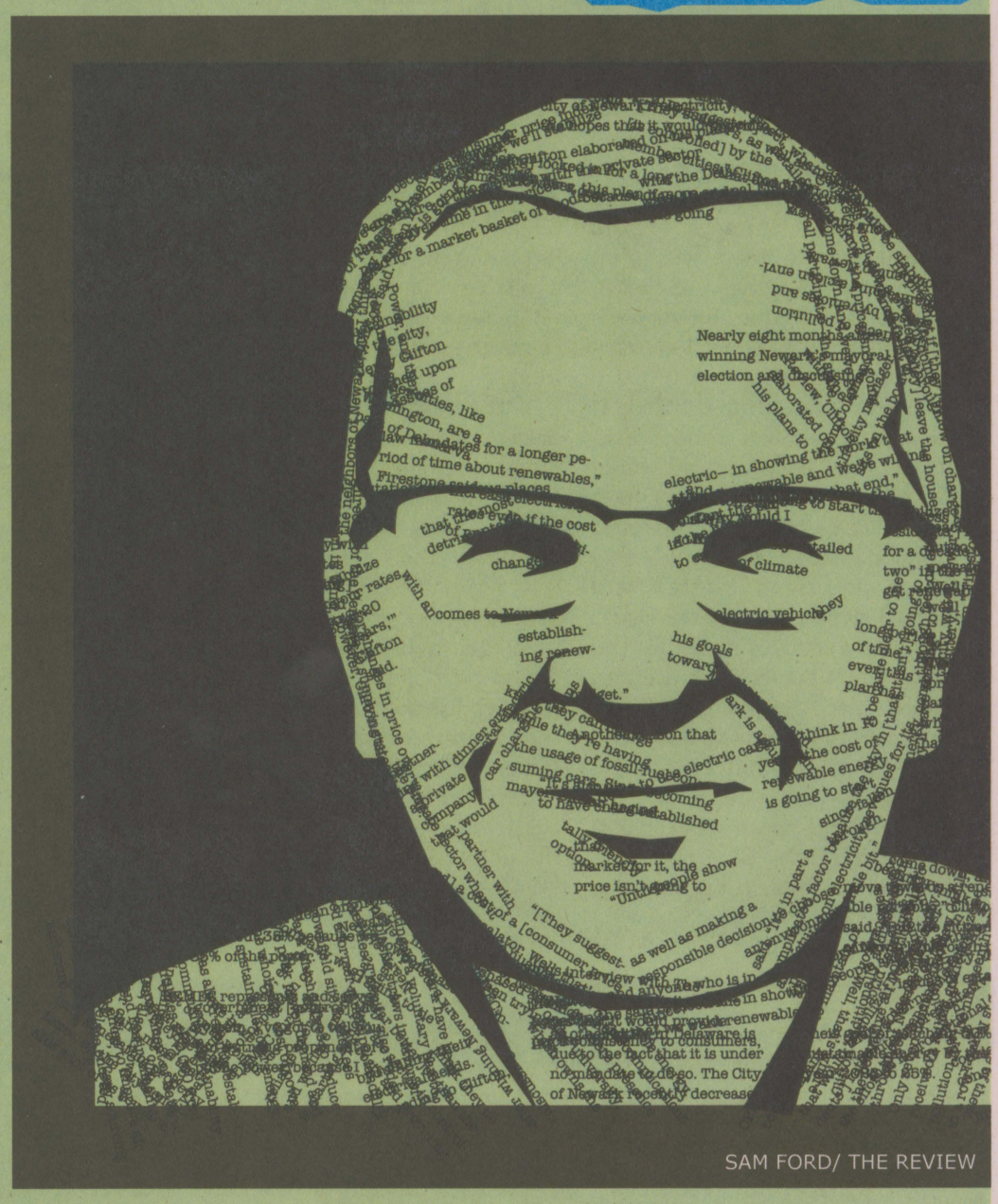
Clifton additionally addressed the pervasive air pollution found throughout New Castle County. Only seven months ago, New Castle received a failing grade for ozone pollution for the 19th year in a row.

"Some of our factories outside Newark city limits are extremely clean, and environmentally friendly, and I can only speak to Newark issues, it's my opinion at least, that [cars are] the biggest contributing factor," Clifton said.

Regardless, Newark has been making changes towards positively impacting the local environment.

Businesses in Newark have been participating in a voluntary ban to get rid of plastic straws in favor of reusable ones. The city also redeveloped a former municipal landfill and brownfield site in McKees Solar Park which serves to reduce the City's peak power demand and lower the wholesale cost of power through sustainable solar energy.

Newark has also recently established a community sustainability plan that utilizes $80,000 from Delaware Department of Natural Resources and Environmental Control in an effort to improve air quality, renewable energy sourcing



SAM FORD/ THE REVIEW

What really happens to the recycling on campus?

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center in New Castle, contamination can lead to recyclable materials being diverted to landfills. The amount of contamination that warrants this diversion is largely left up to the discretion of workers at the recycling center. This can, and often does, mean that trucks carrying recyclable items get sent to landfills due to the amount of trash mixed in with them.

Another issue involves the nature of single-stream recycling: Most, if not all, of the single-stream recycling bins on campus use plastic trash bags. However, the state government's website on single-stream recycling, which the university's waste website links to, explicitly instructs the public to only include "loose" items in bins, meaning not putting items in garbage bags since plastic bags themselves cannot be recycled and they create hazards for the machines and workers at recycling centers.

Thus far, there have been no announcements from the university regarding stopping the use of plastic garbage bags in these bins. This has raised some concerns, namely: whether or not the university will do away with these garbage bags, whether the recycling disposed of thus far in this manner gone to landfills and whether there has been an effort to inform students that this waste does not get recycled, if that's the case.

Zachary Roy, co-president of the university's chapter of the Climate Reality Project, stressed the need for a bigger push for sustainability on an administrative level.

"We need to have a stronger commitment to recycling and sustainability at UD," Roy said in an email. "If UD wants to be better, we need to have an Office of Sustainability."

The university's Waste website also says that containers with "a little food left" can be recycled, but the state government's website contradicts this.

According to Delaware Recycles's "Recycle Right" page, the public is instructed to "rinse all containers of liquid or food residue." The university has yet to publicly comment on, or correct, this discrepancy which leaves inumerable food and beverage containers possibly being diverted to landfills due to inaccurate information.

LOUIS MASON/THE REVIEW

The issue of recycling inefficiency and misinformation on campus is considered both an environmental and a fiscal matter, as, according to Bennett's aforementioned presentation, recycling on campus receives over $100,000 in grant funding.

The issue of contamination may be worsened by the lack of dissemination regarding Sustainability's "If you're not sure, trash it" policy, which encourages people recycling on campus to prioritize only putting things they know for sure are recyclable over trying to recycle things they think might be recyclable. While this can mean a few recyclable items get sent to the landfill, it also lessens the chance that a whole bag of recyclable items ends up in the landfill due to a few pieces of contamination.

Overall, there is no completely correct answer to the question of "what really happens to campus recycling?" Some of it gets recycled, some of it goes to the landfill. Even then, the items that go to the landfill go there for a variety of reasons.

Michelle Bennett is the university's sustainability manager. Her email is mnbennet@udel.edu.

Electric cars part of a solution for a cleaner electric grid

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in 2021.

Some car companies are pledging to produce only electric vehicles in an effort to reduce the amount of carbon emissions produced. Volvo released its first electric vehicle this year, the XC40 Recharge, while also pledging to produce more. By 2025, Volvo's "ambition" is to sell 50% purely electric and 50% hybrid vehicles.

While electric vehicles would eliminate the need for gasoline and cut out greenhouse gas emissions produced by it, Jenkins says the true solution is deeper than that.

"The question is where's the electricity [that would charge your car] coming from?" Jenkins said. "You've got to also make sure that the source of the electricity is a clean source. Because the last thing we need to do is be powering our cars with coal, which is literally what would happen if you had a coal fired electricity plant. So if you take cars off a gasoline diet and you put them on a coal diet that's not going to help with climate."

Willett Kempton, university professor and research director for the university's Center for Carbon-free Power Integration, agreed that until the entire electrical grid in the United States is clean, electric vehicles themselves will not eliminate the emissions issue.

Kempton is one scientist working on that solution. Earlier this year he pioneered the invention of V2G technology, which uses the batteries from electric cars to power the electric grid. Kempton describes "the grid" as a network similar to the internet, where every point of power is connected through a winding map of power lines. He says that the power from an electric car battery could power an entire household for 40 hours. Any excess power would be sent throughout the grid for neighboring electricity users.

"The grid is this interconnected system which is great because it means if one thing fails, other things will make up for it," Kempton said. "It also means that I can have storage in my garage, that's helpful to the entire region."

Kempton said that in New Castle County, in order to obtain a contract that grants access to the grid, only 12 participants were needed to start contributing. However, the more cars that are contributing to the grid, the more effective the technology will be.

"More interconnection means more reliability," Kempton said.

Kempton says that the grid is getting cleaner as well. The International Energy Agency released their 2019 Offshore Wind Outlook on Nov. 13. It says that the global offshore wind capacity is on track to increase 15-fold and may become a $1 trillion industry in the next two decades.

"They're building offshore wind farms now that are big enough to run a third of Delaware," Kempton said. "Three of those, and you've displaced all the electricity in the state."

The Delaware coast could be expecting some wind farms soon. The Danish wind company, Ørsted, announced in September that they plan to install the world's largest wind turbines 15 to 20 miles off the coast of Delaware's beaches. Each turbine would stand 853 feet tall and each blade will be longer than a football field.

Delaware supports renewable energy through the Green Energy Program, which provides grant funding to renewable energy projects through the Department of Natural Resources and Environmental Control.

"Fed up with the dump:" The issue of food waste on campus

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food in the dining hall kitchens, also contribute to the university's overall problem of food waste. Dining services did not respond to comment on this issue.

"Both students and the dining halls are large factors contributing to food waste on campus," Gustavo Silveira, president of the university's chapter of the Food Recovery Network (FRN,) said.

FRN, the largest student movement against food waste and hunger in America, works to decrease the impact of food waste. The university's chapter, founded in 2016, currently works to salvage food waste from Russell Dining Hall. Every week, it delivers excess food to the Newark Empowerment Center, where the food is served to members of the community who struggle with food insecurity. Throughout the past year, FRN has collected more than 1,000 pounds of food.

All dining services on campus are catered by Aramark, which mandates specific training and waste management protocols. Due to safety regulations, FRN can only recover food properly stored and given to them by the dining hall staff. This protocol limits the amount of food that is available for recovery because FRN depends on the chefs to remember to store any excess food.

"It's hard to ask chefs, who are overworked, to have to think about one more problem when they're in the kitchens," Silveira said.

While the university relies on Aramark as the major provider, the university claims that the food coming into the dining halls is purchased locally from companies such as Sysco (headquartered in Houston, TX), Amoroso's Baking Company (located in Philadelphia, PA) and UDairy Creamery (located on the university's South Campus).

Despite the presence of these other companies, Aramark remains the most prominent.

"These corporations have these contracts that say the only food kids are gonna eat here is the food that we provide, and that's a problem," professor and scholar of environmental studies McKay Jenkins said.

Additionally, Jenkins identified a discrepancy between the educational values of the university and its practices. While the university promotes environmental activism, there is no active outreach or an informative program that alert students of the consequences of food waste from the dining halls.

"Kids go to classes at this university and they have great professors talking about all this stuff: sustainability, alternative agriculture, climate politics," Jenkins said. "Then they go to the dining hall and eat industrial food."

He also addressed the issue of implementing a solution to the issues surrounding on-campus dining, noting the difficulties the university faces in changing the eating behavior of its students.

Advocates for sustainable dining also face the obstacle of generating enough support to create change.

"The only time [institutions] change is when suddenly there's a lot of noise," Jenkins said. "There's almost no noise about anything on this campus."

The issue of food waste poses an environmental challenge on campus that seems to have no clear solution. The issue stems from both the university and the students. Effective efforts to combat the food waste require a collaborative effort from both parties. Even simple changes, such as being more conscious about the food students put on their plates, can make an impact.

"If you're not going to eat the broccoli, don't get it," Attardi said.

Community and sustainability in eating local

JAN CASTRO
Senior Reporter

Farm and natural resources manager Mike Popovich works the organic farm that's located at South Campus, in a section of the school's 350-acre agricultural college. The farm's small plot of land now finds itself flanked on all sides by the university's expansive sports complex, towering new research facilities of steel and glass at the Science, Technology and Advanced Research (STAR) campus, and the newly-reconstructed Amtrak train station.

At first glance, it may not be evident that organic, local produce is being grown right in the heart of Newark.

Nevertheless, Popovich spends his days on the farm, accompanied by a small team of helping hands (including interns in the summer), cultivating rows of produce, calculating fertilizer or manure application, tracking down pests and invasives or giving crash courses on organic farming to visiting classes.

"I think it's important that people are connected with their food, and anything that we can do here that augments that is ultimately important," Popovich said. "We're one of the few universities to have the farm connected, actually, to the school."

Popovich himself is heavily involved in the local food scene. Less than a mile away, he sells produce at the farmers market held by the Newark Natural Foods Co-op every Sunday outside of the store's location. Popovich is also a purveyor for local gastro-pubs like Grain Craft Bar + Kitchen and Two Stones Pub, both in Newark, and Ulysses in Wilmington.

He supplies the university's fine dining bistro, Vita Nova, and has increasingly done business with Aramark, the national food service corporation which serves as the primary food supplier for the university. Occasionally, the university's catered functions and events will serve offerings from Popovich's farm.

This small pocket of local farming, in fact, represents something greater than the quantifiable acreage of land, or the profitability of its harvest. The organic farm offers an educational opportunity for students to reconnect with their food by having access to a space where they can experience firsthand the origins of a locally-grown tomato, pepper or sweet potato.

Today, many dietary practices contain considerable overlap in the realms of sustainability, environment or health, such dietary choices, restrictions or labels usually signalling some form of "awareness" of choice. That is, veganism, vegetarianism, organic, non-genetically modified organism and fair trade, among others. But the local foods movement, sometimes called the locavore or farm-to-table movement, strikes at the core of one fundamental awareness: An awareness of where food comes from.

Although the global economy has since enabled, perhaps, the possibility for all New England supermarkets to carry pineapples in the winter, the convenience of access is at the expense of a cognizance of origin and place.

As the idea of eating locally continues to become a more popular notion in modern American dietary culture, more and more are looking locally in an effort to repair this relationship with one's food, or to adopt a more sustainable, whole foods diet. Consequently, farms and small businesses are seeing growing potential in accessing this new market for local consumption.

"I think there's been a shift lately, people are getting away from organic and are going more local," Popovich said. "I think we're ideally situated for that."

Distance is the central metric when venturing to calculate the sustainability of a local food. For example: An apple travelling 300 miles from a large-scale monoculture represents a hundred times increase in carbon emissions from transportation than if it were to travel three miles from a local orchard.

However, a 2018 study of the global impacts of food production published in the academic journal Science Magazine finds that transportation only accounts for, approximately, 6% of the total climate footprint of food production.

"In general, what you eat matters a lot more than where it comes from," The New York Times concluded in a comprehensive 2019 article on the relationship between food and climate change.

Other factors still complicate the philosophy of pledging to abide by a hyper-local diet. Seasonal variations in the Mid-atlantic climate restrict one's local palette to seasonal availability.

If, for example, a local food was grown organically (which is increasingly the case for small, locally-oriented farms like Popovich's) it may require additional carbon emissions in the form of organic manure distribution, which can further result in nutrient runoff and algae blooms, to the detriment of the local ecology.

"I don't think, necessarily, that organic coexists with sustainable," Popovich said. "But I think the term local coexists with sustainable, if you're looking at carbon footprint, more so. Organic isn't necessarily the most sustainable way to grow food. The carbon inputs outweigh a lot."

One of Popovich's loyal customers and close friends is Bill Hoffman, who co-owns The House of William & Merry in Hockessin with his wife, Merry Catanuto, and has been doing business with the university's farm for five years.

"Anything and everything that is available, I'm interested in," Hoffman said.

Since opening in 2011, The House of William & Merry currently stands as one of the top-rated restaurants in New Castle County, perhaps signalling the importance of local sourcing to flavor, or terroir, as Hoffman described.

Hoffman maintains a strong local food philosophy, not serving anything out of season, and sourcing from a diverse line-up of purveyors, including local farms like the university's, but also regional foragers for things like wild mushrooms.

Across seasonal variations, Hoffman will also take advantage of preserved fruits and pickled foods, which roll over onto their fall menu from summer preparations. But even despite these efforts, Hoffman concedes that there are culinary limitations to staying strictly local.

"When we started our restaurant here, we started really with the intention of trying to stay as hyper-local as possible," Hoffman said. "And the problem with that is, not to take this the wrong way, the Delaware palette in general is not necessarily attuned to the more avant garde types of dishes."

As a business, there are also significant financial limitations to dealing with mostly local sourcing, Hoffman explained.

"To stay hyper-local here, it can be done," Hoffman said. "It's definitely one of those things that we always tease with. And to cook that way, it's definitely more expensive. It costs more to bring and forage products versus just ordering them from, per say, a Sysco."

With the fall now in full swing, Hoffman lists some of their seasonal offerings: Squashes, kale, sweet yams, beets and brassicas like varieties of cabbage, cauliflower, broccoli and turnips. Wild ramps, a species of wild onion, are an example of a native Delaware plant which Hoffman takes advantage of during their brief month-and-a-half availability in late spring.

"One of the number one wild foraged greens in Delaware, and one of the most special things about being in Delaware, are wild ramps," Hoffman said. "They are a true delicacy."

Local foods in Delaware are also not limited to produce. Situated in the Mid-Atlantic, Chesapeake Bay region, the state has access to an array of local seafood selection: Flounders, flukes, scallops and blue crabs.

At his own restaurant, Hoffman serves a chicken-fried blue catfish, an invasive catfish species which presents an interesting solution to the problem of invasives: To eat them. The removal of invasives as a source of food has dual utility by both helping the ecology of the Chesapeake Bay while also filling diners' bellies with local seafood.

For Bob Kleszics, owner of health foods grocer Harvest Market Natural Foods, also in Hockessin, offering local foods is a way to emphasize the importance of having a direct relationship with producers and small farms in the area. The grocery store carries a selection of 300 to 400 local products.

"We pull most of our local foods from Southeastern Pennsylvania, Chester County, Lancaster County," Kleszics said. "We do work with a local farm in Hockessin, just a mile away, and we get all our fresh herbs from them."

The store also faces similar challenges with the seasonally-dependent nature of sourcing locally. When they are available, local strawberries are an extremely popular item that sells out quickly, according to Kleszics. but they are only in season in the region for a three-week span during the summer. For products like honey, allergies offer a unique reason for sourcing locally. Walt's Swarmbustin' Honey comes from West Grove, Pennsylvania, just 11 miles from Harvest Market.

"A lot of people believe that when you get a good, local honey, that's a raw honey that still contains the pollen grains, that it helps with your allergies," Kleszics said.

Even still, Kleszics clarifies the store's definition of local as within 150 miles, although some may identify anything more than 100 miles as regional. Popovich, on the other hand, supplies exclusively to New Castle County. Hoffman, despite ambitions to maintain a hyper-local menu, is better off sourcing fennel from California.

Eating locally is invariably more complex than how it is represented or advertised, perhaps, alongside similar, potentially overlapping labels, such as "organic."

Although it is not definitively integral to achieving sustainability through one's diet, what local foods do offer is an engagement with local economy and community and, perhaps more importantly, an avenue for understanding where food comes from when these connections risk becoming abstracted, or completely severed.

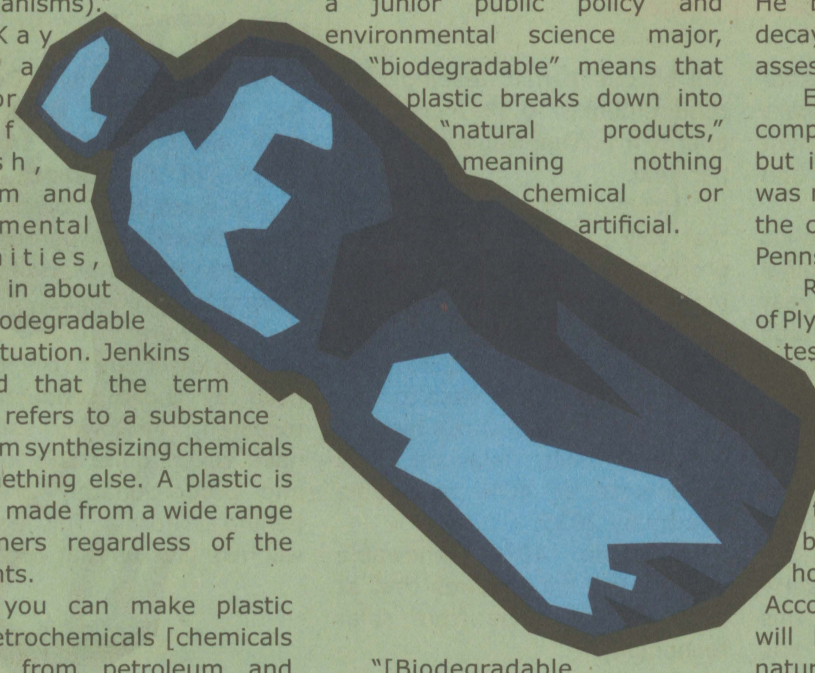
JAN CASTRO/THE REVIEW

The truth about biodegradable plastics

ERIC MUNSON
Senior Reporter

What does it mean for something to be "biodegradable?"

The official definition by Merriam-Webster is "capable of being broken down especially into innocuous products by the action of living things (such as microorganisms)."



McKay Jenkins, a professor of English, journalism and environmental humanities, weighed in about the biodegradable plastic situation. Jenkins explained that the term "plastic" refers to a substance made from synthesizing chemicals into something else. A plastic is anything made from a wide range of polymers regardless of the ingredients.

"So you can make plastic out of petrochemicals [chemicals obtained from petroleum and natural gas], but you can also make plastic out of potatoes, corn and soybeans," Jenkins said.

Jenkins said that the main reason for banning plastic bags is that they usually do not break down. However, when they do, they become microscopic and can disrupt the food chain.

"[A plastic bag] doesn't look like a plastic bag anymore, it looks like a jellyfish and a turtle will eat what they think is a jellyfish," Jenkins said. "But it's plastic."

Microplastics, called microbeads by the cosmetic industry, are small particles of plastic. They are usually less than 5 mm in size and do not decay in the environment. Marine animals often eat microplastic, thinking it is food.

"If [plastic] doesn't break down it's a problem, if [plastic] does break down it's a problem," Jenkins said.

According to Melanie Ezrin, a junior public policy and environmental science major, "biodegradable" means that plastic breaks down into "natural products," meaning nothing chemical or artificial.

"[Biodegradable plastics] don't decay the way people think they do," Ezrin said. "You hear the word 'biodegradable' and you think of throwing an apple into the woods."

Ezrin said that biodegradable plastics require a lot of heat to break down.

"You really have to break them down industrially," she said. "If you just throw [plastic] in your backyard, it's just going to stay [there] most of the time."

Compostable plastics suffer from a similar issue in that they also need heat to break down. These plastics need to warm to at least 120 degrees to melt. Some people own backyard composters, but many models are not capable of reaching that high of a temperature, Ezrin said.

Jenkins said he owns a composter. He says it is good at burning food, but the "compostable plastic" he threw in has been sitting there for years. He believes it will eventually decay, but he agrees with Ezrin's assessment.

Ezrin said there used to be a composting facility in Wilmington, but it closed because of how it was managed and smelled. Now, the closest location is located in Pennsylvania, but "far away."

Researchers at the University of Plymouth in the United Kingdom tested the durability of several types of plastic shopping bags. The "biodegradable" bags were exposed to the environment for about three years. They found the bags intact and could still hold a full load of groceries. According to Ezrin, nothing will biodegrade immediately in nature. Even a piece of fruit could take upwards of a year to decompose.

"When people sell a product that's 'biodegradable,' what that means is in an industrial capacity," Ezrin said.

In a 2009 lawsuit, Kmart was one of three companies sued by the Federal Trade Commission for false advertising. Kmart claimed that its brand of disposable plates was biodegradable, but it did not have the scientific research to prove so.

"There's a term for this, it's called 'greenwashing,'" Jenkins said. "[Greenwashing] is when you put a label on something to make people think it's environmentally benign, when it isn't."

Jenkins said the Kmart lawsuit is a perfect example of greenwashing. However, this does not apply when companies say a product is "all-natural." They are not breaking the law because the term carries no legal definition and is essentially meaningless. However, using the word "organic" is illegal, Jenkins continued to explain.

Now, various experimental products are on the market to help solve the plastic issue. The Coca-Cola Company came out with PlantBottle, a plastic bottle made partially from plant material. Although Coca-Cola said PlantBottle helped to reduce carbon dioxide emissions by 315 metric tons, the issue that remains is the bottles are still plastic even though they break down into their plant-based products.

Skipping Rocks Lab, a company based in London, developed a product called Ooho!, which is a ball-shaped "edible water bottle" made from calcium chloride and brown algae. Ooho! still has kinks to be worked out. It reportedly tastes bland and feels like "breast implants or jellyfish," according to its cofounder, Rodrigo Gonzalez.

Ezrin is the president of Students for the Environment (S4E), a registered student organization whose mission is to educate people about sustainability. They do so via activities and campaigns, such as creating sustainable candles and hygiene products. S4E is currently campaigning against the university's use of inorganic pesticides on The Green.

"The most important thing people can do is reduce their waste," Ezrin said. "I think everybody should be aware and emphasize the importance of purchasing reusable products and bringing them with you."

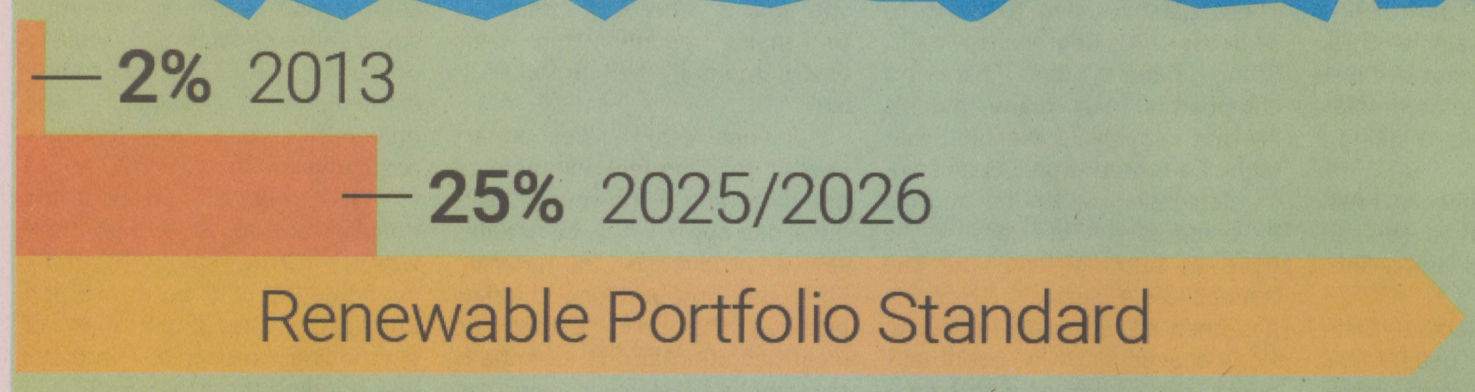
Ezrin relayed a story about the prevalence of plastic. She went to the grocery store to buy sweet potatoes and found them wrapped in plastic. She considered this unnecessary as sweet potatoes already have a protective covering called the peel.

"One of the structural issues you're trying to get at here is why there's so much plastic in the world," Jenkins said. "It's not just that it's convenient, it's [also] because it's very profitable for companies to sell plastic."

Jenkins said that people should shop differently. They should go to different stores that do not force customers to buy plastic packaging for their groceries.

"People should just not buy plastic," Jenkins said. "Convenience has come at a cost."

Delaware's legislative baby steps towards a renewable future



COURTESY OF NREL TRANSFORMING ENERGY.
Current law requires Delaware to operate on 25% renewable energy by 2025. This bill proposes that Delaware will increase this to 40% renewable energy by 2035.

WYATT PATTERSON
Senior Reporter

One of the State of Delaware's major steps toward creating a better environment was passing the Renewable Energy Portfolio Standards Act in 2005, which was intended to establish a market in Delaware for electricity from renewable sources and to lower the consumer cost of renewable energy.

Delaware's utilities are currently required to increase the percentage of electricity derived from renewable resources, such as wind or solar energy, annually. State law mandates that the state derives 25% of its energy from renewable sources by the year 2025.

With the deadline looming just over five years away, the Delaware legislature is already looking to expand and expound upon what it wrote 15 years ago.

On July 31, Delaware State Sen. Harris McDowell (D-1), who chairs the energy committee, introduced a piece of legislation tweaking the original act.

The senator has considered input from a variety of groups, including university graduate students.

"Crucial to my work on this issue has been a group of graduate students from the University of Delaware," McDowell said. "We're working together to improve the legislation and make it the best it can be."

The new legislation would expand the definition of solar energy, giving businesses more options for how to generate electricity, including a solar water heater. It would also transfer many responsibilities for the program from the Delaware Energy Office to the Department of Natural Resources and Environmental Control.

The bill also extends the schedule of the original legislation up to the year 2035, including the percentage increase per year for how much of the state's energy must come from renewable resources.

Prior to 2019, businesses had to increase the amount of energy they received from renewable resources by 1.5% each year to keep up with state requirements. Beginning this year, that requirement has dropped to 1%.

The proposed legislation doesn't alter this until 2025, which is when the rules begin to change.

First, the 1% requirement will be cut in half, leading to a requirement of 0.5% increase in energy from renewable resources per year.

However, it would not stay that way for long. In 2029, the proposed requirement would increase back to 1%. In 2030, the requirement will increase to 2%. Finally, in 2033, the requirement will increase to 3%, the highest in Delaware's history.

As a result, Delaware looks to operate at 40% renewable energy by 2035.

Of the 40% renewable energy, the bill requires that at least 7% must be from solar technology.

As of 2018, Delaware ranked 40th in the nation concerning the use of solar technology to generate energy.

With the requirement that 2% of the state's energy must stem from solar power, Delaware has fallen behind other states such as California. In 2017, 15.1% of the Golden State's energy from solar power.

McDowell disagreed with the assertion that Delaware is lacking in renewables.

"Delaware only comes ranking lower due to the methods used by those conducting the research," McDowell said. "We have taken quite the initiative, and proportionately aren't far behind California. This legislation will help give us that edge."

The fake meat fad: What it is and where to find it

TARA LENNON
Senior Reporter

Two cows walked into a bar.

One said to the waiter, "I'd like a burger, please."

The other cow said, "That's cannibalism!"

The first cow responded, "No, that's Impossible!"

In 2016, Impossible Foods Inc., a company that develops plant-based substitutes for meat, launched its signature product: The Impossible Burger. In the past year, the company garnered greater attention and demand with its development of the Impossible Burger 2.0 and the sale of the burger at Burger Kings across the country.

A competing company, Beyond Meat, released its own version of a meatless patty resembling beef in 2014. Similarly, Beyond Meat recently increased in popularity as it has stocked the shelves of grocery stores and entered the menus of popular chains like Dunkin'.

Both companies sell a patty intended to mimic the taste and texture of a normal beef patty. People with diet restrictions that prevent them from eating animal-based products can consume their foods. Additionally, their products have less of a negative environmental impact than regular patties have.

The Food and Agriculture Organization of the United Nations claims that greenhouse gas emissions coming from livestock production make up 14.5% of the globe's total greenhouse gas emissions. Cattle represent 65% of the livestock sector's total emissions. In proportion to the total amount of livestock emissions, 44% are in the form of methane, which the digestive systems of cows and sheep naturally emit. The rest of the emissions are mainly in the form of nitrous oxide and carbon dioxide.

Plant-based meat substitutes pose a remedy to the growing concern over the increasing amounts of greenhouse gases in the atmosphere and the associated climatic effects.

"You wouldn't have to have pastureland [for plant-based meat substitutes], you would definitely need less water and greenhouse gas emissions would be lower," Associate Professor of Food Science Rolf Joerger said.

Joerger said that some researchers have questioned whether meat substitutes actually emit less greenhouse gases than regular burgers. He said that while the production of plant-based meat substitutes produces far less methane than that of regular beef, it does emit carbon dioxide, which comes from the burning of fossil fuels.

He said that researchers argue that in the short-term, methane is worse in terms of the greenhouse gas effect, but in the long-term, methane disappears from the atmosphere whereas carbon dioxide can stay in the atmosphere for hundreds of years. Thus, these researchers argue that producing substitutes for meat may have a harmful environmental effect.

Joerger said, however, that this is just one study and there are a number of uncertainties with it.

"In the overall computation, in terms of land use, water use and probably energy use, you definitely will have a lot less impact on the environment with these plant-based meat substitutes than you have with regular beef," he said.

The plant-based meat substitutes of Impossible Foods and Beyond Meat have distinguished themselves from veggie burgers and have appealed to environmentally-conscious meat consumers because of their specific chemistry that gives them a meat-like taste and feel.

Joerger said that numerous factors contribute to the meat-like experience of these patties. First, they have similar amounts of protein to regular beef patties and the protein of these substitutes are structured so that they feel like regular meat. The substitutes have numerous proteins sources, including beans, rice protein and soy, according to Joerger.

Joerger said that fat is another important component of the patties. They have saturated fats, like coconut oil or coconut butter, so that at room temperature the fats are solid, but when cooked, they melt and mimic the fats of a regular burger.

The other components of the Impossible Burger and Beyond Burger are included to enhance the meat flavor, add color, or hold the patty together, according to Joerger.

The inclusion of gum and starch in the patties makes them more stable. To imitate the flavor of meat and to give the patty a red color, the Impossible Burger has a molecule called leghemoglobin, which comes from the symbiosis of genetically-engineered yeast and bacteria. Joerger said that some people express concern over the genetic engineering of the yeast, but does not find that most people take issue with this.

The leghemoglobin binds with oxygen to produce the characteristic red-meat color and it also produces a similar flavor profile to that of the hemoglobin found in regular beef. Beyond Burger uses beet juice and a natural red dye called annatto to produce the red coloring.

Joerger said that many people flock to these substitutes for ethical reasons, environmental reasons and health reasons. While he said that these patties are not necessarily more nutritious than regular patties because they contain high amounts of saturated fats, they do contain a lower amount of cholesterol than that of regular patties.

University alumnus, Weber Stibolt, works at Beyond Meat, and the Food Science club recently invited him as a guest speaker for its meeting, food science club members Brianna LiBrizzi and Jordan Allen said.

LiBrizzi and Allen said that they have tried plant-based meat substitutes before, and while they do find the similarities between the substitutes and regular beef striking, they do not see themselves completely switching to plant-based burgers any time soon.

LiBrizzi, president of the Food Science Club, said that the texture and the high sodium content of plant-based substitutes factor into her decision not to entirely switch to these substitutes.

Allen, public relations chair and alumni relations chair of the Food Science Club, said the extra cost of the substitutes encourages her to purchase regular beef burgers instead.

"On the college student budget, we don't have the money to be spending on these new products," Allen said. "I don't believe our dining halls will ever spend money [on these products] if they can get veggie burgers or black bean burgers for much cheaper."

Joerger said the dining halls may adopt the Impossible Burger or the Beyond Burger if several factors line up.

"If students ask for it, ... if the price goes down further, that might be the reason it shows up more," Joerger said.

Currently, several locations near campus sell the Beyond Burger or the Impossible Burger.

Nearby grocery stores that sell the Impossible Burger or Beyond Burger are ACME, Food Lion, Safeway, ShopRite and Target.

Restaurants that sell the Impossible Burger or the Beyond Burger include Denny's, Dunkin', Subway, TGI Fridays, Applebee's Grill + Bar, Burger King, Little Caesars, Qdoba, Red Robin and The Cheesecake Factory.

Aramark, the company that operates the university's dining services, said that their "chefs are using products, like Beyond Meat's delicious burgers, sausage, crumbles and more, to expand menu selections and provide the choices that meet individual lifestyle and dietary preferences on college campuses"

Melanie Ezrin, president of Students for the Environment, said that while she does applaud the environmental impact of the Beyond Burger and the Impossible Burger, she would not encourage students to totally cut red meat out of their diet if they do not want to.

"Switching your priorities and perspectives is a really good thing, but fully making the switch all of the time, that's nothing something that I would advocate for on a human basis," Ezrin said. "Although, environmentally, in an ideal world, that would be the right thing to do."

Rather, she said she would urge students to try out the substitutes and make one small change in their lives to help the environment.

"[That could be] just saying, no matter what it is, on Mondays at lunch, I will not have any sort of meat protein," Ezrin said. "That makes a difference."

TARA LENNON/THE REVIEW

Opinion: Guilty conscience from a world on fire

SHUJA ABBAS

The world is on fire and my field of study is largely responsible.

I was always really passionate about applied math and chemistry and naturally chemical engineering felt like the only possible career. Now as I am about to graduate, the headlines of California forest fires and climate refugees in third-world nations helped me realize a sad truth. There is little to dispute that the industrial revolution was a major cause for rising global temperatures from a boom in carbon dioxide emissions. Nations were finally able to meet demands for all sorts of commodities and necessities. Much of this came from advancements in chemical engineering where the field focuses on up-scaling chemical processes to make valuable products. These engineers improved the quality of life for millions.

Fast forward to today and that quality of life has come a t the expense of the environment. Watching the world burn should strike some guilt into current and future chemical engineers as I definitely feel some secondhand guilt. Every unit operation and process we study is always going to have undesired by-products and in some of the largest scales, that by-product is carbon dioxide and other greenhouse gasses. In a broader sense, the field of chemical engineering is a literal study of creating pollution and waste while providing highly demanded goods on large scales. The chemical transformations we try to up-scale and industrialize can directly be linked to those California forest fires. Of course there have been advancements in more efficient technologies and better environmental standards but I can't help to think that I'm going to be part of the problem.

The interesting part of all this is that one can argue that chemical engineers are in the best position to reverse climate change. After all, we do have the tools and capacity to put our efforts into renewables and eco-friendly technologies. But that's the problem. We don't do that. Companies that are built by us don't do that. You may have heard of a small company by the name of ExxonMobil, a company with thousands of chemical engineers. In 2018, they made $21 billion in earnings with $279 billion in total revenue. This amounted to 3.8 million barrels of oil and gas production per day and 5.5 million barrels of petroleum products per day.

This makes them a world-leader in the oil and gas market. Almost all of their products come from classical reforming and separation techniques with only slight improvements to reducing waste over the last 100 years. With all this power and money, you would expect them to make large attempts in renewable technologies. Unsurprisingly, no. We should give them a little credit for their algae biofuels program. Algae can produce oil with little to no emissions and Exxon aims to produce 10,000 barrels by 2025

They are currently nowhere near this number and when comparing it to the amount of oil they produce, it's laughable. The program is still in its early research phases but that doesn't stop it from being the star of every ExxonMobil commercial. The sole reason why Exxon doesn't feel the need to invest more in renewables is because of the current oil and gas demands. They have no real reason to mitigate their oil production if people keep using energy that comes from those sources. In their 2017 sustainability report, Exxon claims that they will let "market prices drive solutions"

In other words, if they can still make billions of dollars from oil, they have no incentive to put that money into renewables. If the largest oil company in the world is driven solely by capitalistic opportunities and refuses to be a leader in renewables, then what can we expect from everyone else. I am aware that there is a lot of politics that goes into this but I won't go down that path. Frankly, I don't know enough about policy to speak on those issues.

I feel like the only thing that ordinary people can do is reduce their energy consumption, especially those in first-world countries. That is much easier said than done. I can't act like I have been taking major steps in reducing my own carbon footprint. I am excited to move on from college with my degree in a field that I generally love. Chemical engineering has given the world so much but at a very high cost. Our world is on fire and my guilty conscience knows that we helped create arguably the largest global issue.

Shuja Abbas is a senior at the university studying chemical engineering and is also a Munson Fellow within the Honors Program. His views are his own and do not reflect the views of the majority of The Review's staff. He may be reached at Shujaaaa@udel.edu.

Opinion: The cost of convenience

SARRA SUNDSTROM
Senior Reporter

Turning down a long, fluorescent bathed aisle of my local Acme one early morning, my eyes strain at the sensory input that explodes from the bold array of typefaces and carefully crafted color schemes that compete for my attention. At first glance, our stores appear to be a paradox: absent of any actual food but filled with glossy photographic promises of it. Within the last half century, grocery store aisles have become ubiquitous with a comparable volume of cellophane, aluminum, polyethylene, and cardboard: wrapping, containing, preserving and presenting foods to us in service to our obsessive demand for convenience.

But let's back up. Food, and other products have not always come with such a great volume of disposable, single use materials. Up until the 1930s, foods were often sold loose, with minimal wrapping. The high cost of materials limited packaging to luxury items in high-quality, multi-use containers. Soon, however, innovations in production and an affluent consumers base created a hunger for convenience, and the market responded.

A few decades later, and our supermarket aisles have cascaded into a truly gluttonous display of the unfettered free market. With such a large array of substitutable products, much of what is found in the store must withstand the possibility of sitting on a shelf for months before reaching a consumer. In an attempt to push against the natural process of decay, the foods we pull off the shelves are preserved and enveloped in polyethylene and other plastic derivatives that leach into our food, our bodies and our environment.

For every thing that is contained, the container is waste. It permeates our every purchase: Cereal bags, cellophane wrapped meats, vegetables sheathed in plastics, pre-prepared meals. In the context of history, we have never produced such high volumes of such indestructible material.

Of all plastic produced, only 9.5% is recycled, according to an Environmental Protection Agency report from 2008. With such a high volume of enduring material produced only to be discarded, the matter of where to put it all is a growing challenge, and poorly managed waste dumps release an undocumented amount of contammination into the water and air.

Extensive levels of systematic neglect has overload the natural dilution abilities of the oceans. The great pacific garbage patch, a massive ocean gyre collecting tiny particles of plastic that have been broken up in ocean churn, is just one visible sign of a system bloated with our waste. With current rates of consumption, there will be more plastic than fish in our oceans by 2050, a 2016 report by the World Economic Forum found.

In 2018, the crisis grew even more acute when China extended a ban on the import of much of the world's scrap and waste. Previously, the country accepted the worlds recyclable waste for decades. Now, even what is placed in the recycling bin may have no other destination but a landfill.

The majority of the single-use packaging that I acquire with my weekly groceries will not recycled, the decision dictated not by myself, but by a superstructure that is unprepared to deal with the waste it generates. Newark is not unique with its prohibitive local ordinances on the recycling of plastic film, styrofoam, plastic bags, aluminum trays, and plastic shell packaging. Across the country, a non-centralized recycling system results in areas where programs are non-existant or extremely limited to a narrow range of items.

Even at its best, recycling has never been the best solution. We have forgotten the first two R's of "reduce, reuse, recycle." Somehow, we now characterize waste as something that has been produced by individuals. This conceals any responsibility on the part of corporations that have chosen to manufacture increasing amounts of cheap disposable materials to better market or preserve their products. How many times can I truly reuse a flimsy plastic bag that I seem to acquire by the hundreds?

However as consumer concern grows, the market has conceded some minor consolations. In Acme, shiny labels may proudly proclaim "30% less packaging," and I receive a ten cent discount for each reusable bag I bring, More drastically, scattered across the US are co-ops that offer waste-free bulk options. Still, there has been limited action in addressing the systemic issues of our wasteful culture: the markets that encourage the use of cheap plastics and the systems of productions in place that continue to make it cost effective to do so.

We are still far, far away from a zero waste reality. In a world where countries are engaging in zero emissions goals, perhaps it shouldn't be that far fetched. Many states have, or are considering a ban or tax on plastic bags. However, to address the systematic pollution and corruption of our environment, more drastic actions must be taken. Our country and culture has yet to experience the desperately needed paradigm shift in how we consider waste. Until then, the market will continue to propel us down a trajectory toward an unsustainable future one plastic bag at a time.

Sarra Sundstrom is a senior at the university majoring in environmental studies & English. Her views are her own and do not necessarily reflect the majority opinion of The Review's staff. She may be reached at sarrasun@udel.edu.

Opinion: Faculty Senate's Leap Toward Local Food

JESSICA STORM

Christopher Williams, professor of wildlife ecology and former president of the faculty senate, was shocked to discover that the vegetables grown organically at the University of Delaware's Farm on South Campus were not found in the dining halls of the very same establishment. A local, organic farm, worked on by students and faculty, was not able to sell its vegetables to any of the dining services on campus. If the dining hall wasn't going to bother with the university's own farm, it likely wouldn't bother with any other local farms.

"I was teaching a graduate course with Dr. [Mckay] Jenkins a couple springs ago, and it was on sustainability," Williams recalls. "It was multi-college. I brought in Ag. and Natural Resources perspective." Jenkins is an English professor here at the university, particularly interested in writing about food sources. He authored "Food Fight," a book about GMOs.

The pivotal moment occurred at the campus farm: Mike Popovitch, a farmer in charge there, gave a background on the organic vegetables grown. They sell them to the public as well as local restaurants, but it was hit or miss with the restaurants, depending on varying demand.

"It came up," Williams continues. "Well why aren't we putting these foods into the dining halls, getting them to the students? [Popovitch] said that's not in the contract with the food distributor. I said, 'Really?'"

John Long, the executive vice president and chief operating officer of the university, spends most of his time in his office on campus. The vice president is a bald, tough-looking yet gentle man with an air of natural authority.

"In layman's terms, I 'run the city.'" he says, explaining what his title means. "I have everything that's not academic: Police, HR, finance, emergency management, health and safety, IT, economic development, etc."

"I've met with Chris [Williams] a couple of times," He says, "The big focus was that the faculty senate wanted Aramark to try to use more of the [university] farm's produce. I would say it's moving along."

Both Williams and Long agreed the concept was a wonderful concept, but realized it was easier said than done.

"In speaking with Aramark, it's not just as simple to say, 'give us all your vegetables,'" Long argued. "It's a capacity problem."

Most vegetables grow during the summer, a time when most students aren't on campus, and when students return to campus, the weather grows cool again and there are fewer available crops to feed them with.

"The concept is great, but there's only so much the farm can produce capacity-wise, with the amount Aramark uses," Long added. "Williams agrees that the seasonal variabilities of Delaware made things difficult. He confesses it wasn't the forefront thought when the idea first came about.

"Aramark is happy to partner," Long insists. "The compromise they're thinking of is to have the farm make salsa for the dining halls. You can't just say 'we want the farm's tomatoes in November,' well there aren't any tomatoes in November."

"Apathy is the worst evil we can have," states Williams. "[It started as] just a few of us in a field talking, and someone said something that didn't quite make sense. Let's do something about it!"

Jessica Storm is a senior at the university, majoring in meteorology and climatology with a minor in Spanish. She is the president of the university's chapter of the American Meteorological Society. Her opinions are her own and do not reflect the views of the majority of The Review 's staff. She may be reached at jstxrm@udel.edu.

EDITORIAL

A gilded age of environmentalism

In the past year or so, being environmentally conscious has become the mainstream, and anyone who doesn't prioritize the environment was stigmatized as being apathetic. The increased pressure to be environmentally friendly soon expressed itself through movements like recycling, banning plastic bags and using paper or metal straws instead of plastic ones.

On the outside, these movements within the younger generations have seemed like a big step and a hint that maybe Americans were finally starting to care about the environment. However, when looking deeper, the truth about the actions we think and were told would help the environment, may not be so helpful after all.

Take recycling for instance. In Newark specifically, the process and steps required to recycle are a lot more nuanced that we are led to believe. The city and the university promote recycling by providing recycling bins and encouraging it around campus. However, most of what we recycle actually ends up in the landfill. Unknown to many students, if you bag your recycling, then it ends up in a landfill. If your recycling has over a certain amount of garbage in it, then it ends up in a landfill. If you recycle any items that are meant to be trash, then it ends up in a landfill.

At face value we're recycling, but we're really not. The same goes for getting rid of plastic bags and plastic straws. The alternatives to those still create waste and the production of reusable bags and straws both release emissions into our air.

Carrying around metal straws and using Hydroflasks has become a very popular habit among many environmentally-conscious college students. Sadly, the fact of the matter is it doesn't matter if you have a metal straw if everything else is being thrown in the trash.

There has been a genuine interest among many people to be more environmentally friendly and take more steps to do so, but we want these steps we are taking to mean something. If we don't know where our recycling is going or the truth behind how much reusable bags and straws are actually helping, then we can never make a real change.

Even with this information, people will still be inclined to continue these habits since not doing these things comes with an inherent shame. The stares when you take out a plastic water bottle in class definitely go noticed and in the age of young activists like Greta Thunberg, a lot of young people want to join the cause.

Everyone should still want to do everything they can do better the environment, but it's important we actually know how much of what we're doing is helping. The city as well as the university need to be more transparent about where our recycling is going as well as the correct steps involved in recycling. If some sort of flyer was presented to students or RA's incorporated sustainability practices into their freshman orientations, then the campus as a whole would be more knowledgeable about how to be sustainable.

Individual actions is one of the most important aspects of addressing environmental issues. Nothing changes if the problem isn't being addressed from every level. While these actions do matter, they have to be the right actions and currently in Newark, systematic issues are halting our efforts to be sustainable.

This editorial is written to reflect the majority opinion of The Review staff. This week's editorial was written by Jessica Leibman, Copy Desk Chief. She may be reached at jleibman@udel.edu.

Letter from the editor: A look inside The Green Issue

JACOB BAUMGART
Editor-in-Chief

Hello everybody, and welcome to The Green Issue.

Last year, The Review started a tradition of exploring a pressing topic once per semester in a themed issue. We tailored our content to fit related themes, researching the related topics in all possible angles.

We tackled The Drunk Issue last fall and The Women's Issue in the spring. This time, it's The Green Issue.

This is the finest work we have done this semester. I stand behind each and every one of our stories. I will not for a second doubt our ethics or our research in producing this issue. We did our job as solid journalists, and I am beyond proud of our work.

Environmentalism has been one of the hottest topics of the last decade. With seemingly endless reports spewing out of the United Nations about the threats of climate destabilization and sea level rise, we wanted to look into human's interaction with the environment, but dig deeper.

How is the way we talk about environmentalism changing? What new technology helps and hurts these efforts? Are small acts of earth-friendliness enough to save Mother Earth?

Inside this issue, you will see what we uncovered. You will learn about the reality of food waste on campus. You will see why we believe systemic problems limit true action and lead to nothing more than environmental theater. You will rekindle your love for connecting with nature on a trek through the mountains. You will cap off your experience debating whether an athlete can balance veganism and fitness.

Everybody is fed up with the same old debate about whether and how to combat global climate destabilization. We wanted to give our readers the chance to reconceptualize their thoughts on environmentalism.

The problem runs so much deeper than a bunch of numbers and charts. This our planet we are talking about. Whether the planet survives means nothing without the stories of all those who inhabit it.

These are their stories. This is what environmentalism means in 2019. This is how the University of Delaware, Newark and the entire state play into a larger machine that threatens human livelihood as we know it.

This is The Green Issue. Enjoy.

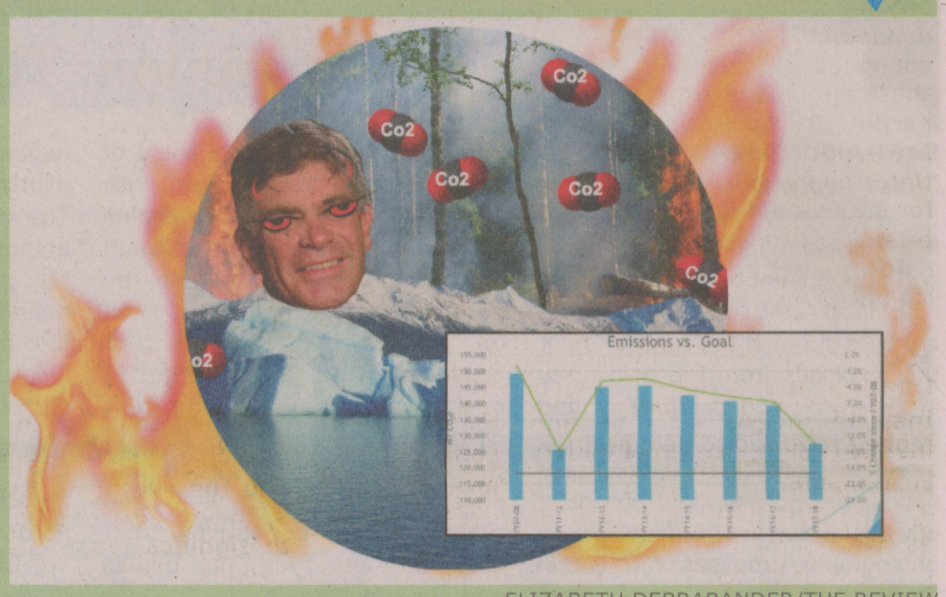
Please note that any piece labeled "Opinion" does not reflect the majority views of The Review's staff. The ideas expressed in these pieces are those belonging to the individual contributor and were produced without advisement from The Review's editorial staff. Our editorial, however, does reflect the majority opinion of The Review's staff. Only News, Mosaic and Sports stories, along with our editorial, are our own reported works. I can respond to all questions about these pieces. Opinions, on the other hand, are the work of only the listed contributors. They can answer any questions about their op-eds at their listed email.

JACOB BAUMGART/THE REVIEW

Jacob Baumgart is a senior media communication major and the editor-in-chief of The Review. He writes here explaining and defending The Green Issue. He may be reached at baumgart@udel.edu.

University's 2020 sustainability goal in need of a desperate status update

JAN CASTRO
Senior Reporter



ELIZABETH DEBRABANDER/THE REVIEW

In 2008, under the administration of University President Patrick Harker, the university set a goal to reduce its carbon emissions by 20% by 2020. At the time, the announcement was hailed as one of the most ambitious climate commitments made by a major university.

The following year, this announcement was backed up by a Climate Action Plan (CAP), announced on the 39th annual Earth Day, to much fanfare, I imagine, in that packed Rodney Room of Perkins Student Center.

The CAP itself is a 44-page document outlining and assessing the complex system of greenhouse gas emissions on campus (primarily, from energy consumption of buildings and transportation) and the steps necessary to create a more sustainable system within this ten-year timeline.

"This Plan is a living document with an expectation that changes will be made as new opportunities and technologies arise," the first page of the CAP reads. Yet, the CAP has not been updated since the original version was first published in 2009.

With 2020 almost a month away and quickly closing in, this goal is in need of a desperate status update. Are we on track? Are we falling behind? Will the university fulfill its climate promise?

Seven years after pledging to this lofty environmental commitment, Harker resigned to assume the presidency for the Philadelphia Federal Reserve. That same year, in 2015, the university also appointed its first and, currently, only Sustainability Manager. (The timing, quaint enough, as if to signal a transference of accountability.)

A powerpoint by Michelle Bennett, the Sustainability Manager, claims that the university has reduced its emissions by 14.6% as of 2018, from its baseline year of 2008. Yet another presentation, also by Bennett, says that only half of the 5.7% total decrease in emissions as of 2016 can be attributed to university action.

This qualification puts into question whether or not the 8.9% leap in reductions between 2016 and 2018 is also not wholly attributable to university action. Moreover, this significant reduction over just two years has gone curiously understated. What happened in that brief period of time to produce such a drastic change? And what has been done so far this year, and what must be done in the remaining weeks, to materialize the final 5.4% reduction of emissions?

The greatest concern is that there is no way of knowing for sure.

Foremost, it is troubling that this information is not readily accessible to students. In that, one must either immerse oneself in sufficient enough research, or have Bennett give this presentation to a class or student organization directly in order to inform oneself on the status of such an important university initiative.

For this Green Issue, Bennett herself has been inaccessible, despite the central importance of her role on all matters pertaining to university sustainability. This has further exacerbated the lack of transparency between university activity and student awareness.

Informational resources that are provided by the university and which are available online are either outdated or insufficient.

The university's dedicated sustainability website (which is reasonably up to date) even displays a countdown clock to 2020 that is incorrect, and off by a whole year.

At the time of her appointment, accompanying Bennett was the Sustainability Task Force, a collective of volunteers and advocates from six different campus environmental committees. Information on the Task Force can only be found on a vague, outdated and mostly abandoned Wordpress site that would otherwise be rendered defunct were it not for the blog posts which sparsely populate it.

Even still, the Task Force is no longer a functioning group and has since broken up into its constituent organizations.

"They had the mission, but they had no resources or infrastructure; there was no accountability to keep them motivated," Bennett said in an article for The Review last year.

In fact, Bennett and her small team of interns and volunteers have been assigned no budget from the university, making all too evident that the university has completely failed to supply the resources and appointed persons necessary to effectively see to the fulfillment of the CAP, or to hold accountable to the university's 2020 goal.

Given some of its more recent expenditures, such as those now manifest on South Campus, it is also clear that the university is not lacking in such financial resources to warrant the complete underfunding and disinvestment of a critical campus sustainability initiative.

The one-woman advocacy effort is, through no fault of Bennett's, simply not enough to tackle the climate burden of the entire campus, such that it seems as though the university is turning a blind eye to everything: from students' sincere expressions of concern, to their doomsaying over megaphones.

The Climate Strike, which took place earlier this semester, assembled students, faculty and climate protesters from across Newark not just to doomsay, but to demand action, from local to global scales, especially when inaction and complacency echo a far too common narrative for what many have called the existential crisis of our time.

Climate change is the single most important priority facing humanity. The university endlessly boasts that it is a leading institution. The expiration date for this promise of environmental leadership now sits, expectantly, on the horizon of the new decade.

Jan Castro is a junior at the university with majors in English and Geography and minors in environmental humanities and journalism. His views are his own and do not necessarily reflect the majority opinion of The Review's staff. He may be reached at Jan@udel.edu.

OLIVIA CRAIG/THE REVIEW

How temporary fashion creates permanent problems

CARINA CHRISTENBURY
Staff Reporter

I live in a thrifty home. My family takes trips to second-hand stores and has thrived with hand-me-downs since my second oldest sibling was born. I was not raised worrying about what other people might think about what I was wearing, and when clothes became damaged, we donated them to our local GoodWill or mended them ourselves. We strove to throw away as little as possible and fix anything we knew how to. However, when I buy new clothes now, I notice how quickly they fall apart and how impossible they are to repair.

When a new trend shows up, a company wants to maintain its influence by producing a relevant line of clothing. The problem with this strategy is what happens to the trends of the past: Consumers and companies alike dispose of unfashionable clothes by dumping them in landfills, donation booths or burn piles. Although some brands are supporting ethical factories, using recycled plastic and organic material, and donating deadstock en masse to countries perceived as needy, these efforts are either shallow, partial or their consequences are not fully considered. Unfortunately, it is much easier for outsourced factories to only briefly present themselves as safe environments, for non-United States cotton be falsely sold as organic and for brands to donate cheap and no-longer-trendy clothes for publicity, than to invest the time and money required to be genuinely sustainable.

The origin of fast fashion as we know it today began in tandem with the origin of nearly every consumable item: The Industrial Revolution. Production factories embedded practices such as quantity over quality, regulated sizes and cost-cutting wherever possible. As marketing became aggressive and materials became cheaper, companies began to produce more in order to sell more. Society started to view clothing as disposable and temporary. The concepts of altering clothing to suit its owner, patching clothes back up when torn and reusing the fabric of otherwise tattered items are little more than antiquated since the turn of the century.

Because the clothing industry demands such a large quantity of clothing so frequently, harmful chemicals are used to manipulate crop production to produce the most material in as short a time period as possible. The declining amount of biodiversity is incredibly stressful on the soil as it depletes it of some elements while filling it excessively with others. Farmers often attempt to fix this imbalance with fertilizers and other supplements, which are frequently useful only in the short-term and negatively impact both the soil and the farmers. According to Pesticide Action Network UK, these affect the land by "decreas[ing] the general biodiversity in the soil. Soil quality is higher without chemicals and this allows for higher water retention, necessary for plants to grow." The more unnatural chemical solutions are applied to a naturally rich environment, the more drained and barren that environment becomes. A once-bountiful property may turn into a desolate wasteland after several years of treatment, and farmers will have to look elsewhere for nutritious land to plant on. To keep up with rising demand, farmers will use a piece of land, pump chemicals through it until it becomes unusable, then find another larger piece of land only to make it just as barren. Clearly, this process cannot be allowed to continue indefinitely.

So, cut out the chemicals, right? Organic farming is heavily debated, particularly whether organic cotton production would be beneficial overall, but most of this debate revolves around organic cotton's inability to fully compete with conventional cotton's crop production rates. Because more chemicals are used to manipulate crop production in conventional farming, which includes exhausting the soil of natural resources, they tend to have moderate to significantly higher crop yields. The American Council on Science and Health confirms that "the overall average is that organic farming produces 20% fewer crops." When deciding if organic or inorganic cotton is superior in sustainability practices, producers and consumers alike need to consider the extreme variety of ways that organic methods affect the soil.

Organic is not intrinsically biodiverse, soil-health focused or moderated supplementation. Farms that promote themselves as organic can be just as guilty of ravaging soil for profit as non-organic farms. Natural does not equate to beneficial in every case.

The current alternative to natural fibers, however, is no better for the health of the environment. Synthetic fibers such as polyester, nylon, spandex and acrylic are produced using chemicals and plastics that, as reported by Greta Eagan, "come with a heavy dose of perfluorinated chemicals (PFCs). According to the Environmental Protection Agency [EPA], PFCs have been classified as cancer-causing compounds." Eagan cites that this carcinogenic characteristic can seep into the soil, water and even the open air. These cancer-causing chemicals could "be absorbed or inhaled directly" by anyone unlucky enough to walk near a clothing factory.

Once synthetically constructed clothing leaves the factory, they continue to incrementally poison water sources and human health. A National Geographic article by Alejandra Borunda states that, though the microscopic size of microfibers could imply very few consequences, "more than 600,000 tons of plastic microfibers are estimated to enter the ocean each year, shed from fleece, polyester, and other synthetic fabrics during washing." Greta Eagan notes that, once these bits of waste enter the environment, they can "take anywhere from two hundred to four hundred years to biodegrade...contribut[ing] to major shifts in our natural atmospheric balance." The longevity of synthetic textiles seems appealing until the consumer understands that they stick around in every part of the textile's life, including death.

Besides the textiles used for production, the dyes and finishes on many pieces seep out of the textile and eventually into ocean water once they are washed. Because of all of the evidence available for the dangerous qualities of synthetic materials and solutions, the Environmental Protection Agency (EPA) created a rule in 2003 that raised the standards for clothing operations whose emissions were deemed dangerous upon exposure, stating that exposure to certain chemical "substances has been demonstrated to cause adverse health effects...the EPA has classified two [of these chemicals]...as probable or possible human carcinogens." As progressive as this rule was in regarding the health of factory workers, it only applies to the United States. Other countries may not necessarily be required to serve under these regulations, so in cases of outsourcing, it is decided by the customer whether to support a manufacturing plant that considers the dangers of certain chemicals used in textile production.

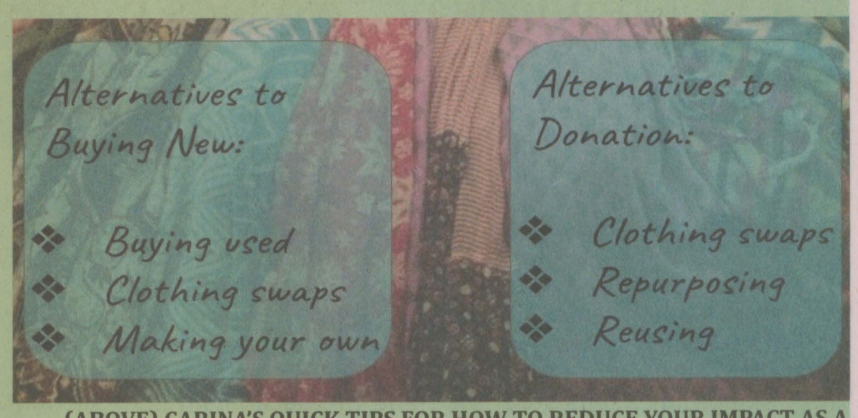
Clothing's lack of sustainability does not end at its production, however. Cheap clothing often has a shelf life. If it does not go out of style first, then its weak structural integrity will inevitably render a sloppily-stitched t-shirt useless. Andrew Brooks claims that a majority of consumers, having paid a likely inconsequential amount for said piece, will consider a ruined garment to not be worth the hassle of repair, since "garments are priced far too low to reflect their true social and ecological value as capital mobility and excess global labour." A plain t-shirt can be found at the same price as a few rolls of paper towels; if priced in such a manner as to imply that a purchase is not an investment, customers will not treat said product as an investment and will therefore deem repair and maintenance unnecessary.

According to Greta Eagan, pressures to remain current and fashionable as well as physical defects on a textile such as stains or tears encourage consumers to rotate their entire wardrobe on a regular basis: "By 2011 the average American was purchasing sixty-eight new wardrobe items a year...[they also] throw out an average of sixty-eight pounds of clothing each year, which amounts to 13.1 million tons of textile waste that goes to US landfills each and every year ... 95 percent of that waste is ... recyclable."

Clothes that are thrown into landfills are considered solid waste. Natural materials such as cotton, hemp and wool begin the biodegradation process, but synthetic materials including dyes and finishes remain for decades longer. Runoff from rain rinsing synthetic fibers, dyes and finishes all seep into the soil and poison the surrounding area, rending it unfit for plant growth of any kind for an indeterminate amount of time. While creating trash is incredibly easy, there are innumerable alternative options that generate a significantly lesser amount of garbage.

The next, most obvious option is for consumers to donate their clothing to thrift stores. Once clothing is collected from large donation bins behind the store, employees sort out what is able to be sold and what is not. Clothing that is not sellable is not wasted, however. Stained or torn clothing as well as a majority of the clothing donated to collection boxes is all put to use. Unsellable clothing will be torn into smaller rags and is often sold for insulation or stuffing for anything from car seats to mattresses. Clothing that is able to be sold will be put out in the store, but only for three to five weeks. After that period, thrift stores will pull clothing off the racks and bring it into larger warehouses and have it sold by the pound. Clothing that is still unsold from the warehouses will be thrown into a large bundle that is sold by the pound at a much lower rate, then after that, into bundles weighing over a ton, sold by the ton. The customers of these earlier processes are often resellers or hobbyists, and of the later processes, foreign countries in need. Though this clothing is put to good use, this process still creates waste, especially if the largest bundles are not sold. Consumers can continue to reduce the amount of waste they produce by reusing, repurposing, and selling the clothing that they no longer want to wear before considering donation.

By foremost, confronting consumers with the reality of their clothing's origins and providing education for less impactful solutions, demands for new and cheaply produced clothing will decrease resulting in proportionally decreased demand in cotton production. This reduces overall pesticide, water, land and energy use, thus demanding less from the soil, which then requires less chemical-based growth assistance for high quantities of fiber production. The overall impact of the clothing industry will decrease with less consumer interest and support.



(ABOVE) CARINA'S QUICK TIPS FOR HOW TO REDUCE YOUR IMPACT AS A CONSUMER. CARINA CHRISTENBURY/THE REVIEW

The world is dying: Can your reusable straw save it?

TALIA BROOKSTEIN-BURKE
Senior Reporter

An army of neon orange tubes float through the Scrounge, swirling in the thick, murky coffee that flows freely from the Dunkin' counter. Bobbing among those tangerine cylinders, glints of metal sparkle in the fluorescent lighting, a beacon of light in a plastic world: metal straws.

But just how much of a difference are these reusable, VSCO-worthy straws making?

Every day, 500 million straws are used in the U.S., with one study estimating that there are currently 8.3 billion plastic straws scattered across the world's beaches. These numbers are frequently contested, as the estimates came from a nonprofessional surveyor. Currently, it is estimated that there are 150 million metric tons of plastic in our marine environments, with an additional eight million being added each year.

Straws make up 0.025% of those eight million tons.

In the past few years, reusable straws have shot to the front lines in the fight against single-use plastics. Metal is just one of the ways people are firing back at the flimsy plastic tubes. Bamboo, silicone and glass straws crowd online retail shops, encouraging customers to reconsider how they sip.

Major corporations such as American Airlines, Aramark and Starbucks have jumped on the bandwagon, vouching to either reduce or completely eliminate their plastic straw use, and Newark isn't far behind. Last June, the Newark City Council passed a motion to draft a policy stating that all restaurants should only pass out straws if directly requested by a customer.

Although the policy has not been discussed since June, many local businesses adopted similar regulations in a voluntary agreement with the local government to adopt the policy earlier on. Grain Craft Bar + Kitchen is one such restaurant that implemented this trend, leading to a 90% decrease in straw use at its three locations.

However, environmentalists have made it clear that even if straws were to be eradicated completely, the difference would be minute.

So why bother ditching the plastic drinking tubes?

Lydia Fimmano, a sophomore studying political science, regularly drinks from a reusable straw. She explained that while switching out the straw alone is not enough, if combined with other environmentally conscious decisions, it can pack a greater punch.

"I use my reusable straw with reusable cups because there's just so much waste with the non- reusable plastics," Fimmano says. "Any small difference is going to help, but it's more about plastic water bottles, plastic cups, stuff like that."

Beverage containers such as plastic water bottles and aluminium cans make up 14% of all litter, not including caps and labels, while packaging accounts for a whopping 40% of total plastic usage.

Yes, ditch the plastic straw, environmentalists say. On top of that, they suggest ditching the plastic water bottles from the POD, getting a reusable one instead. Shop local to cut down on packaging, activists advise. Bring your own reusable containers to restaurants to avoid styrofoam-laden doggie bags, they say.

Replacing straws is a good start, but it's not enough on its own.

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"The Amazon is burning ... And you're talking about straws?": The effects of food waste and pollution on poverty in Delaware

BIANCA THIRUCHITTAMPALAM
Managing Mosaic Editor

When the restaurant Sarah Wittenaitch was employed at shut down under "super short notice," Wittenaitch did the unexpected: She went back.

According to Wittenaitch, there were thousands of dollars of equipment and hundreds of dollars of produce lying around in the restaurant. She quickly assembled a team of friends, instructing them to get down to Newark as fast as possible. If Wittenaitch hadn't gone back for the produce and equipment, they would have faced the fate of so many other valuable food products in America: they would have been tossed away.

"We looted that restaurant like Supermarket Sweep," Wittenaitch says. "It was a good deal."

All the pans and pots and trays and produce that Wittenaitch and her friends collected were not going back to her. Rather, Wittenaitch was collecting them with a purpose in mind: She wanted to give them back to the Wilmington chapter of Food Not Bombs, an organization that salvages food and supplies from the local community to prepare meals and offer resources for those in need.

According to Adam Rahn, another member of the Wilmington chapter of Food Not Bombs, the organization began approximately two years ago. Influenced by other chapters in the area, the original group of members established a chapter in Wilmington. While Rahn says that the original members of the chapter are not around anymore, he, Wittenaitch and others keep the spirit alive with their dedication to providing a safe and inclusive space for the needy of Wilmington.

"We're very rag-tag, very horizontal," Wittenaitch says. "We basically get food however we can, we salvage donations and we buy if we gotta. We serve up a big meal, vegetarian specifically, for anybody who is hungry, no questions asked."

The focus of the group is to salvage as much produce, and with good reason. Throwing out perfectly good product is a large problem across the United States, and Food Not Bombs works to relieve the amount of waste that is put out. According to Eri Rugis, another member of Food Not Bombs, the creation of waste is a big issue in the current food crisis amongst America's homeless citizens. At the school that they work at, "bags and bags" of apples get thrown out at the end of the day, even though they are still ripe. Rugis usually stores and transports them to Food Not Bombs.

"Produce is something that is perfectly good that gets thrown out," Rugis says. "We do have enough food to feed everyone, we just need to know where the waste is going."

Wittenaitch agrees with Rugis, and believes that the amount of waste created by Americans isn't just a matter of carelessness.

"In America, nearly half of all produce gets thrown out because it doesn't look good enough," Wittenaitch says. "Our entire production system is based upon making a profit on it, not actually feeding people. The point of capitalism is production and to make profit, not to feed people."

A large portion of the work that Food Not Bombs does actively combats the negative effects of capitalism on the poor: starvation, a lack of resources and climate change. Rahn believes that climate change, capitalism and poverty are deeply intertwined.

"Making food networks to feed people before climate change happens is environmental justice," Rahn says. "We're in a space where in the next 50 years we're going to leave this whole stratified class of people, completely underserved. So we need networks to already be in place for when this sort of happens."

While Food Not Bombs salvages food and attempts to operate in a way that is as environmentally friendly as possible, they also acknowledge that the environmentalist movement can be both classist and ableist. Often, individuals with disabilities or who do not have access to unlimited resources are not able to use multiple use products.

Kayla McCord, who recently joined the organization, recalls her experience handing out menstrual products to individuals. They say that many only took one or two.Hhowever, McCord encouraged them to take as many as they needed, as they wanted the women to consistently have clean menstrual products to use.

"As far as pads and tampons go, the eco effect of those disposable products is something to be considered," McCord says. "[But] some people can't go to a laundromat everyday. Some people can't wash them [reusable menstrual products] out in a bathroom."

Similarly, Rugis acknowledges that reusable products, such as reusable straws, are not always feasible in the disability community.

"This is a huge deal in the disabilities community," Rugis says of the reusable straw movement. "People with mobility issues use plastic straws and people who have issues swallowing."

That being said, Rugis, Rahn, McCord and Wittenaitch all agree on one thing: Most of the blame of climate change is placed on lower classes, when it is upper middle class citizens, upper class citizens and companies that are causing most of the pollution. In Delaware specifically, many residents from smaller and suburban towns such as Middletown and Bear are employed in Wilmington. From her personal experience as a resident of Middletown, McCord can attest that many members of community travel up and down the highways on the way to work, thus creating a massive pollution problem for Wilmington.

"You come to these cities, you use their resources and you ignore the people starving on the streets," McCord says. "And then you retreat back to your safe haven: beautiful, white Middletown."

During her time volunteering at Food Not Bombs, McCord says that the homeless who have stopped by have shared stories of walking as much as 60 minutes out of their way to reach a job, safe space or another space where they need to be. The homeless are not the ones that pollute their own environment, yet, they are the ones that feel the repercussions and, unfortunately, often end up being blamed for these issues.

Additionally, these issues are disportionately felt non-white residents of cities, especially in Wilmington.

"I would say probably about 70 % of the people that come to our stand for a meal are African American," McCord says. "You go into these mostly African American areas and they are just awful. There's litter everywhere, there's construction, these people are breathing in this dust and this asbestos."

Overall, much of the pollution in today's world can be traced to large, wealthy operations. However, with recent "environmental fads" such as reusable straws and to-go mugs, there has been a movement to place the blame on the consumer. Rahn claims that this movement helps to "absolve" companies of any guilt they may have. News cycles of recent fads create increased attention to problems that really represent the least of humanity's ecological footprint.

"The victims of capitalism and pollution get blamed," Rugis says. "Maybe you're gonna find a horrible picture of a cute turtle with a straw in its nose but you're not gonna show people pictures of garbage patch island and the factories where this all floated out from. You're not gonna show people a factory that just skirted a regulation to save some money and then ended up polluting a community."

Environmentalism reaches beyond a metal straw and a Starbucks cup that can be reused. As the mission and work of Food Not Bombs illustrates, climate change impacts real people, real people who play little to no role in their own environmental situation.

Perhaps, it's best summarized by a blunt statement Wittenaitch makes mid-interview:

"The Amazon is burning, motherf--ker," Wittenaitch says. "And you're talking about straws?"

PHOTO COURTESY OF FOOD NOT BOMBS. FOOD NOT BOMBS' MISSION IS TO PROVIDE A SAFE PLACE FOR NEEDY RESIDENTS OF WILMINGTON TO GET A HOT MEAL.

A weekend away: two lads purge themselves of society and take a walk in the woods

EDWARD BENNER
Music and Society Editor
EVAN TRIDONE
Senior Reporter

Edward's reflection

Two weeks ago, I went to the Philadelphia Museum of Art and saw the Designs for Different Futures exhibition. The exhibition consisted of conceptions and technological innovations to tell the story of the resilience necessary for what is to come in the remainder of the 21st century. One installation in particular entitled "Resurrecting the Sublime," made by Alexandra Daisy Ginsberg, Sissel Tolaas and Christina Agapakis, spoke to the looming devastation of the Anthropocene age in which we currently reside.

The installation was three glass walls and a white backdrop with two boulders in the center of the floor to sit on. Wafting through the air was the recreated scent of flowers that had gone extinct in the 19th century as a result of human influence. Sitting in this room on top of the rocks left me utterly speechless and before I knew it, I was wiping a tear from the corner of my eye, mourning the life that had been lost and the haunting unnaturalness of smelling the scent once more.

This experience haunted me and remained in my mind as Evan and I set out early Saturday morning for West Virginia, a state which is known for natural beauty and remoteness. Together we trekked northbound on the Appalachian trail for a brief weekend where outside distractions were minimized and the natural world was brought to the immediate foreground. For me, my phone was powered off, my boots laced and my backpack filled, setting the scene for a much-needed purge from the near-crippling stressors and responsibilities of my work and school lives.

I was immediately reminded that the natural world is unforgiving as cold stung my cheeks, rocks crunched my ankles into varying angles and the incline was so steep that I could've crawled. Through the physical pain, it became evident to me a little later that I was solely focused on enduring and taking in my surroundings, existing entirely in the moment. At one point in the late afternoon we were passing along a ridgeline and paused for a moment in unison, noticing the complete silence that blanketed the expansive landscape in every direction as far as the eye could see. We were alone and we were present, passing through what we did not own or control.

This sense of perspective was continued into the darkness where I valued the warmth of our little fire and the ability to sit without carrying a pack. In the distance was a twinkling city skyline and a streaming highway in a descending "s" shape, and above were the masses of constellations eons away. Both sights, one natural and the other unnatural, left me feeling equally small, reiterating my miniscule scale in the scope of this Earth.

Crossing over the West Virginia border in Virginia Sunday morning left me with a sense of accomplishment and a revitalized spirit, recentered mentally. Nature is often called a gift when calling for its preservation at the hands of human destruction. While I agree that it is a gift in its scale and grandeur, the true gift is its ability to touch us, reground us and remind us that we are but weary, brief inhabitants on this giant planet that knows and has seen more than we can ever comprehend.


EDWARD BENNER/THE REVIEW

Evan's reflection

A campfire is a horrible thing to waste. Especially when the temperature is in the mid 30's, and you are tired and sore after an 11 mile hike with a 30 pound backpack on.

This weekend, I experienced a disconnect from the world. It was refreshing to know that the only problems I had to worry about were finishing the hike on time and setting up camp before sunset. Luckily, me and Edward got both of those things done with time to spare.

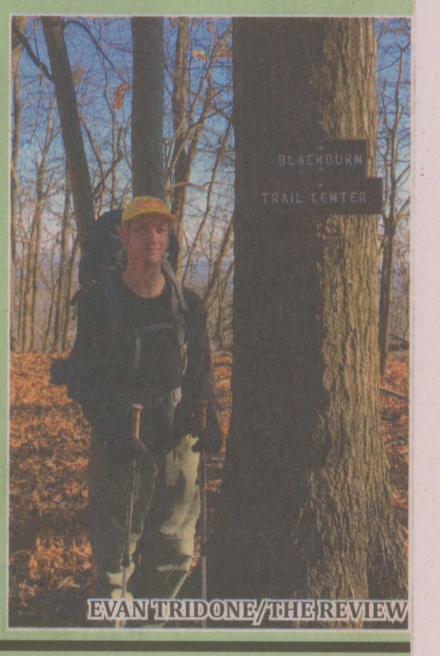
It put my problems that I deal with in my day to day life into perspective. From dealing with balancing my work and studies, to trying to go out and do things in my social life, to maintaining friendships with my friends back home. I find myself stressed out pretty often with all of these different things and more.

On the trail, I was happy with the things I had to worry about. Mainly because my life partially was dependent on the warmth I would get from a fire, the sustenance I would get from a warm meal and the rest I would get from the tent being set up. I even asked Edward while eating dinner "Is it possible to live like this?" simply because I was so happy and at peace with the state I found myself in.

This is why I say a campfire is a horrible thing to waste. We sat next to that campfire for hours talking about different things both troubling and humorous to us. It provided warmth, both externally and internally. Not the mention the soothing sounds of the logs cracking under the heat.

Eventually, the flame died down, as well as our energy levels, and we decided to hit the hay. Our bodies were extremely sore, so lying on our backs was one of the most blissful feelings imaginable at that moment.

Camping realigned my perspective on many things in my life this weekend, which is why I am extremely happy that I went. Both the backpacking portion and the campsite portion of the trip was a wonderful experience that I could not be more grateful for.



EVAN TRIDONE/THE REVIEW

It's the apocalypse, and all I brought was my reusable water bottle: An analysis of armageddon in the movies

DANNY ZANG
Senior Reporter

The world was supposed to end on Dec. 21, 2012. The apocalypse was, of course, rescheduled after the Y2K bug failed to end humanity, and unfortunately due to unforeseen circumstances, the apocalypse will now be held in 2020, itself a revised prediction from astrologer Jeane Dixon.

I spend a lot of time thinking about the apocalypse, not to the extent of conspiracy theorists and doomsday preppers, but it remains a thought in the back of my mind that I can't quite shake. Maybe it's the inevitability of it all; maybe it's the helplessness with which I fear it.

I was in the sixth grade when I started worrying about Dec. 21, 2012, the date that coincided with the end of the Mesoamerican Long Count calendar, a non-repeating calendar used by the Maya to count the days since creation. Numerologists, astrologists and conspiracists alike made predictions for this date, ranging from a global spiritual realignment to a collision course with the mystery planet Nibiru.

Now, as blissfully unaware of my surroundings as I was, sixth grade was before I actually started thinking about climate change and its effects on the environment. To me, the apocalypse was 2012, or rather, a 2012 event. A grand, almost spectacular ending to the human race, owed not to our own mistakes but to some cosmic fluke.

In a way it comforted me. But it scared me too.

Sometime in 2011, with the end of the world drawing ever closer, I watched Roland Emmerich's "2012," a disaster epic laden with computer-generated images, taking the apocalyptic predictions to their absolute wildest extremities. Yellowstone National Park's supervolcano erupted, the Himalayas flooded and the San Andreas fault line cracked the Earth wide open. In short, everything that could go wrong did as John Cusack ricocheted across the globe trying to get his family onto a gigantic ark.

"2012" was exceedingly dumb, but it worried me all the same.

Disaster movies are a dime a dozen, each offering their own spin on fears both reasonable and unrealistic. It's unlikely that there will be a "Sharknado" event anytime soon, but the environmental concerns underlying other examples like Emmerich's "The Day After Tomorrow" offer glimpses into the worries of our age, however scientifically inaccurate the movies might actually be.

The history of environmentally-conscious disaster movies has an extensive lineage that can be traced back to the granddaddy of monster movies: "Godzilla."

Director Ishiro Honda, discontent with the idea of making a monster epic devoid of meaning, sought a more nuanced story.

"Godzilla," released in 1954, centered it's story and themes on the real-life fears of post-war Japan. In a newly christened atomic age, the Japanese populace, and much of the world, had grown more anxious living life under the shadow of the bomb.

The titular monster was woken up by U.S.-led atomic bomb testing, beginning a rampage through Japan that eerily reflected the damage done to Hiroshima and Nagasaki, the destruction of which brought an official end to World War II.

Is this the core conceit of disaster movies? A reckoning with our own sins?

It's an increasingly relevant question to pose as we sprint headlong into the visible ramifications of climate change. The apocalypse, an ostensibly man-made notion of humanity's end, has been wrested from our control. Polar ice caps melt, brush fires burn, storms rage across the world and we are no longer the masters of our fate.

If grappling with this loss of place in the world is the question of our age, there's no better champion of the message than Paul Schrader's latest film, "First Reformed."

Reverend Ernst Toller, played with a desperate intensity by Ethan Hawke at his absolute best, tends to the anxiety of Michael, one of his parishioners, at the request of the man's wife.

Michael's fear of the state of the world, with its extremism and climate disasters, and his fear of bringing a child into it has grown into something malignant. Reverend Toller attempts to replace Michael's hopelessness with faith, but falls into a chasm of his own.

Midway through the film, Toller trudges through the snow to the letter sign outside of his small church and adds a new message: "Will God forgive us?"

Toller's struggle with his faith speaks to the small apocalypse we face every day: hope in the face of the inevitable or, perhaps worse, the avoidable exacerbated by apathy.

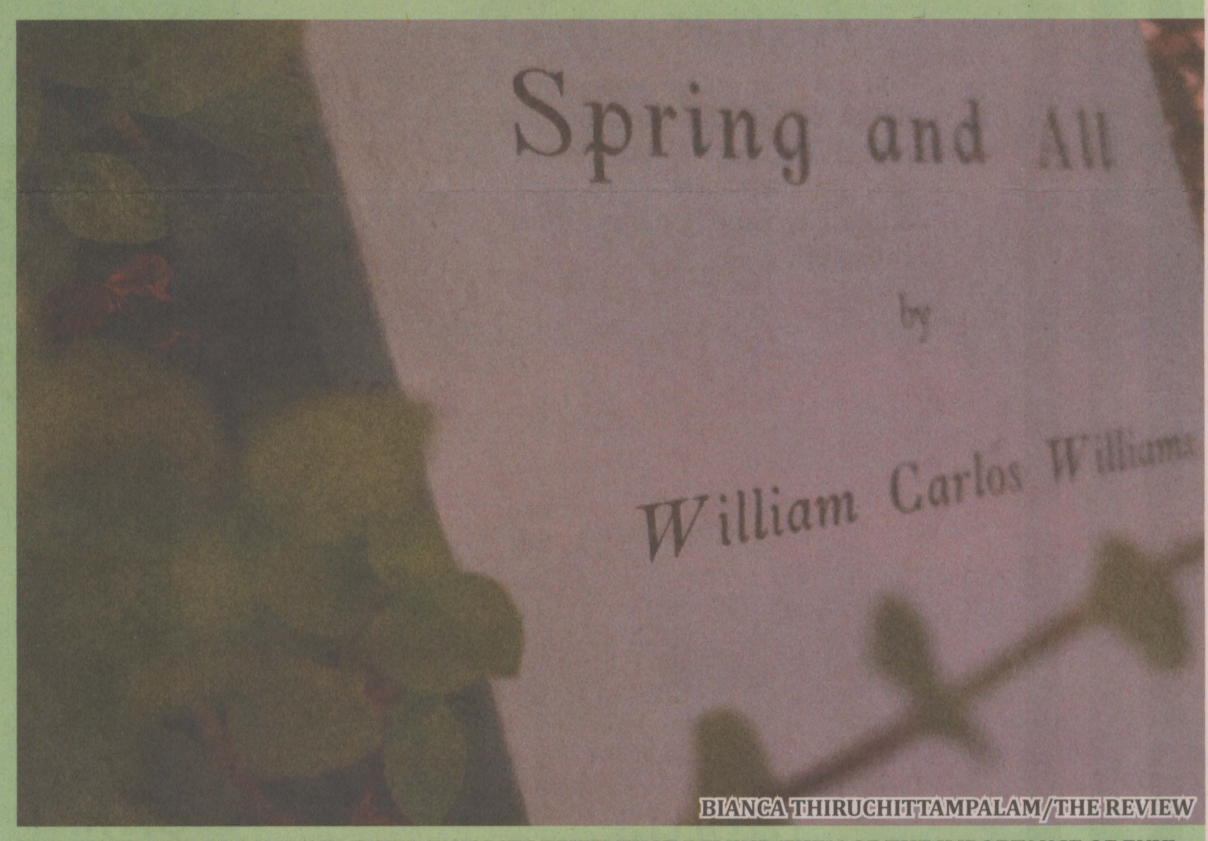
Maybe our apocalypse will take the form of Nibiru after all, smashing into the Earth with enough force to send us the way of the dinosaurs. Maybe Godzilla will come bursting from the waves and flatten entire cities. Or maybe the apocalypse is our apathy, our staring certain and irreversible change in the eye and rejecting the need for change.

When I think about the environment I think about the apocalypse. I think about the slow march toward extinction and the small environmental movements slowly gaining worldwide traction. I think about Godzilla and Dec. 21, 2012 and Reverend Toller sitting in a pew in the dark, alone with his thoughts and without his faith.

Most of all I think about the small apocalypse at the end of each day, and I wonder how many we have left.

POLAR ICE CAPS MELT, BRUSH FIRES BURN, STORMS RAGE ACROSS THE WORLD AND WE ARE NO LONGER THE MASTERS OF OUR FATE.

Environmental reading list



BIANCA THIRUCHITTAMPALAM/THE REVIEW

THE REVIEW STAFF COMPILES THEIR FAVORITE TEXTS THAT REMIND THEM OF THE IMPORTANCE OF ENVIRONMENTALISM.

"The Alchemist" by Paulo Coelho
Jacob baumgart, Editor-in-Chief

"The Alchemist" is a story of controlling the world around us. Santiago, a teenage shepherd from Spain, has a recurring dream about visiting the Egyptian pyramids. A psychic tells Santiago that the dreams are an omen that he must follow through on. Santiago decides to take the advice, selling his flock and trekking across the Sahara Desert. Along the way he learns to control earthly elements and be greater than human, forcing readers to question how they interact with the environment. Can one be invincible? Can they turn themselves into wind? If so, does that make one greater than the world around them? Coelho says no. The relationship between humans and nature is symbiotic and neither could exist without the other. "The Alchemist" reminds people that even the most barren tundras

"Into The Wild" by Jon Krakauer
Victoria Calvin, Copy Editor

Arguably one of the more divisive "nature lover" books, "Into The Wild" has inspired some and baffled others since 1996. The story follows Christopher McCandless, an Emory graduate from a wealthy, dysfunctional D.C.-area family. However, after graduating college, McCandless left. Literally. He cut up his government documents, donated his savings and started off into the wild with little more than what he could carry. Initially driving and then hiking, he travelled through the western U.S., briefly to Mexico, then Alaska over two years. While many saw his story as moving and inspiring, many also called McCandless stupid and uninformed. While each reader is entitled to their own opinion, the question must be posed: is there something you believe in so resolutely that you would abandon everything you know?

"The Man Who Planted Trees" by Jean Giono
Edward Benner, Music and Society Editor

This French short story is about an old peasant who spends his days in solitude shepherding after the death of his wife. He walks the desolate land planting seeds and selflessly labors without anyone knowing. His actions rejuvenate the entire area and turn the desert into a Garden of Eden, bringing life and joy to others.

This story was passed along to me by a formative environmentalist and teacher I had in high school who inscribed my copy with "You guys were my trees." Giono's story is an allegory for the possibility of stewardship, not only environmentally, but in regards to any genuine action, be it education or caregiving. It continues to inspire me to be a man who planted trees in my own life, striving to make a meaningful impact on this planet.

"Temperance Creek" by Pamela Royes
Edward Benner, Music and Society Editor

With breathtaking prose, Pamela Roye's memoir "Temperance Creek" conveys the interrelations and complexities between love for the environment and of another individual. Royes makes the seemingly naive decision to abandon her comfortable upbringing and run off into the wilderness with a man she hardly knows named Skip Royes to become a sheepherder. While grappling with romance, grueling conditions, and near constant peril in Oregon's austere Hells Canyon, Royes reveals the beauty and meaning of intentional living, down to the most miniscule contentment. "Temperance Creek" is a rare work that treats nature with a reverence and makes readers reconsider their size in the midst of the living and nonliving world.

"The Red Wheelbarrow" by William Carlos Williams
Bianca Thiruchittampalam, Managing Mosaic Editor

Four lines long, this poem does not cover the complexities and issues raised by the Environmentalist movement: It is not an environmental poem, in any sense of the word. Instead, it offers a quiet reflection on the presence of a red wheelbarrow, in the grass, beside the chickens. Perhaps I have been reading into it too much (I know, I have,) but this poem has always struck me as a beautiful meditation on the interactions between the man made world (the wheelbarrow) and the natural world (the grass, the dew, the hens, the morning.)

PHOTO BY BIANCA THIRUCHITTAMPALAM/THE REVIEW
COLLABORATIVE CONTENT BY THE REVIEW STAFF

Horoscopes for the Week of November 19, 2019: What do the stars have in store for you?

BIANCA THIRUCHITTAMPALAM
Chief Astrologer

Scorpio

Instead of spending all of your time plotting revenge on your archnemesis (I know, they hurt you. I know, they deserve it,) you can choose to volunteer to spend your time doing some garbage clean up or volunteering at a local homeless shelter (poverty and environmentalism are related!)

Sagittarius

Ready for a wild trip? Get out into nature and write about it. If there's anyone who knows how to appreciate the spontaneity and beauty of nature, it's YOU.

Capricorn

I know. You're a grandpa. But next time you check your debit card balance to make sure that you have the most money possible, skip on the receipt. It's the small things.

Aquarius

You do not need your fairy lights on at all hours of the night. We get it, you're not like the other girls. Save some electricity and energy, turn those off.

Pisces

Now might be the perfect time to try out vegetarianism for a day. You've been reading a lot of articles on it, and your human, emotional side can't help but feel bad for those animals (and the amount of methane they can produce!) Try it out for a day and if you don't like it, at least you can say you tried!

Aries

Although everyone knows that you love to drive your flashy red car down Main Street at illegal speeds, consider walking. You'll save gas money and eliminate a little bit of pollution.

Taurus

You have munchies 24/7, but be sure not to leave your Flamin' Hot Cheetos bags all over the grass.

Gemini

Switch to showing only one of your faces. You're using up too much energy.

Cancer

All of your friends know that you love a good, 14-hour nap. Next time you're in the market for a new blanket, do a little research and try to support a company that makes cozy, climate-conscious products.

Leo

Stop talking about yourself. You're taking up way too much oxygen.

Virgo

You've always wanted to do it, and this is finally your week. It's time to source your herbs and veggies locally. Set up a small garden on your back porch. We believe in you. You are one with nature.

Libra

Please, for the love of God, recycle your goddamn White Claws.

Plant-based diets for athletes: Are they the ultimate game changers?

PATRICK LAPORTE
Senior Reporter

"The Game Changers," a documentary which recently aired on Netflix, looked at the benefits of what a plant-based diet has to offer athletes and the environment as a whole. As an avid runner, I saw it as an opportunity to look at changing my own diet to enhance my performance.

However, switching to a plant-based diet still comes with many concerns and questions, one of which underlines the idea of whether or not an athlete could switch to a plant-based diet and still perform at a high level.

One of the main topics "The Game Changers" focused on was the difference between protein that comes from plants versus that which comes from animals. Amino acids are the building blocks for proteins that are what help build and repair muscle in the body. At one point, the documentary mentions that all plants contain all nine essential different amino acids in different variations. In fact, this is not the case; most plants lack at least one of the nine essential amino acids that humans need.

However, by combining different sources of plant-based protein, an athlete would be able to get the vital amino acids they need in order to keep their bodies functioning at a high level. An athlete can get protein from plant-based sources via grains, nuts and beans.

Unlike plant protein, protein that comes from meat is normally complete with all nine essential amino acids. Complete animal-based protein includes fish, eggs, red meat and dairy products. However, protein that comes from an animal source does have drawbacks.

Studies have come to find that red meat has a possible link to inflammation in arteries throughout the body. The inflammation would increase blood flow to certain areas and could cause pain in the affected region. For any athlete, the last thing they want is to have pain while trying to perform at a high level.

The documentary also gave a wide variety of athletes who are examples of athletes who have gone on plant-based diet and had success. It talked with a range of athletes such as NFL linebacker Derrick Morgan, Olympic sprinter Morgan Mitchell, UFC fighter Nate Diaz and ultramarathon runner Scott Jurek.

These athletes all had talked about accomplishing amazing things after going plant-based. For example, after going on a plant-based diet, Jurek talked about his experience about being the fastest person ever to complete the appalachian trail. Diaz reminished on beating world-class fighter Conor Mcgregor.

These accomplishments on a plant-based diet are outstanding and it shows that a plant based diet works for professionals. However, a professional athlete and an everyday athlete are two very different people. A professional athlete has all the resources in the world given to them to ensure their success. A professional athlete has access to a variety of nutritionists and dietitians who would come at little to no expense. An everyday athlete or say an athlete in high school more than likely would not have as much access to these resources. An everyday athlete must do research on their own in order to know what their body needs in order to get all of the essential nutrients they need.


LOUIS MASON/THE REVIEW

ATHLETES SUCH AS FOOTBALL PLAYERS NEED THE RIGHT NUTRIENTS TO HELP THEIR BODIES RECOVER.


SARAH BOEKHOLDER/THE REVIEW

SOCCER PLAYERS, CROSS COUNTRY AND TRACK RUNNERS AND OTHER ATHLETES NEED THE RIGHT NUTRIENTS TO KEEP THEIR CARDIOVASCULAR SYSTEM FUNCTIONING HIGHLY.

Finally, the documentary also mentioned the overall benefits of going plant-based for the environment.

Switching to a plant-based diet for one thing helps conserve water. Surveys and studies have found that it takes 100 to 200 times more water to raise livestock than it does to grow plants. By reducing the amount of water consumed by livestock, it could be used to help regions around the world that lack access to drinking water.

Plant-based diets also can help save energy and is cleaner than raising livestock. A study in the journal Geophysical Research Letters found that emissions that come from livestock farms are much higher than any other type of air pollution in the United States. Over time, human beings have had a big issue with emissions of excess carbon dioxide and other air pollutants. By switching to a plant-based diet, an athlete could help reduce the emissions of these pollutants and the effects they have.

Ultimately, if an athlete wants to go plant-based is their own choice. There are many benefits that an athlete receive from going plant-based. However, for most athletes giving up a diet of mainly animal-based products may be hard because it has never given them problems that they know of.

The fact of the matter is that having an overall healthy diet is the main goal that any athlete should strive for in order to be successful. Many athletes, including myself go by the motto, "If it ain't broke, don't fix it."

Grass versus turf fields: Researching injuries, threat of cancer

EMMA STRAW
Staff Reporter

Artificial turf first entered the playing field in 1966, when it was installed at the Astrodome, home of Major League Baseball's Houston Astros. Dubbed AstroTurf, the synthetic grass innovation was praised for its durability and low cost, only to face later criticism as injuries began to arise.

According to the Hospital for Special Surgery, early injuries included anterior cruciate ligament (ACL) tears, concussions and ankle sprains. As more studies followed, incidents of turf burns and turf toe, a stiff big toe caused by arthritis, appeared.

In response to the growing injuries, artificial turf companies began working on improving their product to replicate the look, feel and safety of natural grass.

As of 2017, according to the Synthetic Turf Council, a trade association representing the synthetic turf industry, more than 12,000 synthetic turf sports fields are in use throughout the United States.

Made of nylon, polyethylene and tire crumbs, turf fields are cheaper to maintain than natural grass, can withstand heavier, more frequent use, conserve water and eliminate the use of potentially harmful pesticides and fertilizers.

However, costs are steep. Depending on the type and company, artificial turf fields can cost upwards of $750,000 and even more in medical bills.

According to Justin Shaginaw, an athletic trainer for the U.S. Soccer Federation, a study published in 2011 showed that there was a higher incidence of ankle injuries on artificial turf among football, rugby and soccer players.

The reason: As the coefficient of friction increases, there is an increase in the rate of lower extremity injuries.

As more concerns were raised and studies were conducted, results from a 2013 study that looked at injury rates among female soccer players showed a higher injury incidence rate on grass than on turf.

Shaginaw concluded that there is no definitive answer regarding injury rates and artificial turf, but that the key to injury prevention is wearing the proper cleats, those made specifically for natural grass or turf.

Other studies show that the effect of artificial turf on injury rates is still controversial. According to Dr. Mark Drakos, an orthopedic surgeon and sports medicine fellow from the Hospital for Special Surgery, most scientists believe that there are two material properties that can affect injury rates on turf and grass: the coefficient of friction and the coefficient of restitution.

While friction refers to the resistance that one surface or object encounters when moving over another, restitution is defined as the ability of a surface to absorb shock.

Fields with low shock absorbency place more impact upon an athlete during a collision and can result in higher injury and concussion rates.

While physical injuries dominated the early grass versus turf debate, new concerns about crumb rubber in artificial turf fields and their connection to cancer have since taken over.

In 2009, former U.S. women's national team goalkeeper and current University of Washington Assistant Head Coach, Amy Griffin, compiled a list and collected data about athletes with cancer who have played on crumb-rubber artificial turf. Griffin suspected that the crumb-rubber, or tire crumbs, contained carcinogenic chemicals.

The Washington State Department of Health and researchers at the University of Washington School of Public Health conducted an investigation into whether the cancer rate seen in Griffin's list was "unusual" and concluded it was not.

In addition, the Connecticut Department of Public Health conducted research in 2011 on five in-state crumb-rubber fields and found that health risks were not increased by the rubber vapors and particulates.

While research has not found significant links between cancer and crumb-rubber from turf fields, scientists continue to investigate the matter.


SARAH BOEKHOLDER/THE REVIEW

UD FIELD HOCKEY PLAYER SOPHIE GIEZEMAN DRIBBLES THROUGH THE ARTIFICIAL TURF OF FRED RULLO STADIUM.

"Shrink the change:" A conversation with former US Ambassador to the UN Samantha Power

MITCHELL PATTERSON
Executive Editor

Samantha Power has worked as a war correspondent in the Balkans, taught at the Harvard Kennedy School and Harvard Law School, advised then-President Barack Obama on human rights and served as the 28th U.S. Ambassador to the United Nations from 2013 and 2017.

Despite this hefty resume, Power, 49, emphasized again-and-again Wednesday, at an event hosted by the Biden Institute in Mitchell Hall, that any normal citizen has as much opportunity and ability to play a role in tackling the staggeringly large issues which today beset the nation and the world.

"When I came back to teaching after being the U.N. ambassador, I noticed that my students couldn't relate to me in the way that they had before," Power said. "Your resume can color people's impression of who you are. A lot of people are asking themselves 'Can I make a difference?' And when we tell them, 'Yes, you can. Here's my counsel for you,' they say 'That's easy for you to say.'"

At the event on Wednesday, Power sat down with Valerie Biden Owens to discuss Power's life, career and her new New York Times bestselling book, "The Education of An Idealist." According to the Biden Institute, Obama has called Power "one of our foremost thinkers on foreign policy," and said that "she showed us that the international community has a moral responsibility and a profound interest in resolving conflicts and defending human dignity."

During the lecture, Power argued that ordinary citizens could practice "shrinking the change." If they feel powerless in relation to the magnitude of the problems facing society, they should try to determine the smallest possible contribution they could make toward solving an issue, and start from there. If people do not learn to break larger crises dWWown into smaller, more manageable problems, she believes that the challenge can seem so insurmountable that people resign themselves to doing nothing at all.

"When you're feeling kind of isolated or you're feeling like there's a lot in your way," Power said. "When we see a very large problem, what we think is demanded of us is a very large solution. But ultimately, if we as individuals, latch onto that idea, we can fall prey to a kind of defeatism."

Many audience members reported that they felt Power's proposals to "shrink the change" were empowering.

"It made me realize that any small thing I can do will have some meaning," Alicia Stratman, a sophomore studying international business and accounting, said. "Maybe I won't have my name written or remembered on anything, but I will have contributed something. That was inspiring."

Owens posed questions to Power about her life experiences as a self-described "idealist" and asked that any discussion of foreign policy or contemporary affairs be limited to the later Q&A portion of the evening. Despite this, Owens had to continuously steer Power back to speaking about herself.

"There's an old joke in Irish culture, and you may have heard, coming from an Irish family yourself, that Irish people have trouble using the first person even in therapy," Power said.

According to Power, she first took an active interest in human rights as a career during the 1990s when she went abroad as a foreign correspondent to cover the Yugoslav Wars in Kosovo and Bosnia. She also reported on war zones such as East Timor, Sudan and Rwanda. Power admitted to Owens that she had initially forged her press credentials in order to work in the more dangerous regions during the Yugoslav Wars.

When she returned from abroad, Power studied law at Harvard and wrote her first book, "A Problem from Hell: America and the Age of Genocide," which was awarded the Pulitzer Prize in 2003.

In 2009, Obama brought Power onboard the National Security Council as the Senior Director for Multilateral Affairs and Human Rights. In this role, Power advocated for a U.S. military intervention in Libya. She also lobbied the governments of 20 authoritarian states to release female political prisoners.

"We were able to secure the release of 16 of the 20 women," Power said. "Which is so little for America, the big superpower, but for each of those women, and their families and the communities in which they live, it's the universe. That, for me, is a great example of shrinking the change."

Power immigrated to the U.S. from Ireland at the age of 9. Today, she works as the Anna Lindh Professor of Practice of Global Leadership and Public Policy at the Harvard Kennedy School and as the William D. Zabel '61 Professor of Practice in Human Rights at Harvard Law School. She lives in Massachusetts with her husband Cass Sunstein, a constitutional law scholar, and their two children.


PHOTO COURTESY OF THE UNITED STATES DEPARTMENT OF STATE

Key pick six, Knight help football win on Senior Day, snapping three-game losing streak

DAN ROSENFIELD
Managing Sports Editor

On the third play of the game, sophomore linebacker Johnny Buchanon intercepted a pass from Stony Brook's quarterback Tyquell Fields to put Delaware up 7-0 less than two minutes into the game.

"First drive of the game," Buchanan said. "We were put in a good situation, I see the quarterback drop back, I got back to my zone, and I look to see [Cam Kitchen] over there hitting the quarterback, altering the direction of the ball and putting it in my area so I was able to make a play on it. I told Cam I owe him for that one."

Senior kicker Jake Roth added a field goal and redshirt freshman running back Will Knight scored a touchdown early in the fourth quarter and Delaware was able to hang on to defeat Stony Brook 17-10 on Saturday afternoon.

The Seawolves turned it over on downs on their next possession, but Delaware could not capitalize, as Roth missed a 35-yard field goal.

Earlier in the drive, redshirt sophomore quarterback Nolan Henderson suffered a hip injury after a four-yard run. Redshirt senior quarterback Pat Kehoe took the snaps in relief of Henderson.

Roth had a 39-yard field goal blocked on the first play of the second quarter. His two misses on the day dropped his field goal percentage to 58% on the year.

Seawolves running back Isaiah White found a hole for 30 yards to the Delaware 37-yard line. That run helped set up a Stony Brook field goal from 24 yards out, putting the Seawolves on the board.

A three-and-out on Delaware's next possession was costly, as it put Stony Brook in great field position, pinning them on their own 44-yard line. Three plays later, running back Jadon Turner raced 41 yards for a Seawolves touchdown, to put them up 10-7 with 5:43 left in the first half. Delaware added a field goal before the break to tie the game at 10.

The Blue Hens suffered another three-and-out on their first possession of the second half. Stony Brook made its way down to the Delaware 4-yard line, but an offensive holding call pushed it back to the Delaware 14. Short runs by Turner and White pushed the Seawolves to the 11-yard line. With momentum and in scoring position, Fields threw an interception in the endzone. Redshirt freshman defensive back Noah Plack stole the ball out of the air and kneeled for a touchback for the most critical play of the game.

However, the Blue Hens could not capitalize on another turnover and were forced into another three-and-out. It didn't hurt Delaware though, as Stony Brook was also forced to punt early in the fourth quarter. The 15-yard, out-of-bounds punt gave the Blue Hens great field position on their own 45.

First down runs by redshirt junior running back DeJoun Lee set up a 21-yard touchdown run by Knight, putting the Blue Hens up 17-10. After forced punts from both teams on their next drives, Kehoe lost the ball on a sack and Stony Brook recovered on its own 27.

Both teams did not muster any offense on their next possessions. On Delaware's punt, Seawolves wide receiver John Corpac fumbled on the catch and junior defensive end Andrew Pawlowski recovered it at the Stony Brook 47. However, Kehoe fumbled as well on the ensuing drive, but Stony Brook recovered at its own 27 with just a minute and change left. Delaware's defense held on for the win as time expired.

Stony Brook outgained Delaware 341-250, rushing for 296 yards. White led the Seawolves ground attack with 188 yards while Turner added 101 yards and a touchdown.

Delaware's defense held Fields to 45 yards on five completions and two interceptions. On offense, Lee led the way with 108 yards and a touchdown as well as 28 yards receiving. Lee added 61 yards rushing. Kehoe threw 10 passes, completing six of them for 87 yards. The wind rifled through the stadium, making it tough for both quarterbacks to get off clean passes.

"I knew that they may have a hard time throwing the ball," Head Coach Danny Rocco said. "We told the team that this morning and it played out that way. I would have liked to see what Nolan could have done today in that kind of an environment, but we certainly leaned on our backs today because of the circumstances."

Delaware snapped a three-game losing streak and avoided its first three-game home losing streak in 36 years. The team has had a rough stretch of games, losing five of six before beating Stony Brook.

At a 5-6 record, the Blue Hens have nothing to play for but pride when they travel to play rival Villlanova in the Battle of the Blue. Delaware has lost seven straight and 12 of the last 13 to the Wildcats (8-3) who are tied for third in the Colonial Athletic Association. Kickoff is set for 1 p.m. next Saturday, Nov. 23 against the Wildcats.

"Well we're really happy to be able to send our seniors out of here with the win," Rocco said. "We were big in big moments and that was something that we haven't been of late."

Delaware honored 23 seniors before the game on Senior Day. One of those honored, defensive tackle Cam Kitchen, reflected on his experience in the blue and gold.

"It means a lot, it means everything," Kitchen said. "And to win my last game ever here in this stadium, it means the world to me. I had to stay out there for a couple extra minutes and just look around, touch the blue hen in the middle one more time, it meant the world to me."


SARAH BOEKHOLDER/THE REVIEW

Blue Hens field hockey season ends in heartbreaking playoff defeat against UVA

MATT KUNZ
Senior Reporter

Delaware field hockey suffered a 4-1 loss to the University of Virginia (UVA) Cavaliers in the first round of the NCAA playoffs on Friday.

The matchup was offensively dominated by Virginia, who would finish the game with 18 shots, 11 of which were on goal. The loss brings Delaware's all-time record with UVA to 8-10-1.

The first quarter set the tone for the rest of the game. The Cavaliers kept Delaware on its heels, and the majority of play was on the Blue Hens' defensive third. By the end of the quarter, Delaware had no shots compared to Virginia's seven.

Despite the clear difference on offense, Delaware played rock-solid defense for the majority of the game. Delaware goalkeeper, sophomore Sydney Rhodes, had four saves to end the first quarter, but UVA's constant pressure on offense found a crack and scored once to end the quarter.

Delaware was much more aggressive on offense in the second quarter. Though offensive possession was not balanced, Virginia's offense still kept heavy pressure on Delaware's end of the field.

The Blue Hens made better use of their new opportunities to score, taking two shots and scoring once. Sophomore back Bo van Hunnik scored off an assist from sophomore forward Grace Miller.

The defense was more effective at holding off Virginia's advances, UVA had three shots to Delaware's two. The Blue Hens were using positioning to its defensive advantage to stomp out the Cavaliers' shot opportunities, including four penalty corners in the first half, none of which resulted in goals.

Delaware's struggles on offense continued in the third quarter. With less time with the ball in their offensive third and no penalty corners, the Blue Hens were limited in their opportunities to score.

The third quarter was a scoreless battle, Delaware's defense proved to be airtight, and both of the teams' opportunities to score were becoming more balanced. Both teams had only two shots in the quarter.

The fourth quarter started similarly to the third. A close, scoreless battle that was still anyone's game, but the Blue Hens were playing a team with experience in close-game situations. The Cavaliers ended their regular season with seven straight wins, of those seven wins, six were a single goal difference

The shot count was 12 to 4 at the beginning of the fourth quarter but would end at 18-7. UVA took six shots and scored three times to Delaware's two missed shots and one saved shot. The game finished 4-1, and Delaware ended its playoff run.

Rhodes saved seven of Virginia's 18 shots, her most saves this season.

Delaware was ranked No. 10 overall, ending with a 16-4 record. The team had nine players earn All-Conference honors, headlined by junior Femke Strien being named CAA Offensive Player of the Year, an honor won by a Blue Hen for the past four seasons.

Delaware now sets its sights to next season, hoping to improve on its brief playoff run.

SARAH BOEKHOLDER/THE REVIEW

WILDLIFE PHOTOS BY LOUIS MASON

CONSTRUCTION PHOTOS BY JALEN ADAMS