

[Why Did the Squirrel Cross the Road? News roundup from ecoRI](#)

New Report Inundates Old Flood Maps

Think you're safe from rising waters in Pascoag? Think again.

Many people who live inland believe that the risks of flooding from hurricanes, sea-level rise and coastal storms don't apply to them.

But a new report by the First Street Foundation finds there is a much higher risk of inland flooding than previously believed. Flood risk is traditionally analyzed using the Flood Insurance Rate Map by the Federal Emergency Management Agency (FEMA).

In Rhode Island, FEMA maps identify 23,900 properties as having substantial flood risk. By comparison, the First Street Foundation flood model identifies an additional 9,000 properties as facing this same level of risk.

According to the report, PVD has the greatest number of properties at risk of flooding, with 5,200 currently at risk, which is about 13% of the city's total number of properties.

Pandemic Side Effect: Less Roadkill

COVID-19 has resulted in staggering human casualties, but wild animals have enjoyed a reprieve from deadly encounters with cars.

As humans stayed locked indoors, more animals than usual survived their often-treacherous attempts to cross roadways to reach breeding grounds and foraging habitat or to escape predators. About a million wild creatures typically die on US roads every day, so it's likely that tens of millions escaped a crushing death.

Ironically, by not doing anything, Americans have engaged in the biggest conservation action since the national parks were formed, according to Fraser Shilling, director of the Road Ecology Center.

Scott Goodwin, the animal control officer in North Smithfield who disposes of an abundance of road-killed animals every year, observed far fewer dead animals on northern Rhode Island roads this spring than usual.

Toxic Hotel

Construction of a waterfront hotel in Newport would provide harbor views for guests, but the project could unleash arsenic, lead and a known carcinogen.

The 150-room hotel would be built on Waites Wharf, the former location of oil tanks and warehouses owned by the Standard Oil Co., blacksmiths, auto-repair shops, and painting and welding companies. The wharf was later extended using coal ash from Newport Gas.

Residents who live nearby are concerned that the suggested remediation plan, which includes capping a section of the wharf with clean soil, a geotextile fabric and asphalt or concrete, won't be enough.

A recent site investigation report conducted by SAGE Environmental on 10% of the site found that the area contained toxic chemicals, including arsenic, lead and the carcinogen vinyl chloride, among others.

Rhode Island Trifecta: A Golf-Course, a Strip-Mall Developer and a Lawsuit

Pawtucket-based developer, Marshall Properties Inc., which builds Walmarts and strip malls, has proposed converting Metacomet Golf Club in East Providence into a residential and commercial center.

Conceptual ideas presented by Marshall Properties to planning officials include a 60,000-square-foot hotel, 235,000 square feet of retail space, 760,000 square feet of residential apartments and townhouses, 150,000 square feet of office space, and 80,000 square feet of assisted-living units.

The developer also has offered to preserve about 30 acres as open space that includes a walking trail

along Watchemoket Cove.

However, neighbors aren't pleased with the likelihood of increased traffic and losing a quiet nature refuge that is home to coyotes, deer and foxes.

The golf course along Veterans Memorial Parkway was expected to be preserved by a group of golf-friendly investors who bought the golf course and club for \$750,000 in early April 2019. But the cost of upkeep proved too great. In less than a year, the ownership group reversed course and announced plans in late February to sell to Marshall Properties Inc.

A group of disgruntled club members, who believe they were deceived by the abrupt sale of the property, is suing the initial investment group for breach of contract and fraud, according to *Golf Digest*.

East Providence: The Windy City?

An offshore wind-energy staging area may be coming to East Providence.

Gov. Gina Raimondo recently approved a \$15 million tax credit to aid an East Providence port project.

The rectangular outcrop into upper Narragansett Bay known as the South Quay is considered one the most regrettable approvals by the Coastal Resources Management Council. In 1976, the Providence & Worcester Railroad received authorization from the state waterfront zoning board to infill 36 acres of Providence Harbor for a rail and shipping port.

The tidal area was supplanted with stone and gravel, but the prominent artificial site sat idle for decades as proposals to build the wharf came and went.

The new owner is a subsidiary of a Boston-based development company with investments in shopping centers and entertainment venues such as the Orpheum Theatre in Boston. A portion of the property is slated for a waterfront entertainment venue, while the South Quay would serve as a staging area for offshore wind-energy development. This new port would partner with other wind-staging areas at the Port of Providence and the Port of Davisville in North Kingstown.

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[Something Stinks: ecoRI's environmental news roundup](#)

Racist Remarks Sink Raimondo's DEM Nominee

Gov. Gina Raimondo's nominee for an important post that offers a \$130,692 salary for settling disputed permits and penalties had little environmental law experience to recommend him for a job, but Thomas A. DiLuglio's nomination was yanked only after it was discovered that he had posted racist content on his blog.

DiLuglio, whom the governor nominated as hearing officer for the Rhode Island Department of Environmental Management's Division of Administrative Adjudication, submitted background information to the Senate, in which he referenced his blog where he comments on current events and historical issues, including on the topics of race and slavery. Yes, he actually submitted his blog.

In a March 9, 2019 post under the heading "Black Plague," he described black people as "a social subspecies." In the same post under the heading "Black Lives Under (Friendly?) Fire," he called it "negligence beyond compare" that the black community fails to instruct its youth to "respect the power of the police if not the inherent, overwhelming authority of the State."

Can You Smell That Smell?

You've probably smelled it in the Jewelry District, in South Providence or when driving along I-95. That acrid asphalt smell. Who dealt it?

Sprague Operating Resources LLC, responsible for noxious odors at the Port of Providence and across

New England, is close to a settlement with the Department of Justice, but the deal isn't sitting well with one environmental group.

The Conservation Law Foundation says the punishment is too light and will do little to improve air quality for people subject to toxic pollution from the company's storage of oil and other substances.

In a proposed agreement, the Department of Justice is fining Sprague \$350,000 for excessive emissions of volatile organic compounds from oil tanks at facilities in Providence; Everett, Quincy, and New Bedford, Mass; Searsport and South Portland, Maine; and Newington, NH. The settlement also requires Sprague to take measures to reduce air pollution at each facility.

If the deal is approved, the Sprague tank facility on Allens Avenue in Providence would only be allowed to store asphalt in three heated tanks. No. 6 residual fuel would be prohibited from the waterfront site. The facility also would be limited to receiving and storing 90 million gallons of asphalt annually. Similar restrictions are being ordered at the six other New England facilities where Sprague has committed pollution violations.

Quarry Quibbles Over Violation Fine

More than three months ago, DEM told Hopkins Hill Sand & Stone to knock it off. The West Greenwich quarry appealed, and the Cardi Corp. subsidiary is still operating illegally and polluting a nearby conservation area.

In late February, DEM issued a notice of violation (NOV) to Hopkins Hill Sand & Stone LLC and Hopkins Hill Road Realty LLC for environmental violations arising from the mining of sand and stone at a facility on New London Turnpike. They had 90 days to respond.

Hopkins Hill Sand & Stone operates the mining and processing facility at a site that abuts the Big River Management Area, a 8,319-acre conservation area that features streams, wetlands and the Big, Nooseneck, Congdon and Carr rivers.

The NOV charged both parties with violating Rhode Island's Water Pollution Control Act and state water-quality and pollutant-discharge elimination system regulations. The enforcement action included a \$67,896 penalty. It also required the parties to immediately cease discharging all processed water and stormwater from the facility to nearby wetlands until a permit is issued and all the required controls are installed and operational.

No corrective actions have reportedly been executed. Quarry runoff is still a problem. The fine hasn't been paid. In fact, Hopkins Hill Sand & Stone has been operating without a Rhode Island pollutant discharge elimination system permit for 16 years.

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Creating a Climate Stable Future: **Environmental stewards continue to shape the** **future**



Environmental education in Rhode Island schools is proving to be an effective way of inspiring stewardship in young people, as seen through the efforts of schoolyard green spaces and gardens, and adding climate change in the curriculum. However, there are still boundaries being faced by those trying to provide access to environmental education to all groups of students.

Environmental education has largely focused on elementary and middle school student populations. Members of the Rhode Island Environmental Education Association (RIEEA) voiced minor concerns about environmental education being incorporated into lessons at the end of middle school and throughout high school.

"I have found it easier to get access or to work with schools that are preschool or elementary ... but when they get to middle school and high school, sometimes it's a challenge when the teachers are specialized," said Lisa Maloney, a Rhode Island Audubon Society educator and RIEEA board member. When classes begin to focus on a single subject with a specialized teacher, it seems less likely for environmental education to be incorporated into specific, set curriculum. Not to mention, younger

students are more likely to go on field trips and takes classes outdoors for immersive experiences. “An elementary school teacher is much more likely to go outside for a half hour and think we can get ideas for poetry, we can talk about nature as science, and then they can think about fitting all those pieces together,” said RIEEA project manager Jeanine Silversmith. Specialized middle school and high school educators may have a harder time finding ways to make these connections within their disciplines.

Maloney states that although it’s a challenge, it’s a good challenge. The solution is to have more collaborative work among the different disciplines to provide environmental education. “I do think environmental education is very interdisciplinary, which is often the wonderful thing about it,” Maloney said. Within the school systems, interdisciplinary environmental education manifests as teachers and administrators working together to break down silos and provide holistic education for the students, something that could have positive impacts for students and faculty alike.

While there are challenges, there are also advantages to targeting these older age groups, one being a higher learning capacity as students progress through their schooling. Environmental education with younger age groups often entails simple connections to nature, which can be as easy as bringing lessons outdoors for students. But for Holland’s middle schoolers, the lessons can become more complex and in depth. “All the 8th graders have a pretty in-depth climate change unit at the end of the year, but it’s a history class so it’s more of policy, case studies, what’s happening around the world in different regions, how are they thinking about managing that in terms of going forward, mitigating, adapting,” Holland said.

As students reach these milestones and can form a more complex understanding of issues the environment faces, they can also turn to action. With parent permission, a decent showing of Moses Brown students attended the global climate strike in September of 2019. These types of actions can also lead to students further self-educating and advocating. Along the way, there are even populations of students that make connections to future careers. “When I think about environmental education with little kids, we’re not necessarily talking about careers, but when we’re talking about middle school and high school we get those connections to careers and that is really big,” Maloney said. As a Green Ribbon School, Moses Brown also shows that they’re working to help students make connections from their lessons in environmental education to sustainable jobs.

The sustainability committee at the Moses Brown School hopes to continue to focus on environmental literacy for students all the way from preschool through high school, with curriculum that builds upon their environmental learning through 12th grade. In creating this curriculum, Holland and the school’s sustainability committee aim to quantify what graduates should know, experience and understand as it relates to environmental awareness and climate change awareness. Mapping out a curriculum that tracks the experiences kids should have from nursery to 12th grade that relate to environmental education is the next step the school hopes to take.

As schools like Moses Brown continue to build upon their environmental education curriculum, RIEEA continues to work to break down boundaries and provide access to environmental education for all groups of students. With the current uncertainty of the COVID era, it's also important to consider other ways environmental literacy can be formed outside of the school system, whether that be in the home or extracurricular activities. But with a basic understanding of environmental education that's being provided within Rhode Island schools, students can begin to take their own initiative and make their own personal connections to outdoor spaces. Only through increasing access to environmental education and sustained connection and appreciation for the environment will we continue to see a generation motivated to create a climate stable future.

[How Is the Planet Faring?: ecoRI news roundup](#)

The World Is Not Their Oyster Right Now

With restaurants shuttered because of the COVID-19 crisis, Rhode Island's oyster farmers are facing market collapse.

"We sell 98% of our oysters to restaurants in Rhode Island and New York, and when they closed, our sales dropped by 98%. That was certainly eye-opening," said Jules Opton-Himmel, co-founder and owner of Narragansett-based Walrus and Carpenter Oysters.

For most people, oysters aren't a vital household item, nor are they hoardable like coronavirus-coveted toilet paper. Plus, they aren't cheap, so oyster farmers can't necessarily pivot to selling directly to consumers to make up for lost sales to restaurants.

What's more, oyster farmers worry that by mid-summer, there will be a glut of oysters waiting to hit the market, if it re-opens. A collapse of market price is seemingly almost inevitable.

Designed to Fail?

Who is leading RI's response to the [climate crisis](#)? That would be an unpaid 12-member council, with no staff, no funding, no authority and an advisory board with eight vacancies that haven't been filled by the

House and Senate in five years.

This could explain why the Ocean State hasn't created actionable and enforceable laws around emissions reduction and pollution.

A 2014 law created the Executive Climate Change Coordinating Council (EC4) and gave it a staggering to-do list — such as reducing emissions generated by state agencies, working with municipalities to support the development of sustainable and resilient communities and working with other states to develop regional initiatives.

A recent assessment of the EC4 by an outside advocacy group, Civic Alliance for a Cooler Rhode Island, summed up the council's work in one word: "insufficient."

Murder Hornets: The Stuff of Nightmares

One thing Rhode Islanders won't have to worry about in the midst of a pandemic that's upended their lives is murder hornets.

Two murder hornets, more officially known as Asian giant hornets, were discovered in Washington State in December. Native to Japan, where they are responsible for about 50 human deaths annually, the 2-inch-long insects with orange heads and black eyes are best known for their foraging behavior which involves ripping the heads off honeybees and feeding the rest of the bees' bodies to their young. Hence the murder moniker.

URI entomologist Lisa Tewksbury said it's unlikely these hornets will make their way from the Pacific Northwest to Rhode Island anytime soon. Phew.

Reusable Bags Trashed by Virus

Sixteen Rhode Island communities have approved plastic-bag bans since Barrington passed the state's first municipal ban in 2012. But since the pandemic took hold in March, more than half have paused their ordinances citing health concerns and needed relief for businesses.

Environmentalists fear the moratorium on bag bans will reverse gains made in recent years to curtail single-use items such as plastic shopping bags, straws and to-go containers.

The plastics industry is stoking public fear and undermining bag bans by promoting single-use plastics as a way to curb infection during the health crisis with unproven claims that reusable bags can carry the coronavirus.

Barrington Town Council vice president Kate Weymouth said it will be “an uphill battle to reverse the trend, as the plastics industry got out so far ahead on this from the beginning, convincing people that reusable bags carried the virus.”

Leapin’ Lizards!

Rhode Island’s herpetological community is bursting with excitement at the discovery of the first confirmed lizard sighting in the state. A five-lined skink of uncertain origin was found in South County on April 22, Earth Day.

Emilie Holland, an environmental scientist with the Federal Highway Administration and president of the Rhode Island Natural History Survey, made the discovery and immediately contacted other National History Survey board members with expertise in identifying lizards.

The big question is how the lizard arrived in Rhode Island: Did it arrive naturally on its own, or was it brought to the area by humans, either intentionally or unintentionally? Since it was found near railroad tracks and a lumberyard, it’s speculated that perhaps it was a stowaway on a train.

Move over Snakes on a Plane for Lizards on a Train.

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[The Planet Is Sick: Where do the coronavirus](#)

and environmental issues meet?

Whatever Happened to the Climate Crisis?

Back in early February — can you remember that far back? — the climate crisis was drawing public (and mainstream media) attention, and environmental activists were planning for the 50th Earth Day celebration scheduled for April 22.

Then came COVID-19, and the global pandemic took up all the oxygen in the room. Environmental organizations that had been on the front lines of the climate crisis quickly found themselves on the sidelines as they wrestled with how to contribute and stay on mission during this public-health crisis.

When Save The Bay realized it was sitting on a stockpile of thousands of rubber gloves normally used for the shoreline cleanups it conducts throughout the year, the Providence-based nonprofit knew exactly what it had to do. It donated the gloves to the National Guard to aid those on the front lines of the coronavirus pandemic.

But, as to its own operations during the pandemic, the organization has had to retreat on some fronts, closing down its three locations and asking staff to work remotely from their homes. And, with the General Assembly no longer meeting, Save The Bay's legislative advocacy efforts are on hold.

While Save The Bay and several other environmental advocacy groups in Rhode Island have had to hit pause on some of their advocacy work and programs, the Sunrise Movement has taken its activism online.

“Panic or Prepare”

Will societal response to the coronavirus pandemic ultimately provide a roadmap to tackle the climate crisis?

ecoRI News asked this question of James Prochaska, a URI professor of clinical and health psychology who is well known for creating a system-of-stages model showing the progression that leads to changes in behavior, such as quitting smoking or exercising regularly.

Although COVID-19 and the climate crisis both require global solutions, the pandemic has created urgent and immediate health and economic needs that impact the planet's entire population now, Prochaska said.

The climate crisis, on the other hand, requires near-term action, but the impacts aren't being seen and felt by all people, all at once. And the benefits from that action, such as curbing greenhouse-gas emissions, may take years to be appreciated.

"Immediate consequences are much more effective in changing behavior," Prochaska said.

He hopes that some of the behavioral changes created out of necessity by the global pandemic will become common practices for reducing carbon emissions, such as driving less and working and schooling from home. He said this experience will make people better prepared to respond to other emergencies, because, ultimately, the best solution to any crisis starts with robust planning. Reaction and emotion caused by the event itself are less effective and more costly.

"'Panic or prepare' is what I'm telling people," Prochaska said.

Food for Thought

The coronavirus pandemic has demonstrated the importance of local food systems that, unlike global and national food-supply chains, are nimbler than their large-scale counterparts and can adapt quickly to disasters.

"The fact is, we have a national and global food system and, whether it's from a virus or another disaster, that food system is going to be interrupted and disrupted more as we move into the future," said Nessa Richman, network director of the Rhode Island Food Policy Council. "And what that means is that the more robust a local and regional food system we can develop, the more secure and safe and healthy our food supply will be."

The COVID-19 crisis has revealed that the move toward local food isn't just a trend used to market "farm-to-table" food at fine-dining establishments, it's a necessity when global supply chains break down.

To help farms and fisheries that rely on wholesale to get their products to consumers, Farm Fresh Rhode Island, which normally delivers produce orders for restaurant clients from a variety of local farms, opened up its Market Mobile service to the public.

It's in Our Natural Best Interest

For the past four weeks, thousands of people in southern New England have stampeded into nature

preserves and natural management areas, seeking solace from quarantine life.

Yet, as David Gregg, executive director of the Rhode Island Natural History Survey, an organization dedicated to understanding the state's biota, noted, these areas are routinely taken for granted or simply ignored.

Two months ago, Gregg said, many of the people now going on nature walks and rushing into natural areas wouldn't have set foot in these places. He didn't mean that as an insult. The pandemic has forced a frenzied society to slow down. Appreciation for natural places has been renewed.

But should we preserve nature for human enjoyment or for nature's sake?

The importance of nature goes well beyond providing refuge for anxious humans during an historic pandemic. Protecting nature's biodiversity is critical to human existence.

Protected natural places provide ecosystem services such as filtering stormwater runoff, protecting from storm surge and erosion, and mitigating the impacts of a changing climate.

A natural world teeming with life is much more likely to provide the antiviral that treats an unknown virus unleashed on an unprepared world. And disruptions in natural systems, like deforestation and human encroachment on wildlife habitat, increases the spread of disease.

For more detail on these stories, and to get the latest environmental news, visit www.ecoRI.org.

[ecoRI March News Roundup](#)

Medical Waste Cooked 24/7 in West Warwick

A proposed medical-waste-to-energy processing facility in West Warwick would operate around the clock, heating human blood, pathological waste and syringes to 1,652 degrees Fahrenheit (using a process called pyrolysis) to generate electricity. The net power generated would be sold to the regional power grid. Blood-powered Netflix, anyone?

The facility, proposed by MedRecycler-RI Inc., would be the first of its kind in America. The project still

requires approval from the Rhode Island Department of Environmental Management and the state Department of Health.

Although the CEO of MedRecycler-RI says that the total annual emissions would be equal to the emissions from two cars, environmentalists say emissions from pyrolysis can contain cancer-causing compounds. New England Institute of Technology abuts the site, with 400 of its students living on campus near MedRecycler-RI's proposed vent stack.

PFAS Is an Acronym You Should Get to Know Because it Never Goes Away

It's nothing to LOL about; PFAS (short for per- and polyfluoroalkyl substances) are called "forever chemicals," because once released into the environment they don't break down, and, worse, they build up in human blood and organs. PFAS are linked to some nasty stuff like cancer.

And many of us Rhode Islanders could be unwittingly drinking them in their H₂O.

In 2019, the Rhode Island Department of Health tested every major drinking-water supply in the state, plus the water in every school that had its own well.

Of the 132 sites tested, 48% tested positive for PFAS; 24% had PFAS levels above the recommended standard; 35% of the sites tested were schools; 43% of the schools tested had levels above the recommended level. Two bills before the General Assembly this session would take action on PFAS.

Brown Expels Fossil-Fuel Investments

The student-divestment movement reached its peak several years ago. And so, the early-March announcement from Brown University president Christina Paxson came as a surprise. Paxson said the school's investment office has liquidated 90% of its investments in fossil-fuel companies, while the remainder will eventually be sold. The investment office oversees the university's \$4 billion endowment.

"The decision to halt investments in fossil fuel extraction companies reflects the view that, as the world shifts to sustainable energy sources, investments in fossil fuels carry too much long-term financial risk," Paxson wrote in a March 4 letter.

Will Rhode Island Ever #ActOnClimate?

Maybe they're feeling immune to sea-level rise up there on Smith Hill, but for the past two legislative sessions, no meaningful environmental bill has passed the General Assembly. All previous attempts to mandate the state's emissions targets, going back a decade, have failed.

A new climate bill, championed by environmental groups as a top 2020 priority, received a slowdown signal during its initial hearing at the State House in March, even though supporters packed the hearing room and overflow room and waited up to four hours to testify.

The [House bill](#) makes the state emission-reduction targets legally binding. It ratchets up the state emission-reduction goal set in 2014 from 45% to 50% by 2035 and net-zero by 2050.

The prospects for the bill are murky. Like any bill, its fate lies with the speaker of the House.

Message in a Bottle (Bill)

Massachusetts is doing it. Even Connecticut and Maine are doing it. But Rhode Island has for decades resisted enacting a bottle bill — a take-back program for single-use bottles.

A bill presented to the Rhode Island House in March calls for a 10-cent deposit on all beverage containers, a deposit amount only used in Michigan and Oregon. The Conservation Law Foundation says the higher fee has led to a 90% redemption rate in those two states. If adopted in Rhode Island, an additional 15,000 tons of plastic containers will be diverted annually from the Central Landfill.

So why can't Rhode Island do it? Two words: trade groups. They say the bill will pose an undue burden on businesses.

At a March 5 hearing, one lawmaker fretted that, if a 10-cent deposit fee is imposed, Rhode Islanders would drive to neighboring Connecticut to buy soda and bottled water, where the deposit fee is 5 cents. Doesn't he know the old saw about Rhode Islanders never leaving Rhode Island?

Letter to the Editor: COVID-19 and the Environment

These days it is hard to avoid thinking about the COVID-19 outbreak. I am mostly working on climate issues, and I am sure there are conspiracy theories about how they are linked. Conspiracies aside, there is one way that the virus and our climate are definitely linked, and that is through deforestation. Let me explain.

There have been a number of relatively recent disease outbreaks with novel diseases, diseases that western science had not seen before, and often diseases that the communities where the outbreaks originate had not experienced before. Most of these diseases are also originally transmitted to people from tropical wild animal populations, with bats and primates implicated in some of them. What is happening is that the deforestation process works in a variety of ways, driven by factors like new road construction and the development of plantations. As roads reach new areas, it increases both the cutting of trees and the shooting of wildlife for food. Some of the wildlife is eaten locally and replaces food sources lost as deforestation progresses, some of the hunting takes advantage of the new roads and transports the food to urban markets where there is often a high demand for bush meat. With the hunting taking place in places where very few people have hunted previously that are now available for exploitation due to new roads, or places where hunters are no longer living isolated communities, hunters are running into novel diseases in the same way that a survey of biodiversity in places that have not been explored/exploited before find new species of geckos, salamanders, and monkeys. It makes perfect sense that if you are finding new species of animals and plants, you are running into new microorganisms, some of which will eventually be used to cure diseases, others that will cause new diseases, and most that have little direct effect on humans.

The climate link is that the protection and maintenance of good health in the global forest, and especially tropical forests, is a critical part of our strategy to prevent the worst effects of climate change. We have to move toward zero carbon emissions rather quickly, but we also have to suck carbon dioxide out of the sky and trees and soils are the most natural and least energy intensive ways to do that. The best way to keep the trees and soils healthy is to protect tropical forests. We are already seeing reports how the carbon budget of the tropical forests is turning negative. Deforestation is the big driver, but a decent amount of the loss of carbon in tropical forests is a cascade effect. As forest turn silent, as the animals are all hunted out even if it is prior to deforestation, the forest unravels. No animals are eating seeds that need to go through digestive systems to germinate. No animals are depositing seeds in their poop as they move from place to place. Very small pests run amok with

predators gone. The ability of the forest to sequester and store carbon falls apart, requiring ever greater efforts to de carbonize to preserve the climate, and new ways of sequestering carbon dioxide already in the atmosphere.

The conclusion is that the process that brings the new diseases to humans, deforestation and the bush meat trade is part and parcel of the climate crisis, and to better prevent future novel diseases, we need to do a lot better job of protecting the forests that help keep the climate intact.

Growing Connections: Newly named gardener in residence brings community gardens together

At first, MJ Robinson may seem an unlikely choice as community gardener in residence for the City of Providence Parks Department, a position created by the city to determine how best to serve the city gardens. MJ found the position through sheer chance while looking over a city job board for opportunities for a friend. In fact, MJ never really thought much about plants or about growing them until acquiring their first indoor plant in 2014. But as it turns out, this job is less about gardening and more about creating community - and in this respect, MJ is imminently qualified.

MJ graduated from RISD Continuing Education with a certificate in children's book illustration in 2019 ("yay!"), and is currently an educator at the RISD Museum. Working there has been a growth experience in keeping people excited about learning, and MJ also works with staff to resolve sensitive issues. As a person who identifies as trans and genderqueer, MJ understands sensitive issues. In coming to personal terms with the politicalization of gender, they've gained a great deal of insight - MJ knows first-hand how oppression can affect every aspect of a person's life. They have been very involved as a volunteer organizer for LGBT and racial justice concerns. This experience as a community activist was a big plus when it came to the parks position.

A month and a half into the job, MJ is still gathering data and setting up meetings with and between various groups. Bringing these factions together is an important aspect of the parks residency mission and it takes an ability to manage on both micro and macro levels. MJ has met with about 13 community gardens in the city park collective so far; each one is independently run. Until now there have been no lines of communication between them, and MJ wants to change that.

MJ's goal is to see where the needs are greatest and build equity between the gardens, with a long-term goal of seeing the big picture and identifying individual strengths and weaknesses. Right now, the gardens in the wealthier neighborhoods have an easier time making their plots thrive because of they have a greater number of resources, with more funding and connections. After visiting several sites and talking with those concerned, MJ sees a way to balance the playing field by concentrating on the needs of the neighborhoods with fewer resources. "They need the most help because they just don't have as much money."

MJ sees great possibilities in the diversity of the gardens and with the people and cultures they draw and sustain. The young, the elderly, the immigrant populations, and people of every gender and ethnicity come together in the gardens. Bringing agriculture to the city is a benefit on both seen and unseen levels.

Southside Community Land Trust (southsideclt.org) is one of the biggest groups involved in urban agriculture. I worked there myself years ago, taking busloads of inner city kids through the neatly laid plots and bunny gardens. I'll never forget how even the most jaded of the children freaked out when they realized they could pick a piece of kale off a plant and eat it right there: "This stuff comes out of the ground?!!" It may have been the first time any of them realized that food comes from some place other than a store - just one of the many reasons that the city gardens aren't just for growing plants, but for providing a very real experience in our increasingly virtual world.

In addition to creating a network and connecting park groups, MJ hopes to help the groups share solutions and advice, and find support and strength. MJ will also be learning from and collaborating with the Partnership for Providence Parks, a non-profit that supports neighborhood groups and volunteers in Providence parks. A learner by nature, MJ loves working with all of the garden groups because the various approaches are so inspiring. And they might soon be taking their work home with them - as the proud new co-owner of a house in Smith Hill, MJ's appreciation of plants is now finding expression in the backyard, creating a warm and nurturing city park of their very own.

Follow CJ on Instagram and Twitter @meejy_, or visit their website at mj-robinson.com. For community garden inquiries, contact mrobinson@providenceri.gov

Almond Milk Is Bad: But the real problem is us

Almond milk is the latest food product to come under scrutiny as a destroyer of the environment and

killer of honeybees. But the reality is that almond milk is just one of many manmade food crises decaying the planet's ecology and eradicating populations of wild pollinators across the globe.

The scrutiny surrounding almond milk began a little under a decade ago as a rise of veganism and society's move away from mega-dairy saw consumers seek plant-based alternatives to cow milk. In 2011 alone, sales of almond milk increased by 79%, and the popularity has only continued. As with anything new, this nut-based alternative began to attract attention and it wasn't long until reports pointed to the environmental impact of the product. Since almond trees only bloom for two to three weeks, the huge groves needed to sustain the demand have a detrimental impact on local pollinators that are forced to contend with a food desert for the rest of the year.

But as Stephen Burke, member of the board of directors on the Rhode Island Beekeepers Association, explains: "Take almonds out of the equation, and the same thing will continue to happen." And that is because almond trees are but a scapegoat. Instead we must look at a much larger, far more damaging and near-universal enemy: industrial monoculture. Originating in the mid-20th century, industrial monoculture is a widespread form of mega-farming that gives over huge areas of land to a single crop while neglecting to plant other supporting species of flora in fear that sharing space and nutrients will impact the bottom line. Certainly, the model makes sense in the irresponsible world of columns and ledgers, but the practice is rapidly leading us toward an unprecedented ecological disaster.

Natural balance requires seasonal diversity in which different plants produce pollen at different times of the year. But monoculture means no pollen outside cash crop season. No pollen means no pollinators. And no pollinators means no food production. It's really that simple and really that devastating. To meet the demand left unmet by the decline in wild bees and the sheer volume of product expected by consumers, monoculture mega-farms import pollinators from elsewhere in the country (or the world).

"Eighty percent of the country's commercial bees are in California for almond season," reveals Burke, "and then they are transported to another location, the northeast for cranberry season, the Pacific northwest for apples, etc."

As Burke explains, the transportation of honeybees is widespread in monoculture. But as with many practices involving the animals as tools of mega-farming, transporting bees across long and varied geographies is deeply neglectful of their wellbeing. Honeybees have a range of around two miles, but take them from California to New England, and the colony has now travelled a staggering 3,000 miles. Honeybees also thermoregulate, relying on temperatures between 90 and 95 degrees Fahrenheit to maintain homeostasis, and deviations outside this range can prove fatal. Above 95 degrees, colonies suffocate and die, and while they can survive below 90 degrees, exposure to the cold can cause developmental abnormalities in developing broods. Considering the differences in climate between the various geographies in the United States, a very grim picture begins to emerge. And that's not the half of it.

“Anything that travels around the country in large groups brings geographic diseases to the entire country,” continues Burke, “some of which aren’t even native to North America.”

Of particular concern is VDV1, a fatal deformed wing virus native to Asia that first arrived in the United States in 1987, but was largely unrecorded until the early 2000s. However, a boom in monoculture and advent of mass honeybee transportation in the early part of the century caused a dramatic spread of VDV1 to all corners of the nation. A six-year study conducted by the US Department of Agriculture and the University of Maryland revealed that as recently as 2010, VDV1 was only recorded in Pennsylvania and Iowa, but by 2016, the disease had spread to more than 35 states in all areas of the country, including Rhode Island.

Pathogens and parasites, such as VDV1, need to be transferred from one colony to another to maintain their presence in a host population. The process, known as inter-colony transmission, typically occurs when honeybee workers enter a foreign colony and bring the pathogen with them. With industrial honeybee transportation now widespread and commonplace, the spread is only set to accelerate. In 2018 alone, 40% of the nation’s honeybee colonies died, and the pattern is set to continue.

But there is more. Due to the single season nature of industrial monoculture, the soil upon which the growth of these plants depends spends the majority of the year starved of the essential nutrients required to maintain a healthy and stable host environment. The US Department of Agriculture reports that more than half of the nation’s soil erosion comes from slightly more than a quarter of total cropland acreage. Furthermore, it takes an average of 20 years to for a millimeter of soil to naturally replenish, with pesticides and fertilizers actively destroying the organisms that the soil depends upon for survival. According to a study conducted by Cornell University, soil disappears 10 times faster than it naturally replenishes (at a rate of nearly 1.7 billion tons of farmland per year), with the economy losing roughly \$37 billion in productivity annually and \$1.1 billion in health costs associated with pesticides.

The real issue here is human greed and gross irresponsibility by mega-farmers and everyday consumers. Unlike every other animal on the planet, humans no longer live by seasonal availability, and we don’t care to either. There is no reason for us to expect strawberries in November, nor should we be eating the amount of food that we do. Just think about the volume of “unlimited wings” sold at local dive bars across the nation, or the six layers of ham stuffed into sandwiches on sale at gas stations. The average American consumes more than 3,600 calories daily (a 24% increase from 1961), and a whole 1,000 more than we should be. Our consumption of water is far too low (drink an ounce of water for each pound you weigh, every day), which leads to the stomach confusing thirst for hunger. Together, we are eating - and by extension wasting - vast amounts of food, out of season and without a single care for the ultimate effects.

And the effects are as simple as this: Keep eating the way we are and Homo sapiens face the real possibility of extinction. Global pollinator populations have dropped by an average of 30% at the same

time as global temperatures continue to rise and play havoc on a precarious ecological balance. Pollinators are responsible for approximately one out of every three bites of food, but their decline while climate changes and human population continues to rise can only lead to one devastating conclusion.

So, keep all that in mind the next time you mindlessly snack on something or order an extra plate of sushi. Ask yourself, "Am I hungry, or am I contributing toward the extinction of not only bees, but humanity as a whole?" It's time to face some very difficult and very real decisions.

Eco-Warriors: Providing educational experiences in the natural world

Educational experiences that create awareness and connections between personal actions and the natural world are helping kids to develop perception and values regarding their environment. Schoolyard Habitats, the program that provides grants to create green spaces on school grounds, shows that when kids have informative experiences within the natural world, they begin to understand their own connection to nature. However, these experiences infrequently happen organically as kids stay connected indoors and remain disconnected to the outdoors. "A lot of teachers recognize how little time their students spend outside and how much focus there is on technology. They have an innate understanding of just how beneficial it'll be to spend time outdoors," U.S Fish and Wildlife biologist Cindy Corsair said. Those teachers are right.

Studies by the Children and Nature Network, a worldwide initiative to increase children's access to nature, have increasingly shown that getting outside has benefits for health and wellness. Improved eyesight, healthier bones, higher fitness and subsequently, a reduced risk of obesity are all physical health benefits to be gained from time outdoors. The Rhode Island Environmental Education Association's (RIEEA) project manager Jeanine Silversmith affirmed, "The benefits of environmental education run from the physical benefits of fresh air, movement and a healthy experience to mental health." Mental health benefits include reduced stress and increased socio-emotional skills. Learning in natural environments also has correlations to positive academic outcomes such as increased focus, enhanced performances in a range of school subjects, and an overall increased enthusiasm for learning. Not to mention, the Children and Nature Network points to spending meaningful time in nature during childhood as one of the biggest factors that contributes to environmental stewardship in adulthood.

Even with all the positive impacts of immersing kids in the outdoors, environmental education is no longer just about getting back outside and instilling a simple appreciation of nature. It's about

addressing the looming issue our natural world faces: climate change. Graham Holland, co-clerk of the Sustainability Committee and a 7th and 8th grade history teacher at Moses Brown School in Providence envisions climate change lessons incorporated into the curriculum, starting with a foundation in nursery school that can be built up through their senior year of high school. The committee Holland helps to oversee is composed of teachers, students, parents, administration and cafeteria workers who all sit down and consider what goes on around campus in terms of environmental responsibility. “My goal is to have enough people in the conversation that when they’re in other conversations, they’ll always have that lens to speak through,” Holland said. In 2017, the Quaker private school was designated a Green Ribbon School, distinguished in providing environmental education and reducing environmental impact by the Rhode Island Department of Education.

In terms of educating on climate change, Holland points out that there’s already great stuff happening across the different grade levels. It’s just that no one has catalogued which lessons are taught and when. For Holland and the Sustainability Committee, a curriculum mapping initiative is a key item to work on. They envision a curriculum that starts with foundational knowledge from an early age that’s built upon to form an understanding of the climate crisis, the changing natural world, and the human connection to it. In doing so, Holland wants to consider what educational experiences kids have from nursery to 12th grade as it relates to environmental and climate change awareness. He wonders, “What should our graduates know and understand and have experienced?”

Holland has found that his 7th and 8th grade students are receptive to learning about the topic. While conducting a climate change unit last year, he noted that the students were very thoughtful and deeply concerned. “That’s one of the trickiest things about teaching the subject. I don’t think people really know yet how to do it, meaning what is the right age to start talking to kids about this and in what way and what’s the balance between scaring kids and being honest with them.” Holland additionally points out that addressing climate change in curriculum can be difficult due to the uncertainty of exactly how climate change effects will play out.

Regardless of how things play out in the future, environmental education is playing out in schools here and now. The young environmental stewards of Rhode Island are shaped by the education provided within the school system, whether that be through schoolyard green spaces, gardens or climate change in the curriculum. As a whole, Rhode Island has been successful in integrating environmental education into the classroom, though Tracey Hall of the Rhode Island Audubon Society believes there’s still room to expand. “I think it’s pretty integrated, but we have more to go,” Hall said. “We’re still missing schools, we’re missing populations of kids.” Hall says that the state is starting to see urban schools increasingly take on environmental education programs, a good step toward further integration. And with the recent award of the Schoolyard Habitat Program Grant to Kent Heights Elementary School in East Providence, another school gains access to environmental education and all the academic outcomes, health benefits and future eco-warriors that come along with it.