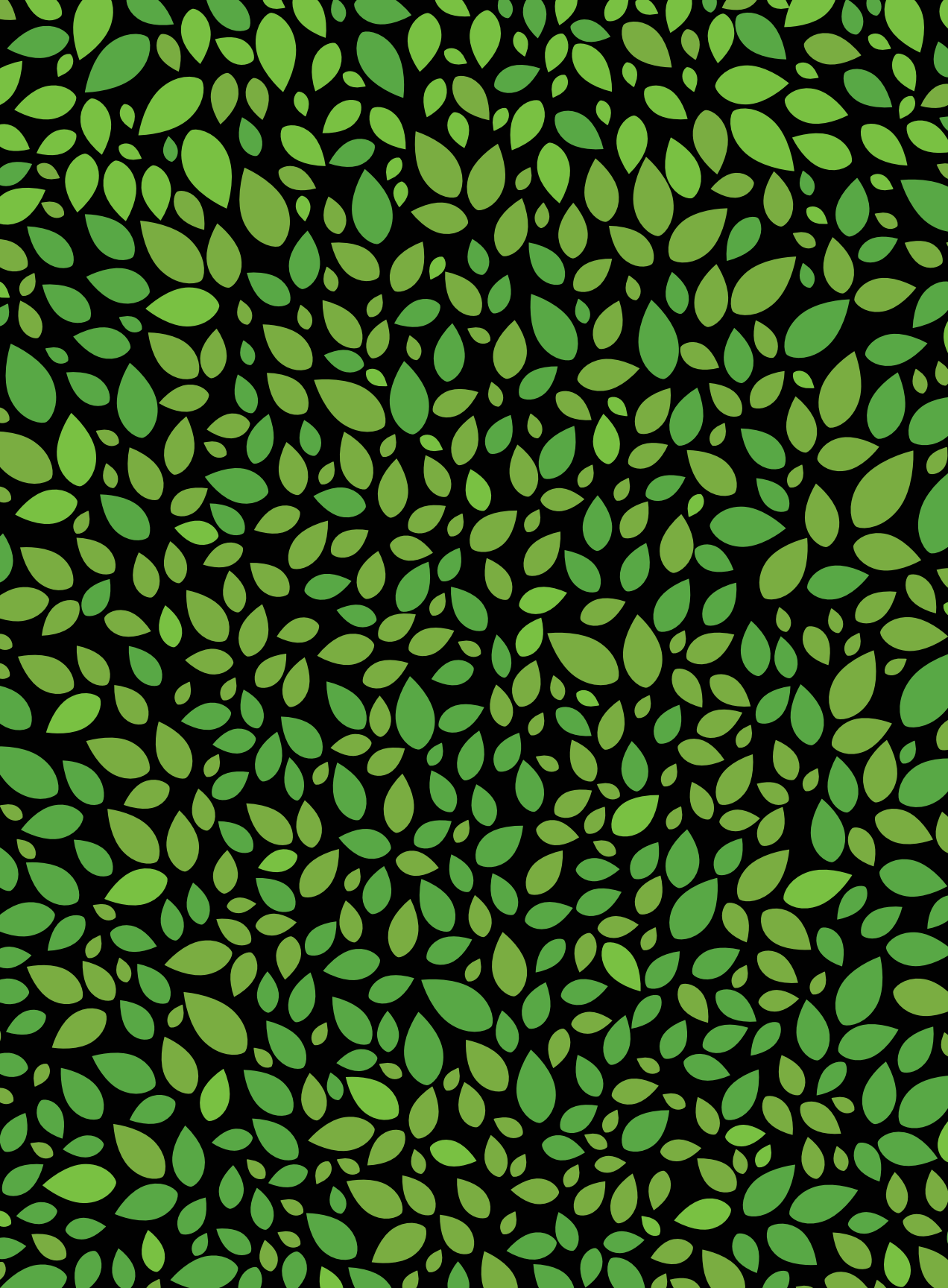




NATURE

T H E
N I B





NO CENTER

HABITATS AND NICHES

BIODIVERSITY, COMPLEXITY AND CHAOS

ROOTING ANIMALS, BUZZING INSECTS

HUSTLE-BUSTLE

LETTER FROM THE EDITOR

One morning in late 2019, I stood knee deep in a river

feeding into the South Pacific Ocean choking on smoke,

unable to see more than a few feet around me.

That summer, during Australia’s worst bushfire season on record, I wore a mask for the first time and witnessed apocalyptic red sunsets; helicopters dropping enormous loads of water on bushland; men, reunited after their town burnt to the ground, sobbing in a McDonald’s car park; volunteer firefighters in fluorescent yellow jackets coated black and grey with ash piling out of a fire engine in a deserted country town at dawn; and dead birds littering the ground everywhere. Everywhere. The fires burnt 72,000 square miles, —that’s like the entirety of Washington State and then some— and it’s believed 3 billion animals perished. It felt like the world was ending, and then three months later, COVID-19 hit.

Yet even with the pandemic grinding industries across the globe to a halt, 2020 saw record levels of CO₂ in the Earth’s atmosphere. 2020 tied with 2016 as the hottest year on record, and it was a La Niña year, so it *should* have been cooler. Instead, it was 100 degrees Fahrenheit in Siberia.

In his State of the Planet speech in December last year, United Nations Secretary General António Guterres said, COVID and climate have brought us to a threshold.

“Now is the time to transform humankind’s relationship with the natural world—and with each other. And we must do so together. Solidarity is humanity. Solidarity is survival.”

In Issue #10 of *The Nib* magazine we’re bringing you stories from the human intersection with the natural world: Sarah Glidden on invasive species in North America, Kay Sohini on environmental racism, Rosa Colón on coastal erosion in Puerto Rico, Iona Fox on rabid woodchucks in Vermont, Melanie Gillman on the humble pawpaw, Levi Hastings on the worldwide jellyfish epidemic, Madeleine Jubilee Saito and Whitney Bauk with dirty poetry, and much more.

The latest Intergovernmental Panel on Climate Change report was described as a code red for Earth, but scientists do say catastrophe can be avoided if our planet’s leaders act fast and reduce emissions quickly. Let’s hope for nature’s sake we do.

E. Harris

Eleri Harris
Features Editor

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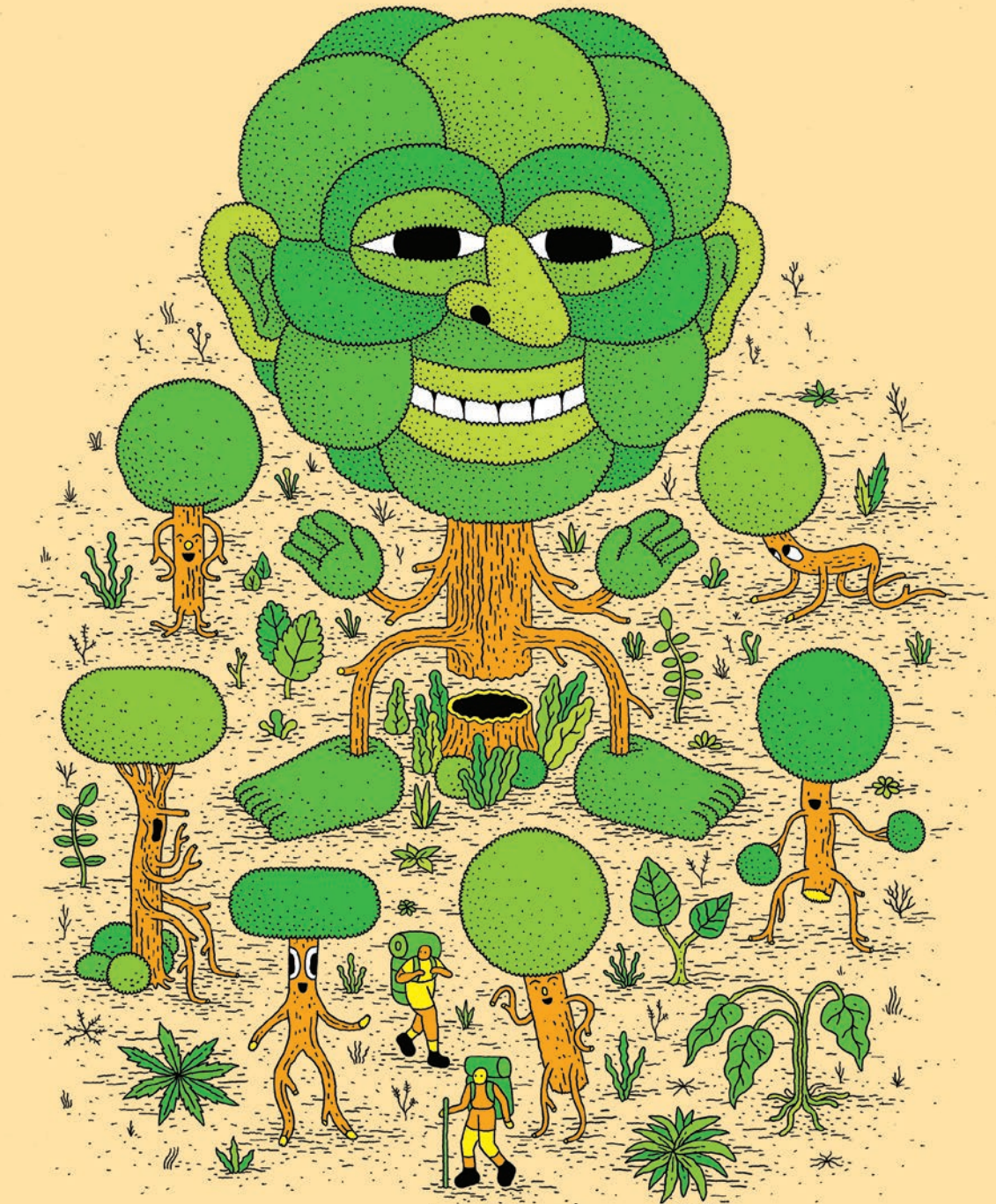
TINYVIEW

VERTICAL
COMICS FOR
YOUR *PHONE!*



EXPERIENCE THEM AT TINYVIEW.COM

DISPATCHES

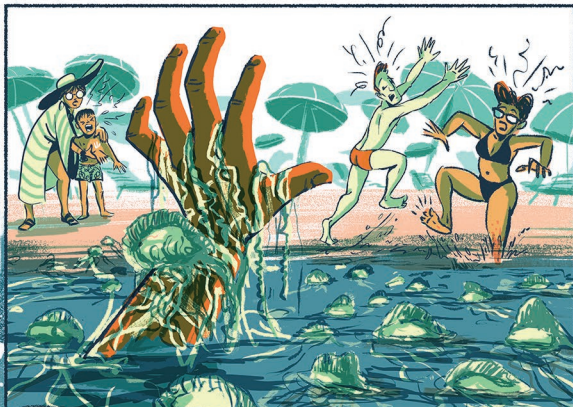


ATTACK OF THE JELLYFISH!

By Levi Hastings

Jellyfish are conquering warming seas.

As climate change and overfishing devastate marine ecosystems, at least one form of ancient sea life appears to be thriving amid the chaos.



Vast swarms of venomous jellyfish, called blooms, have terrorized holiday crowds around the world in recent years, forcing beach closures from the Mediterranean to Australia.



Disarm the missiles! It's just the jellyfish again.

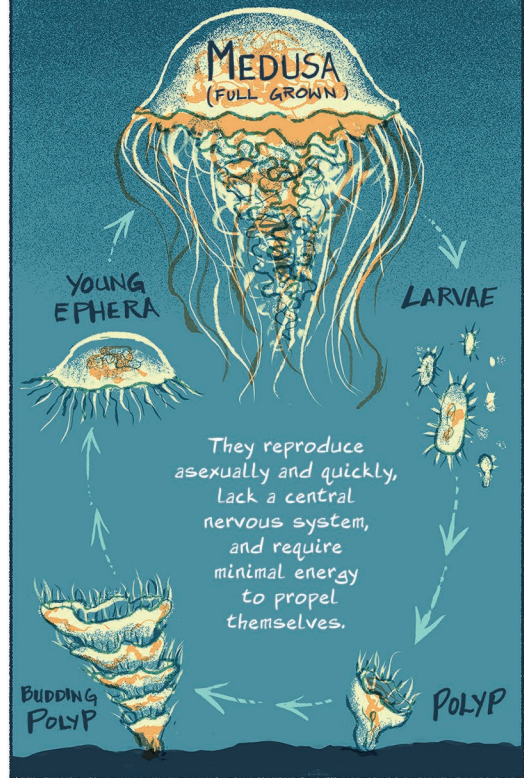
Power plants in Israel, Sweden, and Japan have been knocked offline when the water filtration systems were clogged with slimy jellyfish bodies, triggering false alarms of terrorism.

Jelly blooms threaten aquaculture crops, clogging nets, killing entire fish farms, and choking off resources from vulnerable populations of sea life.



These invasive invertebrates are cropping up in alarming numbers and surprising locations as global ocean temperatures rise and overfishing depletes their natural predators.

Evolving over 500 million years ago, jellyfish are among the oldest, most adaptable forms of sea life.

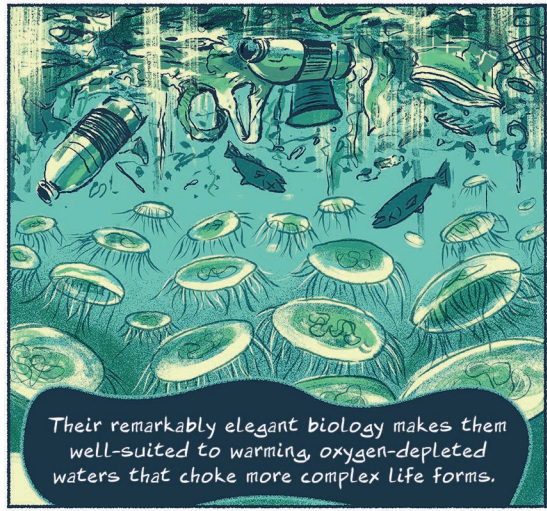


They reproduce asexually and quickly, lack a central nervous system, and require minimal energy to propel themselves.

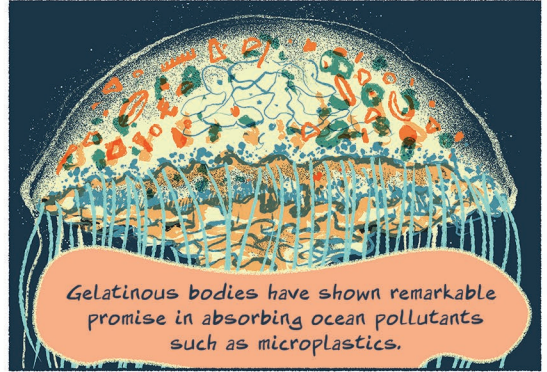
They are also incredibly high in protein, and thus may offer a more sustainable alternative to depleted fisheries around the world.



"Jellyballing" has already eclipsed other commercial fishing industries in the state of Georgia, which exports most of its catch to foreign markets.



Their remarkably elegant biology makes them well-suited to warming, oxygen-depleted waters that choke more complex life forms.



Gelatinous bodies have shown remarkable promise in absorbing ocean pollutants such as microplastics.



Future human populations may very well depend on a variety of jelly-based cuisine, as other beleaguered marine species either adapt to life in warming waters...

or don't.

PAWPAWS

(not to be confused with papayas) are the largest edible fruit native to North America.



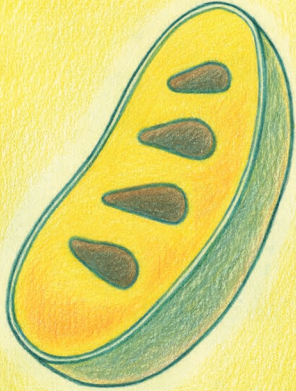
An odd holdout from a family of tropical fruits—

that survived the Ice Age, spread first by prehistoric megafauna.



And later, by humans.

The fruit has a soft, custardy texture and tastes like a cross between a mango and a banana.



Pawpaws were a staple of eastern N. Americans' diets for tens of thousands of years—



PAWPAWS by Melanie Gillman



It grows wild across eastern North America, from Florida up to Southern Ontario.



until the mid-20th century, when suddenly...they weren't.

One thing that changed was the rise of chain supermarkets as the place most Americans got their food.



National distribution chains required produce sturdy enough to withstand long-distance trucking.



The soft flesh of ripe pawpaws was too easily damaged to survive shipping.



The American diet soon prioritized what was durable rather than what was local, in-season, or abundant.



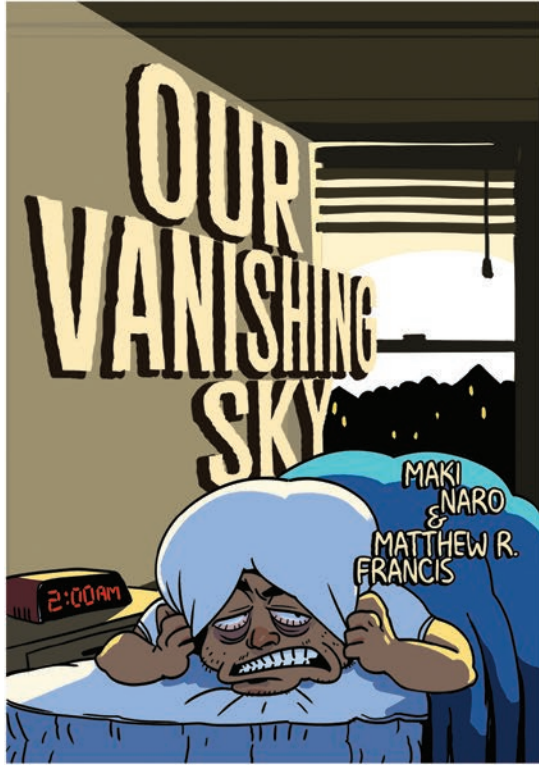
But our inability to mass-commodify pawpaws has an advantage: Pawpaws are free—

as much today as they were thousands of years ago.

To eat a pawpaw, all you have to do is wait till the fall,

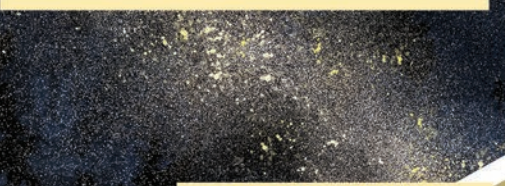


and go find a tree.

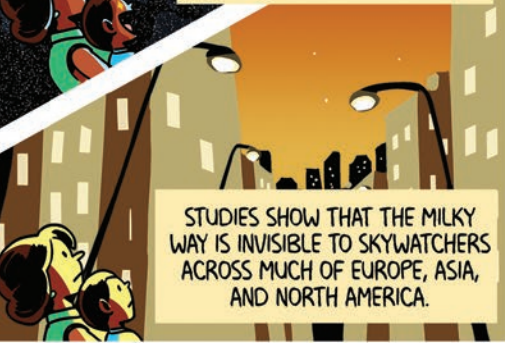


MAKI NARO & MATTHEW R. FRANCIS

TRADITIONAL STORIES FROM ALL OVER THE WORLD FEATURE THE MILKY WAY, BUT FOR MANY TODAY OUR HOME GALAXY MIGHT AS WELL BE MYTHICAL.



STREET LIGHTS AND OTHER ON-ALL-NIGHT LIGHTS HAVE MADE THE SKY IN MANY PLACES TOO BRIGHT TO SEE STARS.



STUDIES SHOW THAT THE MILKY WAY IS INVISIBLE TO SKYWATCHERS ACROSS MUCH OF EUROPE, ASIA, AND NORTH AMERICA.



BUT IT'S NOT JUST EARTH'S SURFACE. THE SKY IS LITTERED WITH SATELLITES AND SPACE JUNK.

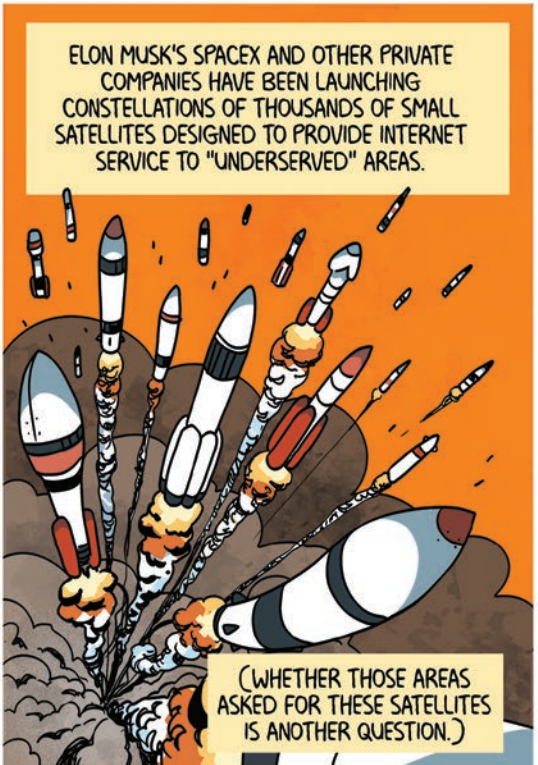
ACCORDING TO THE UNION OF CONCERNED SCIENTISTS, 4,084 SATELLITES ORBITED EARTH AS OF MAY 1, 2021, ALONG WITH OVER TEN TIMES AS MANY PIECES OF DEBRIS.



THESE SATELLITES CONTRIBUTE TO LIGHT POLLUTION, PARTICULARLY FOR ASTRONOMERS WHO SEE STREAKS OF LIGHT AS THEY PASS OVERHEAD.

MATTHEW CIRCA 2005

WHEN I BRIEFLY WORKED ON A TELESCOPE PROJECT, WE DISCUSSED HOW TO COPE WITH SEEING EVERY SATELLITE—including the secret spy satellites—that flew over.



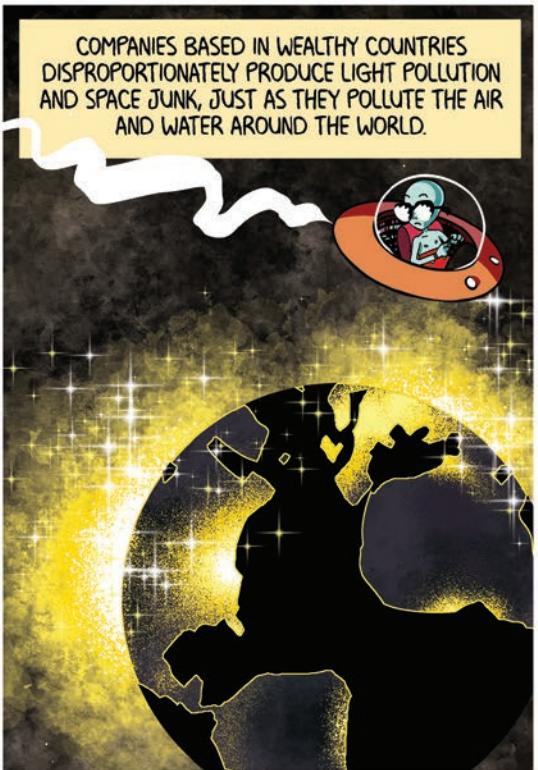
ELON MUSK'S SPACEX AND OTHER PRIVATE COMPANIES HAVE BEEN LAUNCHING CONSTELLATIONS OF THOUSANDS OF SMALL SATELLITES DESIGNED TO PROVIDE INTERNET SERVICE TO "UNDERSERVED" AREAS.

(WHETHER THOSE AREAS ASKED FOR THESE SATELLITES IS ANOTHER QUESTION.)

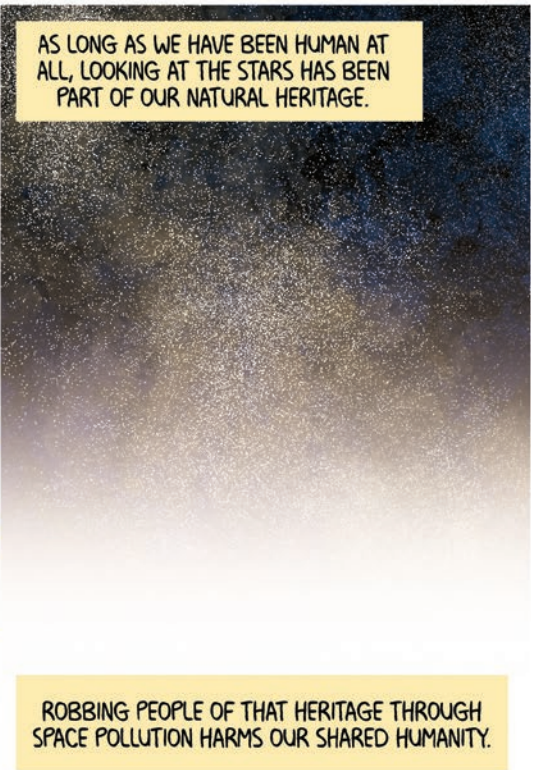


UNLIKE LIGHT POLLUTION FROM CITIES, SATELLITE CONSTELLATIONS ARE VISIBLE ALL OVER THE PLANET.

PEOPLE WITH CURRENTLY DARK SKIES IN THE GLOBAL SOUTH WILL SOON LOSE THEIR PRISTINE VIEWS OF STARS OR THE MILKY WAY, REGARDLESS OF THEIR WISHES.



COMPANIES BASED IN WEALTHY COUNTRIES DISPROPORTIONATELY PRODUCE LIGHT POLLUTION AND SPACE JUNK, JUST AS THEY POLLUTE THE AIR AND WATER AROUND THE WORLD.



AS LONG AS WE HAVE BEEN HUMAN AT ALL, LOOKING AT THE STARS HAS BEEN PART OF OUR NATURAL HERITAGE.

ROBBING PEOPLE OF THAT HERITAGE THROUGH SPACE POLLUTION HARMS OUR SHARED HUMANITY.

We invited other farmers to a Harvest Party!

by Iona Fox



Hi!

How you been?

Good to see you!

In spring and summer we are business competitors, complaining about and shit-talking one another. But now, worn out and in the black, we're feeling peaceful, having drinks and easing into a few months of rest..



Welcome!

We're watching this woodchuck.

More and more people arrived for the party. The woodchuck did not go away.



What are you guys doing?

Welcome!

Um

Eventually we called in the game warden.



Well, if it IS rabid...

...then I don't want to shoot it in the head.

I don't want its brains spraying everywhere.

I feel weird that I'm watching.

The woodchuck had cruised past the electric fence and was acting strangely.



Suddenly, the woodchuck spun and charged towards us!



Whoa, what the—

Wait—

First can you grab those chips?

Later...



Hey...Didn't you dump your cider tailings in our compost this morning?

Oh my God.

The woodchuck was drunk??

The next day at lunch, a fox appeared in the same field.



It knows.

Where's my friend?

RESISTANCE IS FERTILE GLORIOUS MOMENTS IN GUERRILLA GARDENING

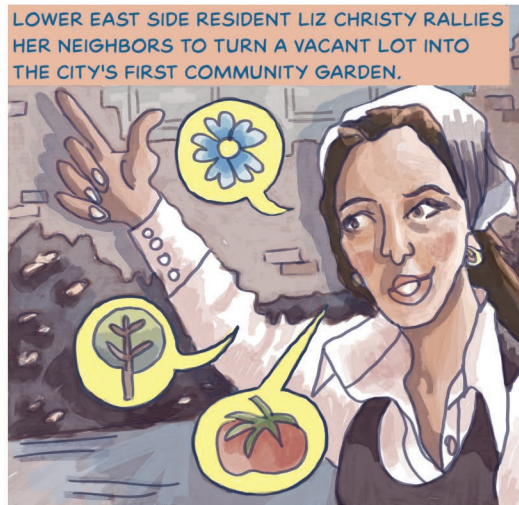
Myfanwy Tristram

1938: IYO, JAPAN

SCIENTIST AND FARMER MASANOBU FUKUOKA REINVENTS THE ANCIENT PRACTICE OF MIXING SOIL AND SEEDS TO MAKE "EARTH DUMPLINGS" (TSUCHI DANGO).



1973: NEW YORK CITY
THE GREEN GUERRILLAS THROW "SEED GREEN-AIDS" WHEREVER THEY CAN.



LOWER EAST SIDE RESIDENT LIZ CHRISTY RALLIES HER NEIGHBORS TO TURN A VACANT LOT INTO THE CITY'S FIRST COMMUNITY GARDEN.



1996: COPENHAGEN
DURING A SINGLE NIGHT, 1,000 ACTIVISTS TRANSFORM A LARGE PIECE OF LAND IN THE CENTER OF THE CITY.

IT BECOMES THE "HAVE PÅ EN NAT" (GARDEN IN A NIGHT).



2005: SAN FRANCISCO
A GROUP OF DESIGNERS LAUNCH "PARK(ING) DAY" WHERE THEY PAY FOR A STREET PARKING SPOT AND TRANSFORM IT INTO A GREEN SPACE.



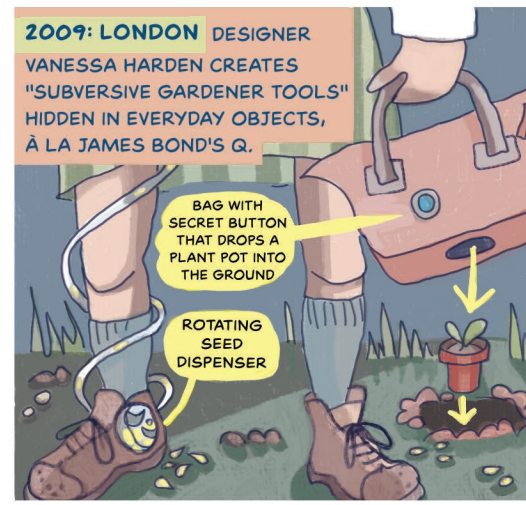
MARY CLEAR OF INCREDIBLE EDIBLE

AT FIRST WE HAD TROUBLE GETTING PEOPLE TO HELP THEMSELVES...

...BECAUSE WE'RE FROM A COUNTRY WHERE PEOPLE SAY, "GET OFF MY LAND."



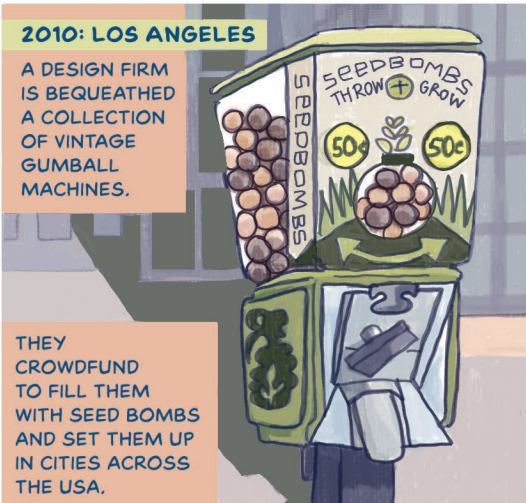
2007: TODMORDEN, U.K.
LOCAL GROUP INCREDIBLE EDIBLE BEGIN GROWING FRUIT, HERBS, AND VEGETABLES IN PUBLIC SPACES AND INVITING ANYONE TO HARVEST THEM.



2009: LONDON DESIGNER VANESSA HARDEN CREATES "SUBVERSIVE GARDENER TOOLS" HIDDEN IN EVERYDAY OBJECTS, À LA JAMES BOND'S Q.

BAG WITH SECRET BUTTON THAT DROPS A PLANT POT INTO THE GROUND

ROTATING SEED DISPENSER



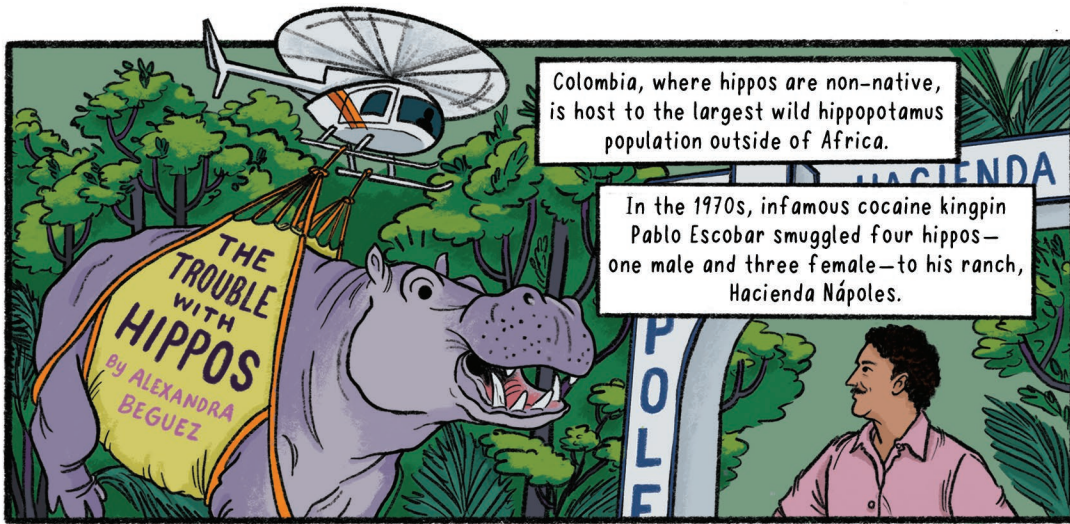
2010: LOS ANGELES
A DESIGN FIRM IS BEQUEATHED A COLLECTION OF VINTAGE GUMBALL MACHINES.

THEY CROWDFUND TO FILL THEM WITH SEED BOMBS AND SET THEM UP IN CITIES ACROSS THE USA.



2021: EVERYWHERE
SEED BOMBS ARE CURRENTLY A TREND ON TIKTOK.

WHEN THE SEED OF A GOOD IDEA IS PLANTED, IT KEEPS FINDING NEW PLACES TO GROW.



Colombia, where hippos are non-native, is host to the largest wild hippopotamus population outside of Africa.

In the 1970s, infamous cocaine kingpin Pablo Escobar smuggled four hippos—one male and three female—to his ranch, Hacienda Nápoles.

When Escobar was killed in 1993, Colombian authorities decided to leave the large, aggressive hippos alone.



Colombia has abundant water and food, and lacks large predators. It's a hippo paradise!



The small herd has grown to approximately 120 animals. Most still live in Hacienda Nápoles, now a theme park, but some are settling across the heavily trafficked Río Magdalena.



The hippos' presence negatively impacts the local ecosystem. Their feces fuel huge algae blooms that reduce the levels of oxygen in the water, making it toxic to fish.



Hippos are famously aggressive, and their combative antics push out native species, like the capybara and Antillean manatee. There has also been a rise in less-than-friendly encounters with people.



Despite their surly attitudes, the hippos have grown on the locals, as have the tourist dollars brought to the theme park.

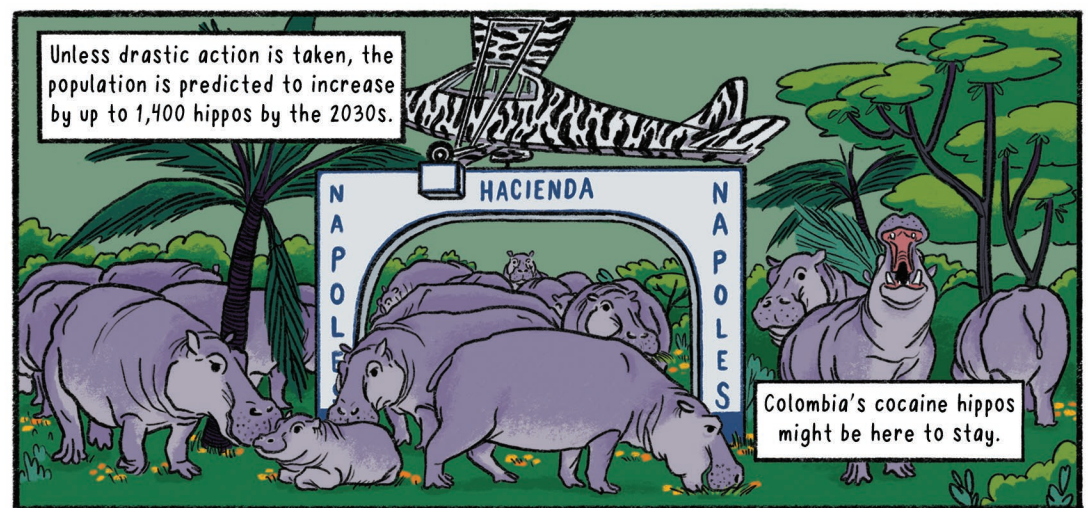


Scientists called for a cull to combat the rapid population growth. But when a hippo was killed after terrorizing local farms, there was a public outcry.



It is now illegal to kill hippos in Colombia.

Sterilization has been tried, with little success. Just four male hippos have been castrated in the last ten years due to the high cost and difficulty in catching them.

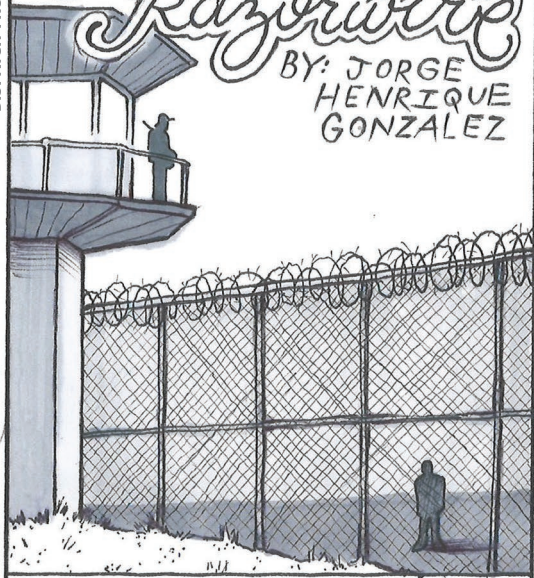


Unless drastic action is taken, the population is predicted to increase by up to 1,400 hippos by the 2030s.

Colombia's cocaine hippos might be here to stay.

Over The Razorwire

BY: JORGE HENRIQUE GONZALEZ



WHEN I WAS IN PRISON, I BEGAN TO APPRECIATE NATURE.

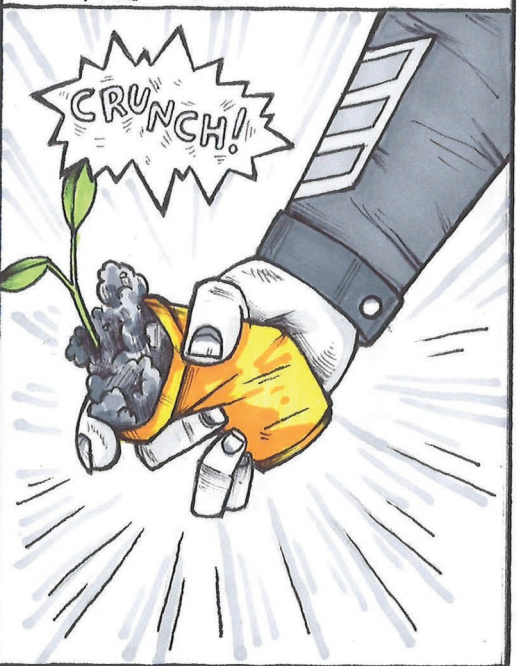


I GOT SO USED TO CONCRETE. I DREAMED ABOUT A DAY IN THE WOODS.

SOME GUYS WOULD SAVE SEEDS FROM THE APPLES AT LUNCH AND TRY TO GROW THEM...



... BUT COPS USUALLY FOUND OUT AND CONFISCATED THE "CONTRABAND."



OTHER GUYS CAUGHT LIZARDS AND KEPT THEM AS PETS. SOME NURSED BIRDS THAT GOT CAUGHT IN THE RAZOR WIRE AND WERE HURT.



I USED TO LOOK OUT THE WINDOW AT NIGHT, WATCHING THE MOUNTAINS AND LISTENING FOR COYOTES.

NOW THAT I'M OUT, EVERY MORNING I TAKE A SLOW WALK THROUGH THE PARK AND JUST SIT ON THE GRASS.



I MAKE TIME FOR THE OUTDOORS. I NEVER KNEW HOW MUCH IT MEANT TO ME UNTIL I HAD TO LIVE WITHOUT IT.





EXPANDING ECONOMIES

WASTEFUL CHANGE

CLEAR-CUT, NOISE, PIONEERS

LARGE MACHINES AND EARTH MOVERS

THE RESPONSE

Each issue we ask four cartoonists one question. For this Response we wanted to hear from people who have lived through an extreme weather disaster (which are increasing in frequency).

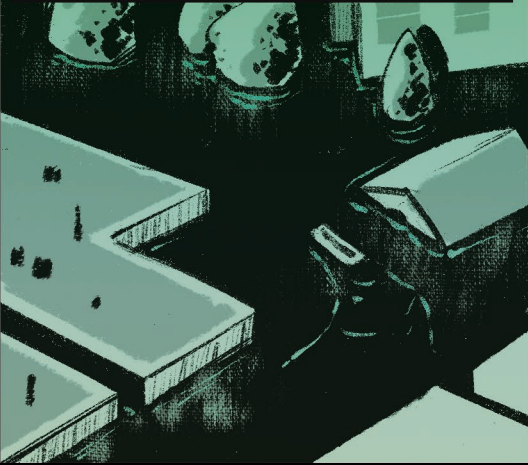


EARTH!
WIND!
FIRE!
WATER!

Illustration by Shelby Criswell

Chris Kindred

MY HOMETOWN OF FRANKLIN, VA, WAS HIT BY HURRICANE FLOYD BACK IN 1999, WHEN I WAS 8 YEARS OLD.



...BUT NEVER THE LOW-LYING BLACK NEIGHBORHOODS A FEW STREETS OVER WHERE THE FLOODWATER COLLECTED.



ON THE NEWS, ALL WE SAW WERE THE SMALL, WHITE-OWNED SHOPS SUBMERGED DOWNTOWN.



THIS WAS MY FIRST TIME SEEING ENVIRONMENTAL RACISM IN ACTION, BUT IT WOULD BE FAR FROM THE LAST.



Colleen Frakes

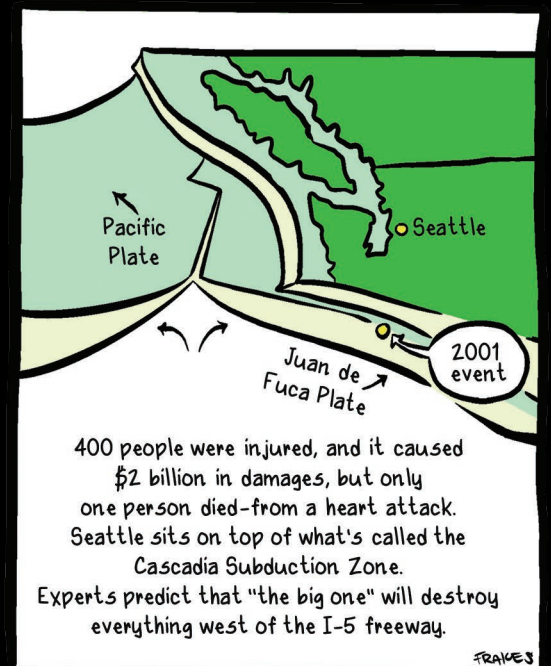
On Feb. 28, 2001 at 10:54am, the Nisqually earthquake hit, the strongest earthquake to strike the Puget Sound region since 1965. I was in biology class when the shaking started.



I'd been practicing earthquake drills since kindergarten, but still felt unprepared. We dove under our desks as specimen jars rained down around us.



Only one person in our school was hurt. A gym teacher panicked and ran into a wall.



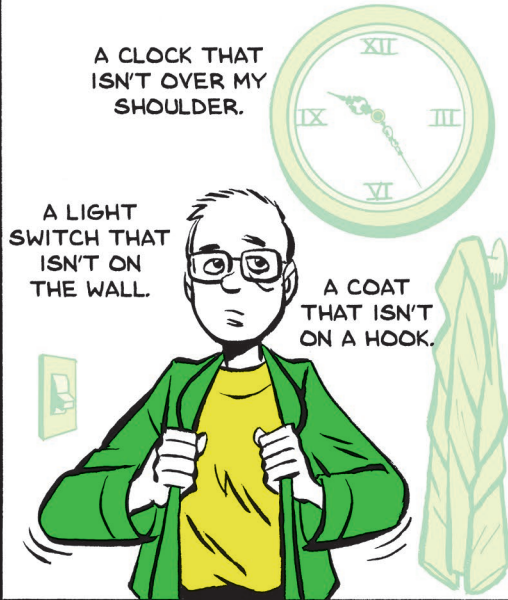
Brian Fies

I DIDN'T BELIEVE IN GHOSTS BEFORE MY HOME WAS ONE OF THOUSANDS BURNED IN THE TUBBS FIRE ON OCTOBER 9, 2017.



EVER SINCE, I'VE BEEN SURROUNDED BY THEM.

I CATCH THEM IN MY PERIPHERAL VISION.



A CLOCK THAT ISN'T OVER MY SHOULDER.

A LIGHT SWITCH THAT ISN'T ON THE WALL.

A COAT THAT ISN'T ON A HOOK.

THEY EVEN APPEAR IN BROAD DAYLIGHT!



HOUSES THAT ONCE FILLED EMPTY LOTS.

SPECTRAL SHADE CAST BY PHANTOM TREES.

NEIGHBORS WHO SIMPLY VANISHED.

AND ALWAYS, THE GHOST OF WHO I USED TO BE. HE'S FRIENDLY. INNOCENT. SOFT.



DUDE, COULD YOU MAYBE GO HAUNT SOMEONE ELSE?

I HOPE SOMEDAY HE FINDS SOME PEACE.

Shelby Criswell

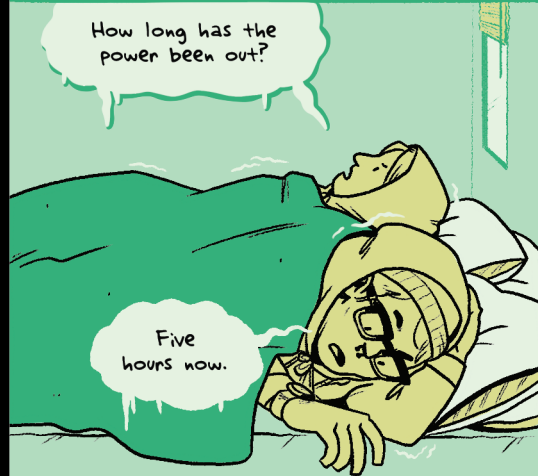
FEBRUARY IN SOUTH TEXAS IS LIGHT-JACKET WEATHER, BUT A SHIFT IN THE POLAR VORTEX IN 2021 SENT US A FREAK SNOWSTORM.



I put your soda in the snow to keep them cold.

I'd rather drink a mug of lava right now.

TEXAS IS ON ITS OWN POWER GRID, SEPARATE FROM THE REST OF THE U.S. OUR CITY'S POWER COMPANY PROMISED TO ALTERNATE 15 MINUTES OF POWER ON AND 15 MINUTES OFF, A GREAT PLAN FOR SEVERE WEATHER.



How long has the power been out?

Five hours now.

NOT ONLY WAS OUR POWER UNRELIABLE, BUT WE HAD NO WATER FOR DAYS. LUCKILY, MY PARTNER AND I HAD LOTS OF FOOD, WATER, AND OTHER SURVIVAL GEAR STORED.



I'm glad I just bought this solar phone charger for camping.

Let's listen to the radio on it!

I GUESS GROWING UP AROUND CONSERVATIVE DOOMSDAY PREPPERS ACTUALLY TAUGHT ME A FEW THINGS.



THE POWER IS BACK!

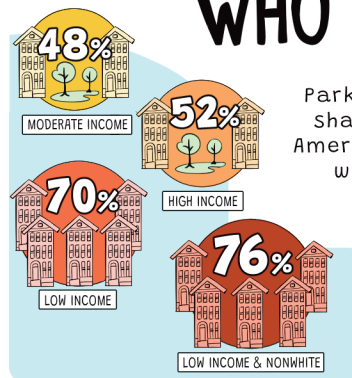
The Nib Bureau of Statistics

Guts, parks, plastics, and mass extinction.

Illustrated By Kristel Bugayong

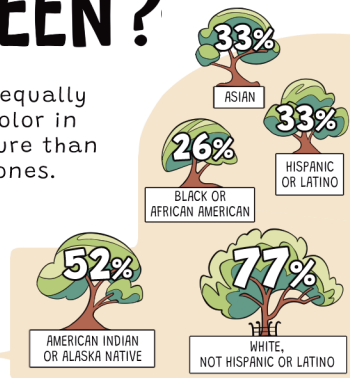
WHO GETS THE GREEN?

Parks are like everything else, not equally shared out. Poor communities of color in America have far less access to nature than wealthier, predominantly white ones.



PERCENT OF AMERICANS LIVING IN A NATURE-DEPRIVED AREA, BY INCOME

PERCENT OF AMERICANS WITH ACCESS TO NATURE, BY RACE AND ETHNIC GROUP



BY CENSUS TRACT DEMOGRAPHICS, 2017

WORSE YET, PARKS THAT SERVE COMMUNITIES OF COLOR ARE, ON AVERAGE, **HALF THE SIZE OF PARKS** IN MAJORITY-WHITE AREAS...



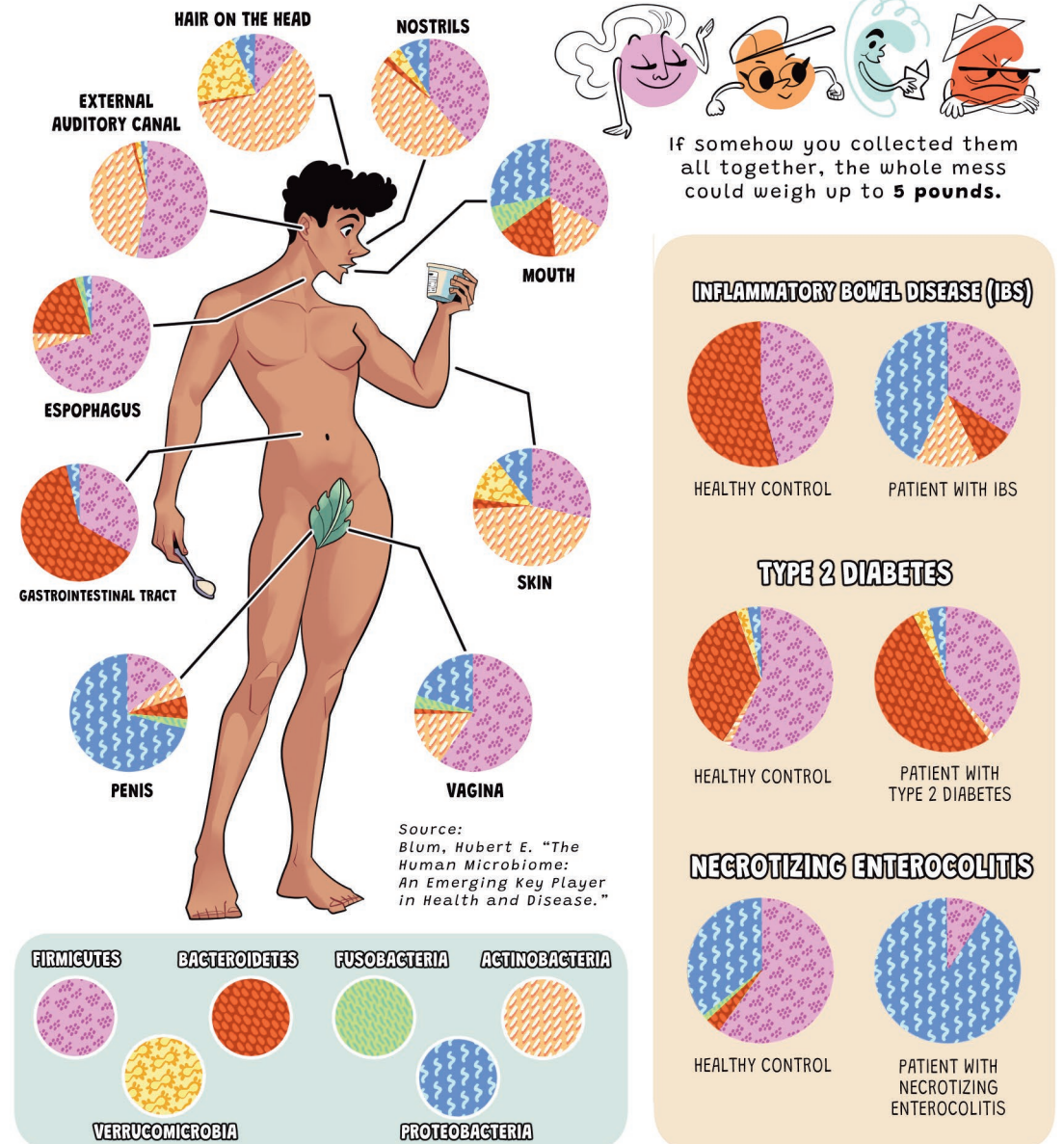
...AND ALMOST **FIVE TIMES** AS CROWDED.



Source: Center for American Progress, Trust for Public Land

INSIDE YOUR INSIDES

You, and everyone around you, are home to a whole tiny world of **trillions** of microbiota. Some of them are good, some of them are bad, most of them are just minding their own business.



WOOD & PLASTIC

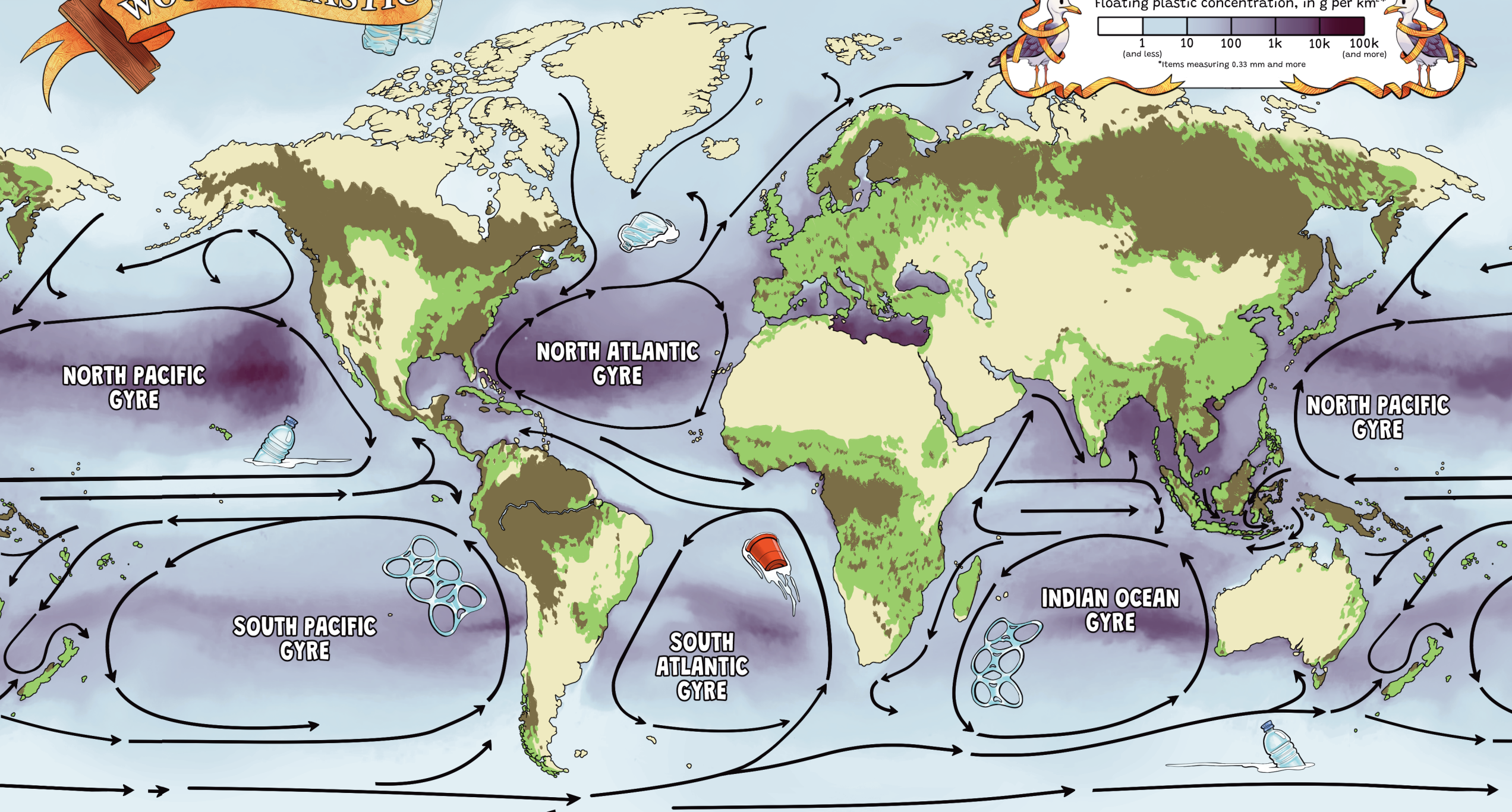
KEY

Forest cover at the end of the last glacial period (c. 15,000 years ago) Current forest cover

Floating plastic concentration, in g per km²*

1	10	100	1k	10k	100k
(and less)					(and more)

*Items measuring 0.33 mm and more

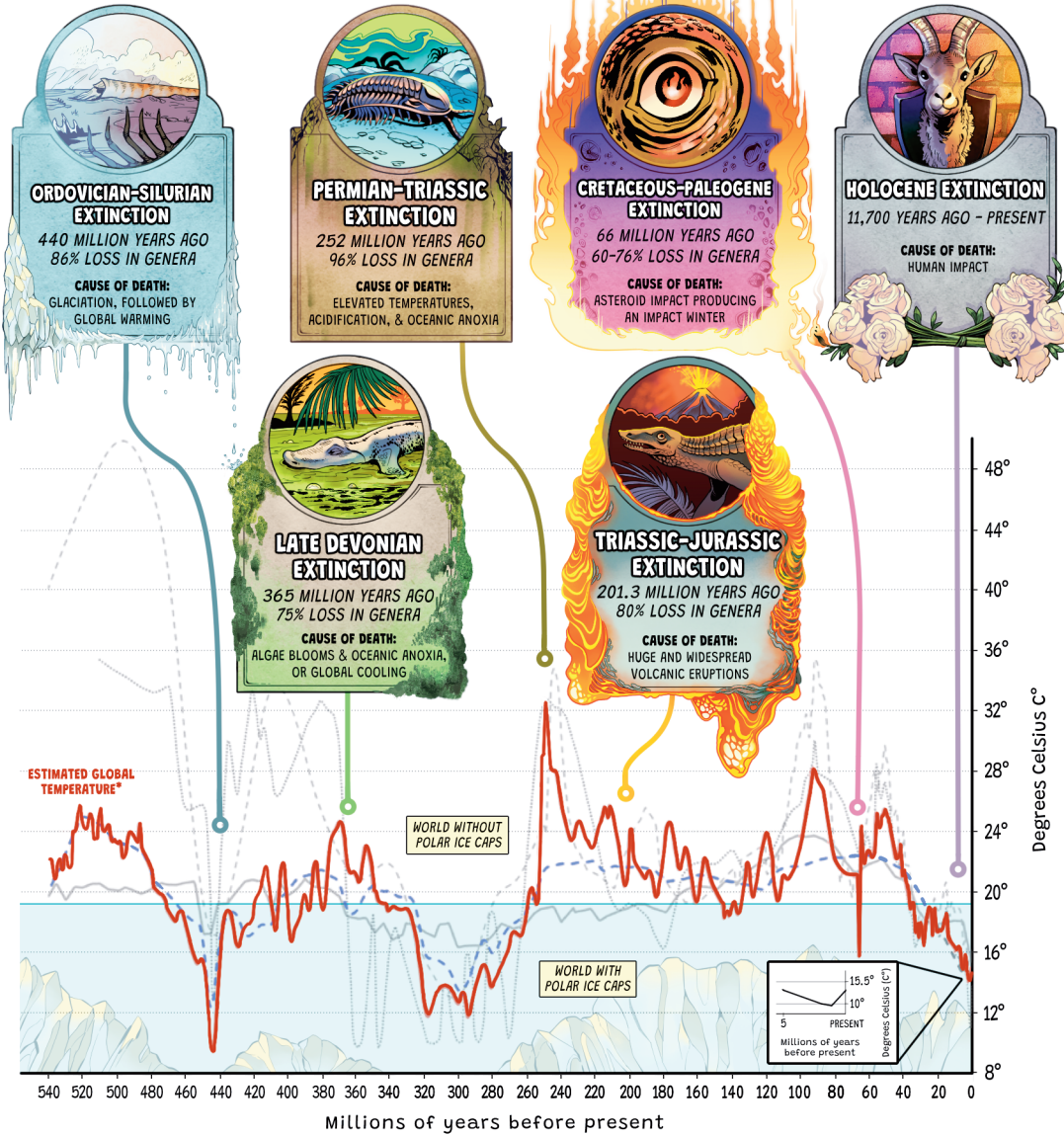


Source: World Wildlife Fund, GRID-Arendal, UN Environment Programme World Conservation Monitoring Centre

EARTH AND ITS ASSOCIATES

Our world is anything but stable. Its temperature has fluctuated wildly over the course of its history, with occasionally quite serious side effects for all the creatures running around on its surface.

PHANEROZOIC GLOBAL AVERAGE TEMPERATURE & MASS EXTINCTIONS



*There's no consensus paleotemperature because there weren't thermometers before humans! Different input sources give different estimates.

- Valdes et al. (2018)
- after Mills et al. (2019)
- Wing and Huber (2019)
- Scotese et al. (2021)
- Scotese et al. (2021)

Sources: "Mass Extinctions," National Geographic Society (2019); Scotese et al. *Earth-Science Reviews* (2021)



The Nib Interview

Krystal Two Bulls is an Oglala Lakota and Northern Cheyenne activist. As director of the LANDBACK Campaign, she is a leader in the struggle to reclaim Indigenous territory. Interview by S.I. Rosenbaum, illustrated by Arigon Starr.

"Landback" is the literal reclamation of land, and the reclamation of everything that was stolen from us when we were forcibly removed from the land: ceremony, language, culture, spirituality, kinship systems, education systems, housing, governance, food, healthcare...

The Black Hills — *Hesápa* — is our Cornerstone Campaign. It's literally a part of us. I grew up going to these places in the Black Hills and being in ceremony, and hearing the stories that came from that literal land we were stepping on.

We came out of the earth there. Everything we need to survive as a people exists there. Our medicines, our waters, our food.

My body can feel it. Come springtime I can tell the difference in the springiness of the soil under my feet or the smell of tree sap ... My body understands those things.

For us, Mount Rushmore represents the ultimate shrine of white supremacy. When we shut down Mount Rushmore and reclaim the Black Hills, that changes the political landscape for every Indigenous movement globally.

We had original instructions to be caretakers and to be in relationship with Mother Earth. A blade of grass, a flower, a bee — they follow their instructions.

We've been fighting to reclaim our land, but it has to be connected globally to any Indigenous nation occupied by the U.S. military and all Indigenous peoples fighting to reclaim lands. We have to unite our struggles.

Human beings are the only ones that get out of balance with what those instructions are.

Clear Cut

The decimation of our forests, and nature in general, started entering the broader national psyche during the last quarter of the 19th century. The writings of John Muir, the establishment of the Bureau of Forestry, and the removal of federal forest land from commercial exploitation showed that there was growing concern about protecting the nation's woodlands. The Sierra Club was founded in 1892, one of the first nonprofit environmental organizations created in response to the devastation of forests and other natural resources for the supposed benefit of the economy.

Even with establishment of the National Park System and other early-20th-century forest-friendly efforts, the effectiveness of long-term land management of forests was not a given, an issue front and center on certain cartoonists' drawing boards. Jay "Ding" Darling, a lifelong Republican, drew a number of environmental cartoons over his 40-year career that started in 1906.

He continuously warned about the destruction of our natural resources, and with the support of President Franklin Roosevelt, Darling established the National Wildlife Federation in 1936.

Frank King, whose "Gasoline Alley" was one of the most popular comic strips in the United States, showed his protagonist Walt Wallet taking his son Skeezix on yearly jaunts into the wild to extol both nature's beauty and fragility, making it all too clear that once forests are gone, they are not coming back.

With cataclysmic wildfires across the globe consuming hundreds of thousands of acres yearly, coupled with human deforestation occurring in the Amazon and other locations, forests are in a more precarious position than ever, something cartoonists have been warning us about for over 130 years.

Warren Bernard is an author/lecturer in the history of editorial-political cartoons and the executive director of the *Small Press Expo*.



Yesterday's Paradise — Tomorrow's Black Desolation

Jay "Ding" Darling
"Yesterday's Paradise - Tomorrow's Black Desolation,"
Our Great Out-of-Doors (1947)

PUCK.

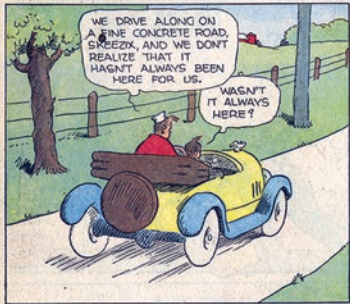


J. Keppler 83

PRESERVE YOUR FORESTS FROM DESTRUCTION, AND PROTECT YOUR COUNTRY FROM FLOODS AND DROUGHT.

AUGUST 7, 1927

GASOLINE ALLEY



WE DRIVE ALONG ON A FINE CONCRETE ROAD, SQUEEZ, AND WE DON'T REALIZE THAT IT HADN'T ALWAYS BEEN HERE FOR US.

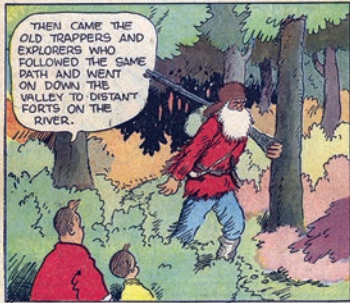
WASN'T IT ALWAYS HERE?



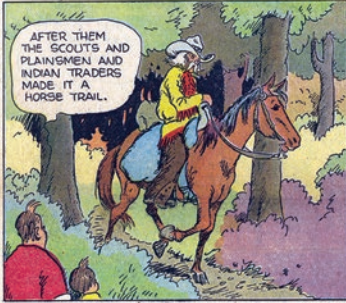
NO. A HUNDRED YEARS AGO THIS WAS ALL DEEP FOREST. PROBABLY NO WHITE MAN HAD EVER BEEN THROUGH IT.



THE DEER MADE A PATH DOWN TO THE BROOK WE PASSED BACK THERE. THEY WENT FOR WATER EVERY EVENING. THERE WAS NO ONE TO DISTURB THEM UNLESS IT WAS AN OCCASIONAL BAND OF INDIANS.



THEN CAME THE OLD TRAPPERS AND EXPLORERS WHO FOLLOWED THE GAME PATH AND WENT ON DOWN THE VALLEY TO DISTANT FORTS ON THE RIVER.



AFTER THEM THE SCOUTS AND PLAINSMEN AND INDIAN TRADERS MADE IT A HORSE TRAIL.



THEN CAME THE HARDY PIONEER WHO CUT DOWN TREES AND OPENED THE WAY SO THAT HE COULD GET HIS YOKE OF OXEN AND COVERED WAGON THROUGH.



HE DROVE ON AND ON TOWARD THE PACIFIC WHERE GOLD HAD BEEN DISCOVERED IN CALIFORNIA.



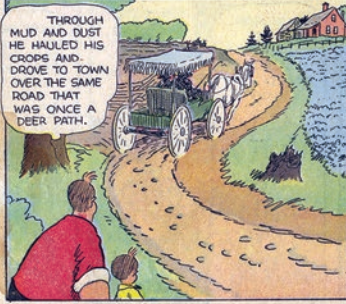
NEXT THE HOMESTEADER FOLLOWED ALONG THE ROAD, STAKED HIS CLAIM AND CUT MORE TREES.



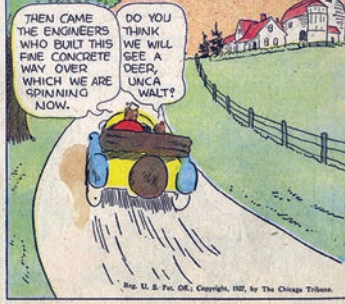
HE HAULED THE LOGS, HEWED THEM, AND ROLLED THEM UP INTO A LOG HOUSE FOR HIMSELF AND HIS FAMILY.



THEN HE CLEARED SOME OF THE LAND ALONG THE ROAD, PLOWED IT AND PLANTED CROPS.



THROUGH MUD AND DUST HE HAULED HIS CROPS AND DROVE TO TOWN OVER THE SAME ROAD THAT WAS ONCE A DEER PATH.



THEN CAME THE ENGINEERS WHO BUILT THIS FINE CONCRETE WAY OVER WHICH WE ARE SPINNING NOW.

DO YOU THINK WE WILL SEE A DEER, UNCA WALT?

Pop. U. S. Pat. Off. Copyright, 1927, by The Chicago Tribune.

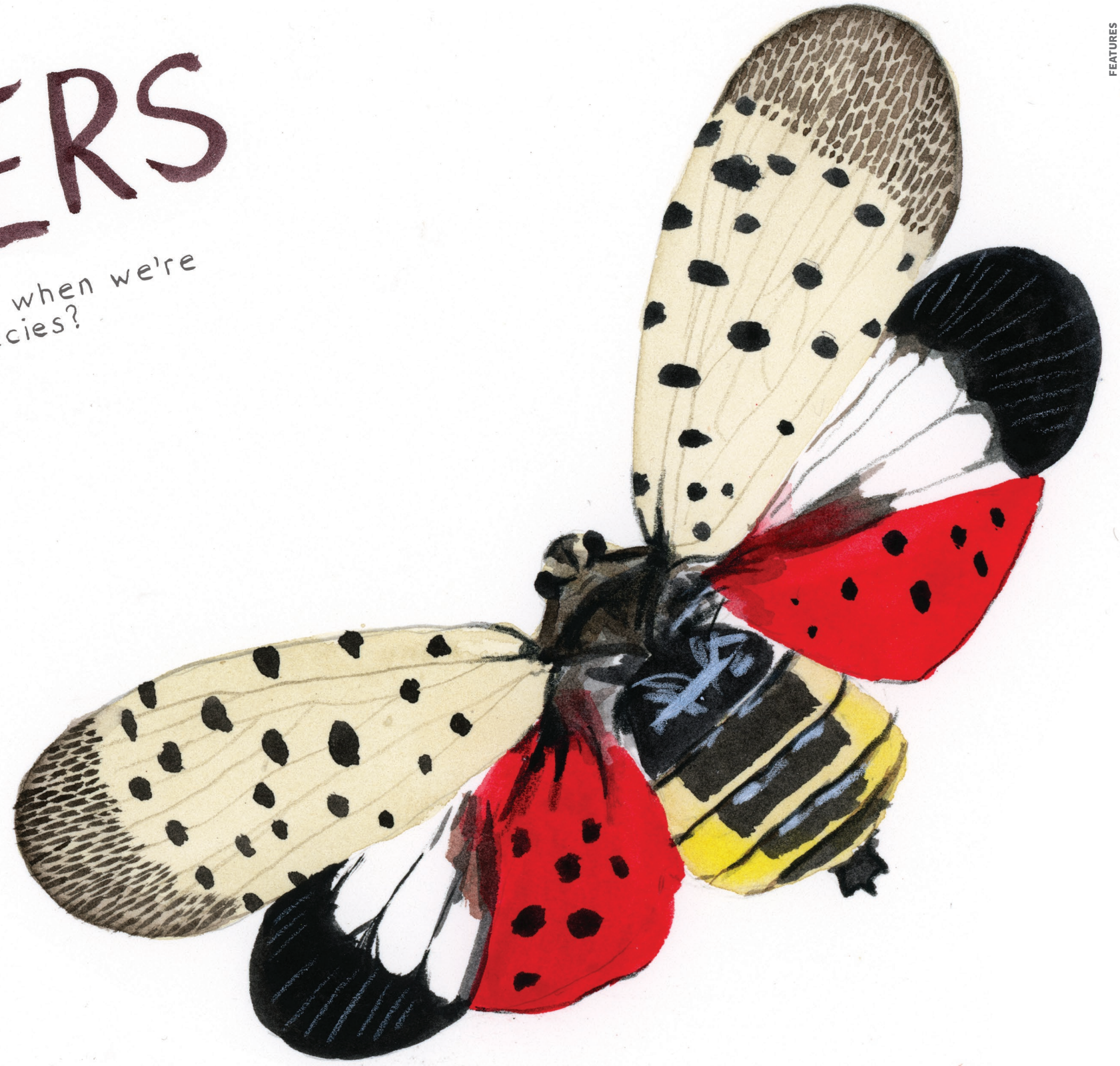
FEATURES:



FRANK KING
"Gasoline Alley,"
Chicago Tribune (August 7, 1927)

INVADERS

What are we talking about when we're talking about invasive species?



BY SARAH GLIDDEN



But they reproduced quickly, and the tide of public opinion shifted. They were a nuisance, shitting on everything, ravaging crops, and chasing away native birds. They also didn't solve the inchworm problem.



Their range soon extended across the country.



I recently saw similar language being used in a new call to action for the eradication of another invasive species: the spotted lanternfly.

We Must Come Together And Kill The Dreaded Spotted Lanternflies

BY JEN CARLSON



Unlike the house sparrow, the spotted lanternfly was introduced to North America accidentally, and was first seen in Pennsylvania in 2014. Originally from Southeast Asia, it's believed that some eggs hitched a ride in a bag of garden rocks.



Now we're being told to squish them on sight and report them to the U.S. Department of Agriculture.



According to a widely cited 2005 study, there are approximately 50,000 invasive species in the U.S., causing damages upwards of \$120 billion per year.

There are plenty in my local park.



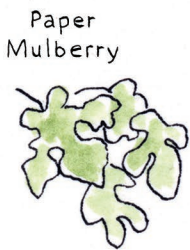
Emerald Ash Borer



Norwegian Rat



Chestnut Blight Fungus



Paper Mulberry

But what makes a species invasive? Howard Goldstein, senior forest ecologist for the Prospect Park Alliance, says it's all about reductions in biodiversity.



A lot of parts of the world had very high biodiversity prior to global human migration.



When what we call invasive species are brought in, their impact is often very dramatic, very rapid, and very detrimental to biological diversity.

It can form these homogenous sectors of only itself, crowd out the native plants, and it can have a very bad effect on the wildlife.



Given enough time, these things will settle into some kind of equilibrium, but that could be a very, very long time from now.



Not all non-native plants are invasive. Take the common plantain, ubiquitous in urban areas across the country.

It's in this weird category that we refer to as "naturalized." It's originally from Europe, but it's been here for 500 or more years.



American Indians referred to them as "white man's footprints" because in the early days of colonization, when Native people would see this, they knew that settlers must have been there.

Howard and his crew are working to restore degraded areas of Prospect Park to something that, if not completely native, at least resembles what might have been here before European settlement kicked off this chain of invasion.



This is our instant forest!

Four years ago this whole area was just compacted soil outside of the planted trees.



So how many of these guys are what you might call invasive? Is that one non-native?

That's pokeweed.

Oh, is it bad?

Pokeweed is great!

It's a native that will go head to head with an invasive.

And see those little flowers? The insects love 'em. And the birds eat these berries when they're ripe.

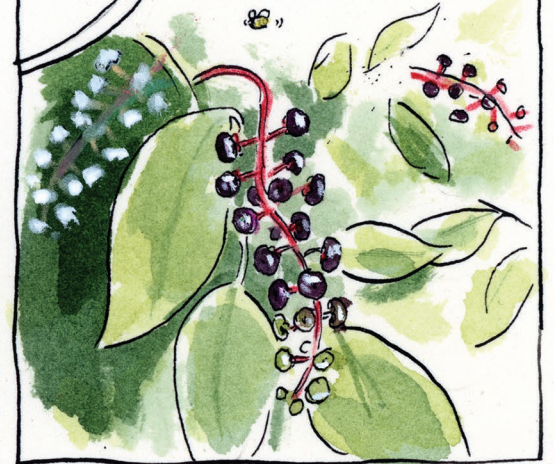


There are a lot of North American native plants that have weeded in the name. Pokeweed, milkweed...

But a weed was any plant during early colonization which was not initially useful or had any detrimental effect on livestock. Anything they didn't want growing in their fields became a weed.



And this unfortunately has entered into our psyche as "these are things to get rid of." If they had decided to call this "plumberry" instead of pokeweed it would be much more popular.

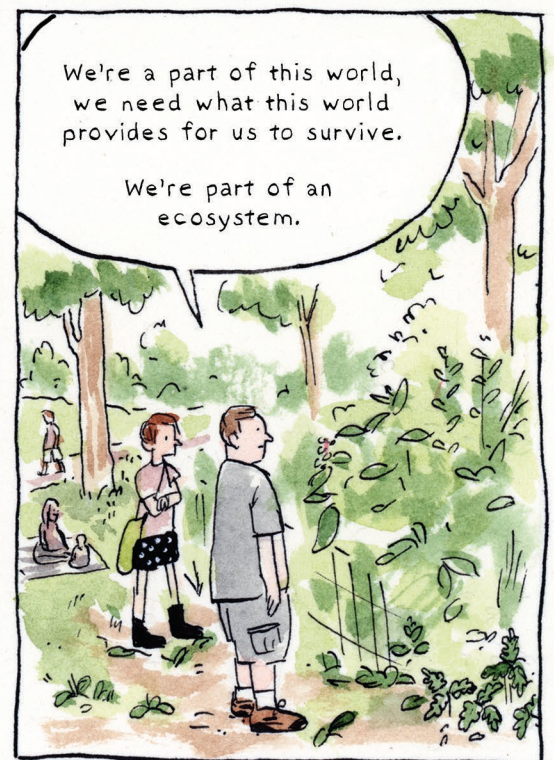


One of the problems that humans have had in the West in the past few hundred years is this feeling that we're separated from nature, and that's just not true.



We're a part of this world, we need what this world provides for us to survive.

We're part of an ecosystem.



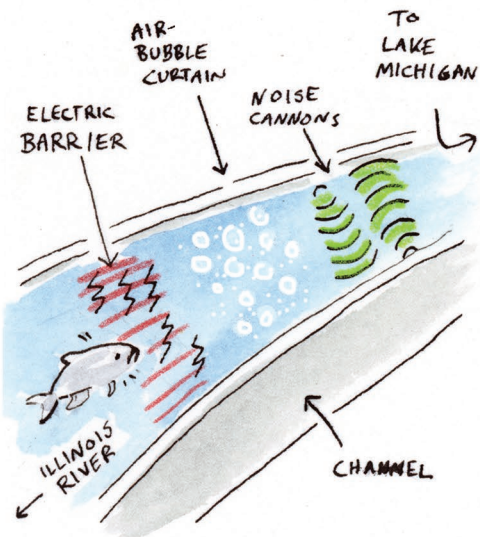
The work being done in Prospect Park is small scale, but there's a whole committee in the Department of the Interior devoted to mitigating the effects of invasive species.



Asian carp—recently renamed invasive carp—are a famous example. They were imported to Southern states in the '60s to clean algae in wastewater-treatment ponds and somehow escaped to the Mississippi River watershed, where they now dominate.



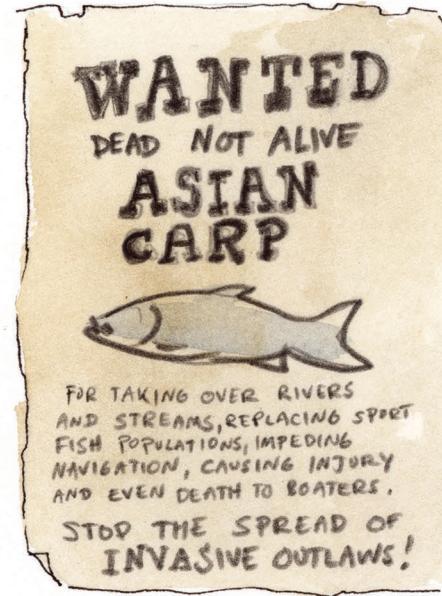
The U.S. Army Corps of Engineers just approved a project that will enhance the barrier keeping them out of the Great Lakes, at a cost close to \$800 million.



If this sounds like a lot of money for state and federal governments to spend just to preserve what remains of the ecosystem of the Great Lakes, keep in mind that they're also trying to protect a \$7 billion sport fishing economy there.



But do these species really deserve the vitriol we sling at them?



Is it even fair to call them "invasive species" in the first place?

I've always had an issue with that term myself. It's the knee-jerk reaction of America in a nutshell, where violence is always the answer.



Jerry Jondreau and Katy Bresette spoke to me from their farm on the Keweenaw Bay Indian reservation in Michigan, where they harvest and produce traditional Native foods.

They are two of the co-authors of the Tribal Climate Adaptation Menu, which approaches climate change mitigation efforts from an Indigenous perspective.



And that's where the whole conversation of invasive species came up, which sparked a lot of reflection.

It was just an all-out debate for an entire day.

The group felt that the English term "invasive species" imposed a hierarchy with human beings at the top. Instead they use "non-local beings" and the Ojibwe term *Bakaan ingoji ga-ondaada*.

It translates to "a being that came from a different place, unspecified."



Using "non-local beings" also shifts the blame away from the organisms themselves.

They didn't do anything wrong. They've been in existence longer than we have, and now we think we have the right to dictate who goes where and why, when we can't even regulate ourselves.



Katy, who studied linguistics, points out that English itself is the non-native language here, one that doesn't really have a home.

It's got German, it's got French, it's got Latin...all those influences are all in there and what is English for? It's for trade.



...maybe the heart and soul of the language is not there.

When you've built a society and a government—

—and a globe!

—based on a language that doesn't have a heart and soul, you can see why we are capable of doing the things we do.

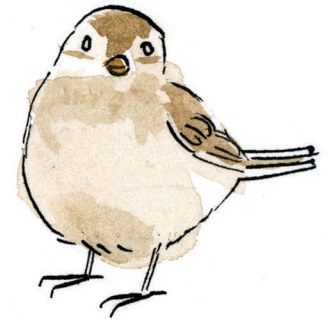


These things don't just magically show up and become a problem, they came here from shit that we've done.

And we need to take responsibility.



We keep pinning the issue back on these beings that are just doing the things that they were put here to do.



Who is the invasive species here?



breathless

by kay sohini

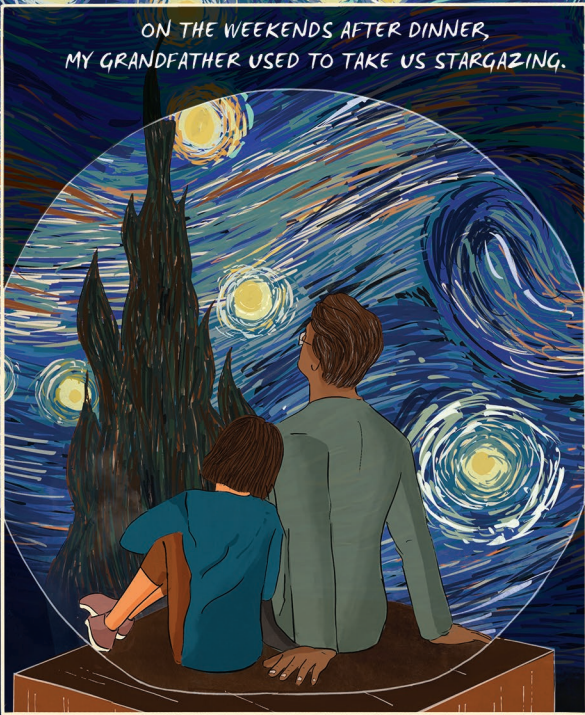


I GREW UP IN A SLEEPY
LITTLE SUBURB PARALLEL
TO THE GANGES RIVER.
WE WERE FOREVER PRY TO
A VAST EXPANSE OF SKY
STRETCHING FROM THE SHORE.

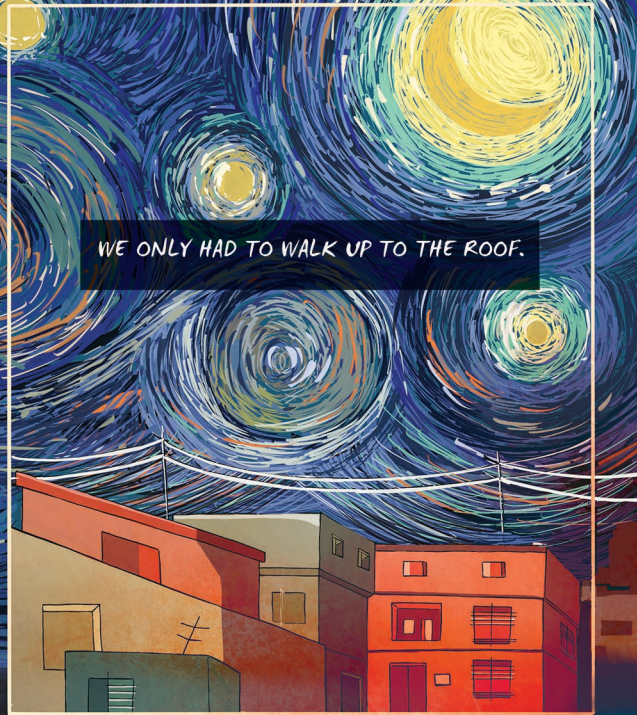


THE AIR WAS SO CLEAN AND CRISP
YOU COULD NEARLY TASTE IT.

ON THE WEEKENDS AFTER DINNER,
MY GRANDFATHER USED TO TAKE US STARGAZING.



WE ONLY HAD TO WALK UP TO THE ROOF.



WHEN I MOVED TO CALCUTTA FOR COLLEGE,
THE SECOND LARGEST AND ONE OF THE
MOST POLLUTED CITIES IN INDIA,
I COULD NOT SEE THE STARS ANYMORE.



AND I COULD NOT BREATHE.



ONE NIGHT I STAYED UP COUGHING TILL THE SUN ROSE.



THE FOLLOWING WEEK, I WAS
DIAGNOSED WITH ASTHMA.

A DECADE LATER, THE BREATHLESSNESS
STILL GETS SO DEBILITATING SOMETIMES
THAT IT COMPELS ME TO SPEND
THE REST OF THE DAY IN BED,
TRYING TO GULP AIR IN
MOUTHFULS.

WHEN THE TEMPERATURE DROPS
IN NEW YORK AT THE END OF FALL,
I RESORT TO RESCUE INHALERS ON
TOP OF MY REGULAR ONE.



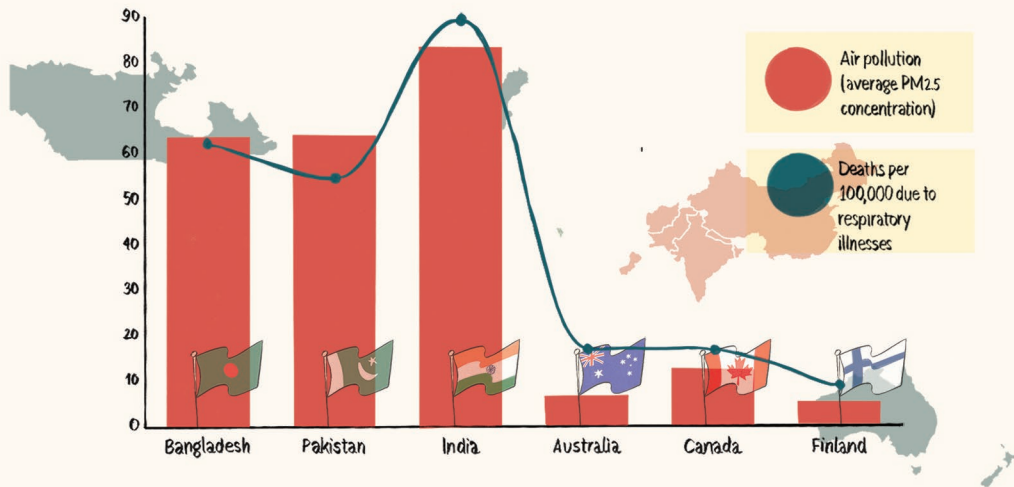
IN 2019, RESEARCHERS IN THE U.K. FOUND THAT
SEVEN OUT OF EVERY TEN INHALERS PRESCRIBED
IN THAT COUNTRY WERE METERED-DOSE INHALERS -
THE TYPE THAT CONTAIN GREENHOUSE GASES.



"...each metered-dose inhaler
replaced by a dry powder inhaler
could save the equivalent of
between 150kg and 400kg (63 stone)
of carbon dioxide a year..."

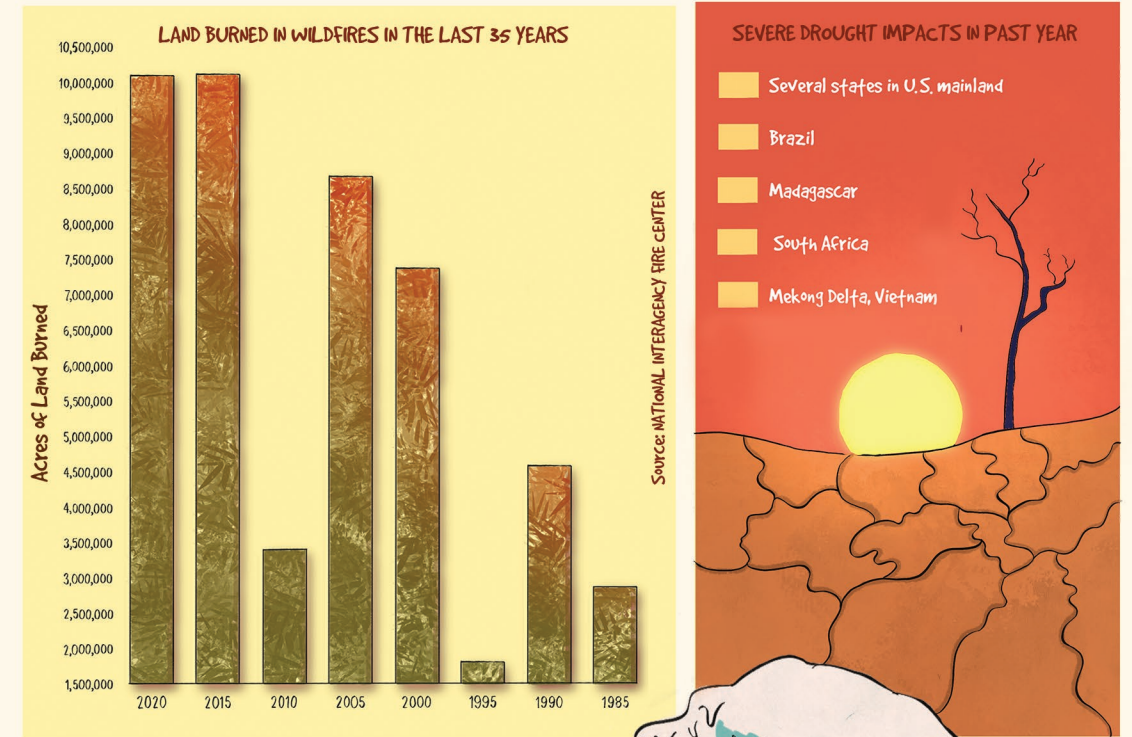
"...Many people with asthma
could cut their carbon footprint
and help save the environment by
switching to 'greener medications',
U.K. researchers say."
BBC News Online, Oct. 20, 2019.

PLACING THE ONUS OF BEING ECO-FRIENDLY ON THE INDIVIDUAL ACTIONS OF VULNERABLE GROUPS RATHER THAN ON CORPORATIONS AND FOSSIL-FUEL COMPANIES – WHO ARE RESPONSIBLE FOR 70% OF GLOBAL GREENHOUSE GAS EMISSIONS – IS AN ONGOING PROBLEM IN PUBLIC DEBATE OVER THE CLIMATE CRISIS.



AS OF 2021, AIR POLLUTION FROM FOSSIL FUELS IS RESPONSIBLE FOR ONE IN FIVE DEATHS WORLDWIDE, AND COMMUNITIES OF COLOR AND COUNTRIES IN THE GLOBAL SOUTH BREATHE MORE HAZARDOUS AIR THAN MORE AFFLUENT POPULATIONS.

IN THE PAST YEAR, CLIMATE CHANGE HAS CAUSED HURRICANES, WILDFIRES, AND DROUGHTS.



EVEN AS AIR POLLUTION LEVELS DECLINED IN MOST PLACES DUE TO COVID-MANDATED LOCKDOWNS, IN DELHI, THE WORLD'S MOST POLLUTED CAPITAL, THE HIGHEST RECORDED AIR QUALITY INDEX (AQI) IN NOVEMBER 2020 WAS 563.



AT ANY GIVEN TIME, DELHI'S AQI IS USUALLY OVER 150, MORE THAN THREE TIMES THAT OF NEW YORK, WHICH IS GENERALLY IN THE SAFE RANGE OF 0-50.



EXCEPT FOR THIS SUMMER, WHEN WILDFIRES IN THE WEST, EXACERBATED BY CLIMATE CHANGE, LEFT A SMOKY HAZE ALL OVER THE NORTHEAST.

IT HAS CAUSED DEATHS DUE TO HEAT WAVES.



EVEN WITHIN THE U.S., CLIMATE CHANGE DISPROPORTIONATELY AFFECTS LOWER-INCOME NEIGHBORHOODS AND RACIAL MINORITIES.



IN JULY 2021, TROPICAL STORM ELSA PASSED THROUGH NEW YORK AND FLOODED PARTS OF THE CITY. THE SUBWAYS IN THE AREA BETWEEN 157th AND 207th STREET WERE FILLED WITH WAIST-DEEP WATER.

MOST OF THE FLOODING HAPPENED IN WASHINGTON HEIGHTS, INWOOD, AND PARTS OF THE BRONX, AREAS THAT ARE TYPICALLY LOWER INCOME THAN THE CITYWIDE MEDIAN. EVEN THOUGH THE AVERAGE ELEVATION IN THE UPPER EAST SIDE IS 59 FEET, WHICH IS MUCH LOWER THAN WASHINGTON HEIGHTS' 102 FEET.

EARLIER THIS YEAR, A STUDY FOUND:

"Racial-ethnic minorities in the United States are exposed to disproportionately high levels of ambient fine particulate air pollution (PM_{2.5}), the largest environmental cause of human mortality."

"Systemic disparity exists at all income levels...The difference in average exposure between POC and Whites is 2.4 times larger than the range in average POC exposure among income levels."
(Tessum, Paoletta, Chambliss, et al. in Science Advances, April 2021)



ANOTHER STUDY FOUND:
"On average, Black and Hispanic people are exposed to 56 and 63 percent more PM_{2.5}, respectively, than the amount generated by their consumption, whereas white individuals are exposed to 17 percent less."
(Scientific American, June 2019)



YET, DESPITE ALL THE EVIDENCE WE HAVE ABOUT HOW RAPID ENVIRONMENTAL CHANGES DISPROPORTIONATELY AFFECT VULNERABLE GROUPS, CLIMATE ACTION STILL LACKS ADEQUATE COMMITMENT TO DISABILITY AND RACIAL JUSTICE, INSTEAD FOCUSING ENERGY ON PERIPHERAL CAMPAIGNS THAT DO NOT HOLD CORPORATIONS OR GOVERNMENTS TO ACCOUNT.

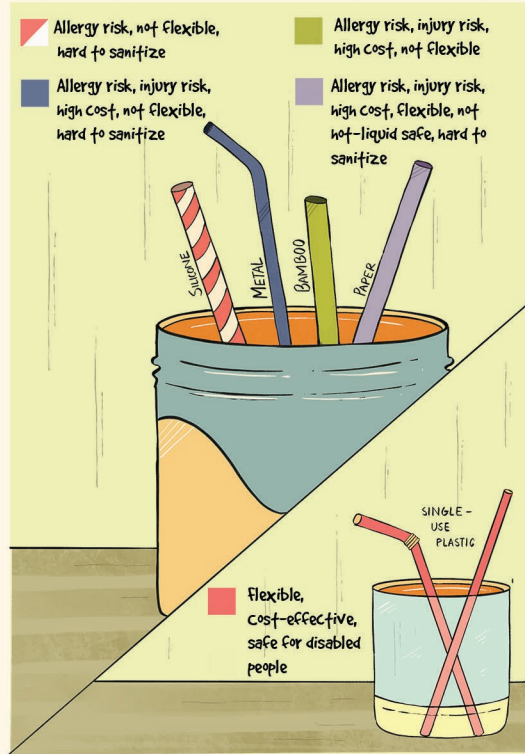


IN 2018, PARTS OF THE U.S. STARTED TO BAN SINGLE-USE PLASTIC STRAWS CITING ENVIRONMENTAL CONCERNS, EVEN AS DISABLED PEOPLE NATIONWIDE PROTESTED THAT THE BAN WAS ABLEIST OWING TO THE UNFEASIBILITY OF ALTERNATIVES.



"I use plastic straws because I can't hold a drink to my mouth. Plus they don't melt in hot drinks unlike compostable ones. This doesn't mean I don't care about the environment & reduce waste in other ways."
ALICE WONG, DISABILITY RIGHTS ACTIVIST

"Metal and hard plastic straws cut the mouths of disabled people quite often, plus they need to be constantly cleaned (imagine having hand tremors, lack of sensation, or dexterity). Single-use straws are the best option. Plus they started in hospitals for disabled people."
IMANI BARBARIN, DISABILITY RIGHTS ACTIVIST AND WRITER



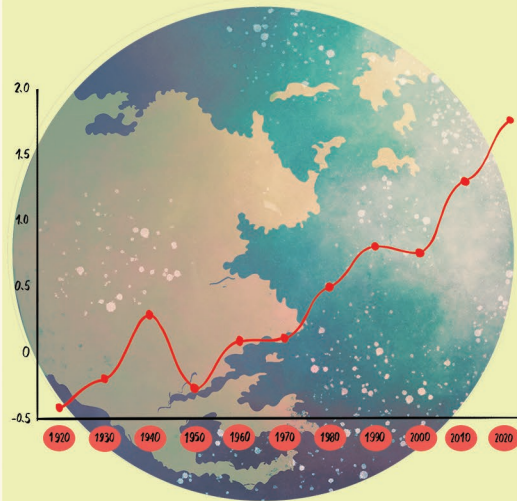
IN 2019, PRE-CHOPPED VEGETABLES WERE DEEMED WASTEFUL BY A NUMBER OF SUSTAINABILITY ADVOCATES.

SOME EVEN CALLED THESE PRODUCTS LAZY...

...EFFECTIVELY DISMISSING THE NEEDS OF PEOPLE WITH PHYSICAL LIMITATIONS...

...FOR WHOM THE PRE-CUT PRODUCE IS A MATTER OF ACCESSIBILITY.

THERE SEEMS TO BE THIS SUBCONSCIOUS BELIEF DEEPLY EMBEDDED IN OUR CULTURE THAT WE CAN SOMEHOW INDIVIDUAL-ACTION OUR WAY OUT OF A PROBLEM THAT IS OF PLANETARY PROPORTION.

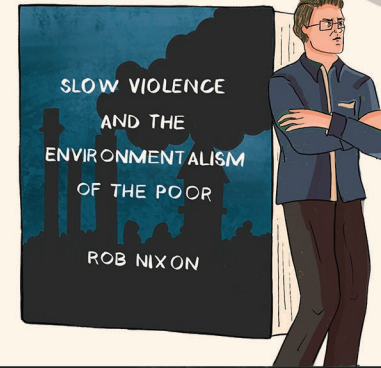


GLOBAL RISE IN TEMPERATURE (in Fahrenheit)

SOURCE: United States Environmental Protection Agency

THE INDIVIDUALISTIC ATTITUDE TOWARDS CLIMATE CHANGE OBSCURES THE DISINGENUITY OF CORPORATE GREENWASHING...

...AS WELL AS THE LONG-TERM EFFECTS OF WHAT ENVIRONMENTAL SCHOLAR ROB NIXON DESCRIBES AS "SLOW VIOLENCE," A TYPE OF STRUCTURAL VIOLENCE THAT:



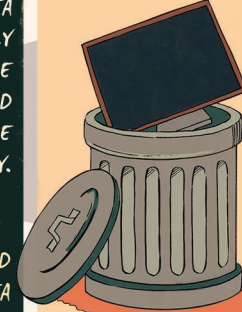
"...occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all."

ONE OF THE EXAMPLES THAT NIXON USED IN HIS BOOK WAS HOW SHELL'S PROLONGED OIL POLLUTION IN THE NIGER DELTA ADVERSELY AFFECTED THE HEALTH AND LIVELIHOODS OF THE LOCAL COMMUNITY.



BUT WHAT HAPPENED IN THE NIGER DELTA IS NOT AN ISOLATED CASE.

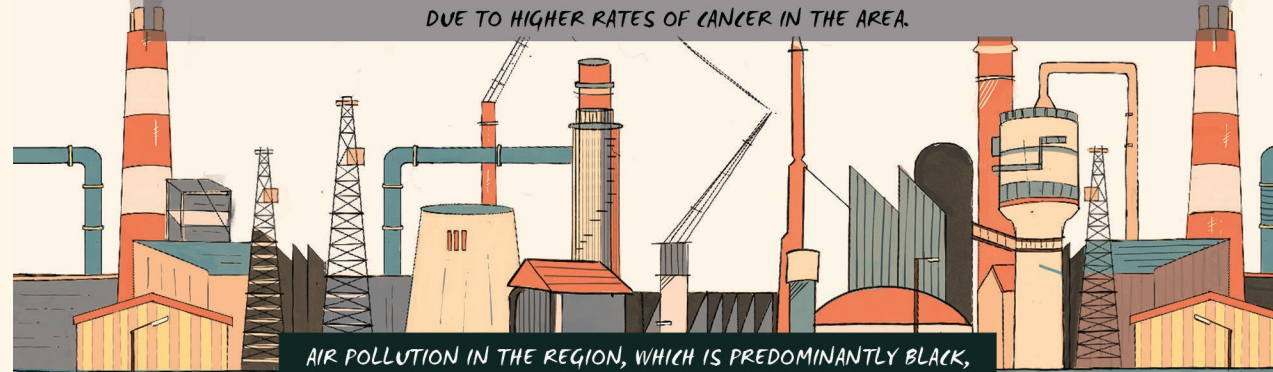
A SIGNIFICANT CHUNK OF E-WASTE PRODUCED IN THE WEST IS ILLEGALLY DUMPED IN LOW- OR MIDDLE-INCOME COUNTRIES ACCORDING TO A RECENT REPORT BY THE WORLD HEALTH ORGANIZATION.



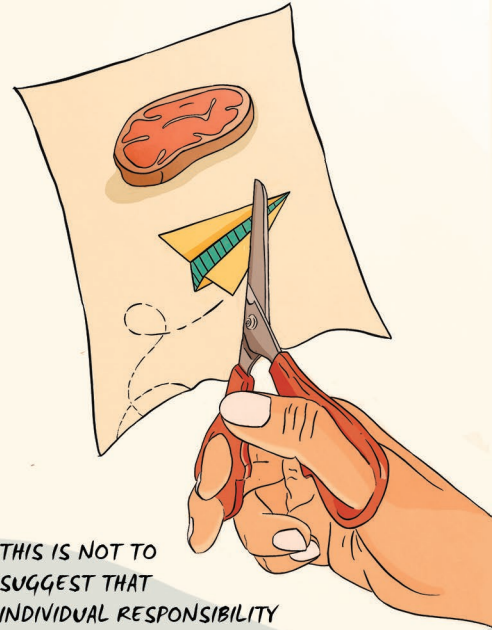
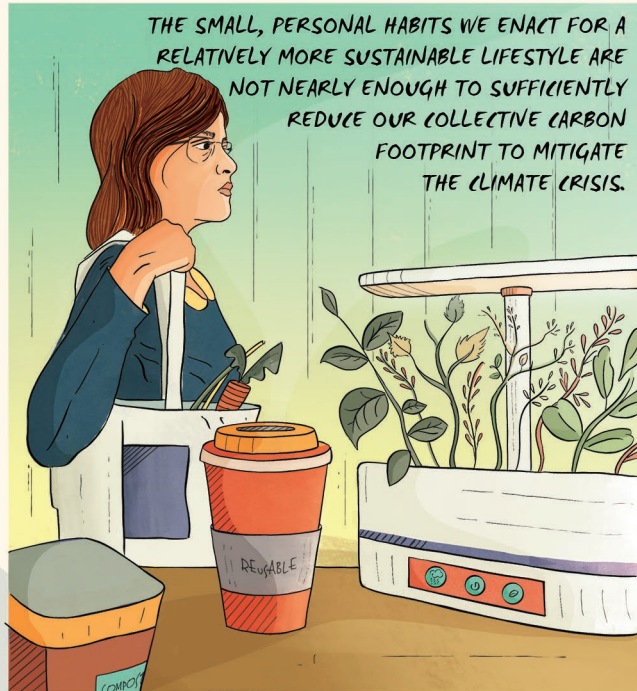
AGBGBLOSHIE, GHANA

EXPOSURE TO TOXIC E-WASTE HAS BEEN LINKED TO SEVERAL HEALTH HAZARDS INCLUDING REDUCED LUNG FUNCTION, DNA DAMAGE, AS WELL AS INCREASED RISK OF CANCER AND CARDIOVASCULAR DISEASE.

WITHIN THE UNITED STATES, AN 85-MILE STRETCH ALONG THE MISSISSIPPI RIVER THAT COMPRISES OVER 150 PETROCHEMICAL PLANTS HAS BEEN DUBBED "CANCER ALLEY" DUE TO HIGHER RATES OF CANCER IN THE AREA.

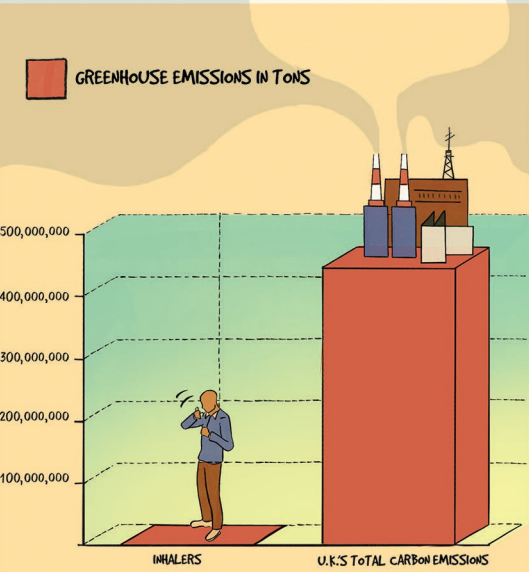


AIR POLLUTION IN THE REGION, WHICH IS PREDOMINANTLY BLACK, IS 95% HIGHER THAN THE REST OF THE COUNTRY.

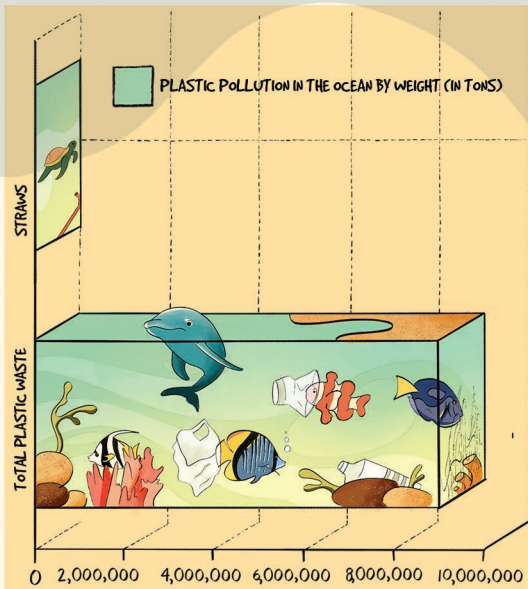


THIS IS NOT TO SUGGEST THAT INDIVIDUAL RESPONSIBILITY IS NOT USEFUL. REDUCING FAST FASHION, TRAVEL, PLASTIC, USE AND MEAT CONSUMPTION CAN BE EFFECTIVE WAYS TO REDUCE OUR INDIVIDUAL CARBON FOOTPRINT.

ESPECIALLY CONSIDERING THAT: "Over half of global industrial emissions... can be traced to just 25 corporate and state producing entities" (GDP Carbon Majors Report 2017)



BUT EMISSIONS FROM ASTHMA INHALERS IN THE UNITED KINGDOM MAKE UP ONLY 0.14% OF THE NATION'S TOTAL CARBON EMISSIONS.



PLASTIC STRAWS MAKE UP ONLY ABOUT 0.02% OF PLASTIC WASTE IN THE OCEAN.



THE CALL FOR INDIVIDUAL ACTION, APART FROM BEING STATISTICALLY INADEQUATE, ALSO IGNORES HOW EXPENSIVE "SUSTAINABLE" LIFESTYLES CAN BE.



HOW CAN WE ESPOUSE ENVIRONMENTAL JUSTICE WITHOUT CONSIDERING THAT THE VERY QUESTION OF ETHICAL CONSUMPTION IS COMPLICATED BY SOCIOECONOMIC INEQUALITY?

BE GAY DO COMICS!

A 250-page anthology of queer comics from *The Nib* showcasing our best history, memoir, and satire from LGBTQ artists.

Featuring:

Hazel Newlevant
Matt Lubchansky
Maia Kobabe
Shing Yin Khor
Joey Alison Sayers
Breena Nuñez
Kazimir Lee

And many, many more!

2020
IGNATZ AWARD WINNER
OUTSTANDING ANTHOLOGY



Order online at thenib.com/books

Living Soil

Whitney Bauck &
Madeleine Jubilee Saito

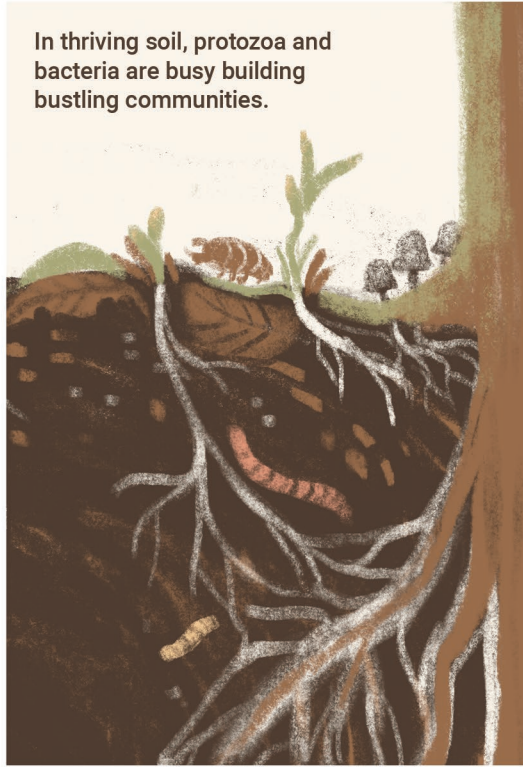
"I wonder if much that ails our society stems from the fact that we have allowed ourselves to be cut off from that love of, and from, the land."

— Robin Wall Kimmerer, scientist and author, from *Braiding Sweetgrass*

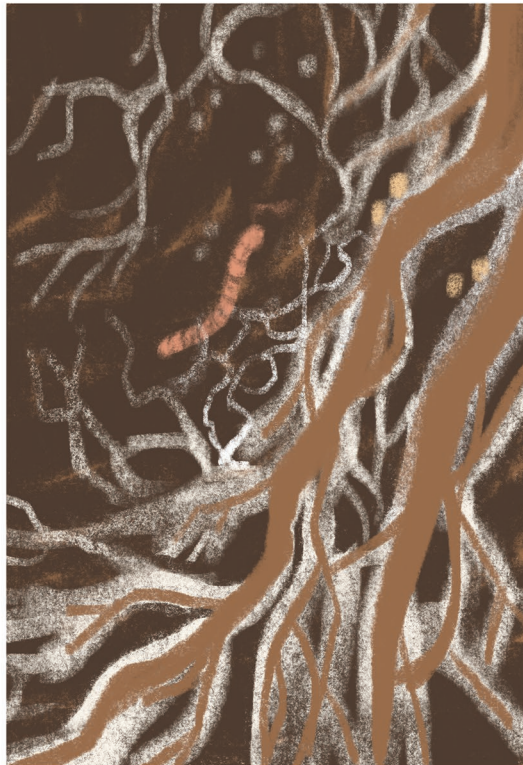
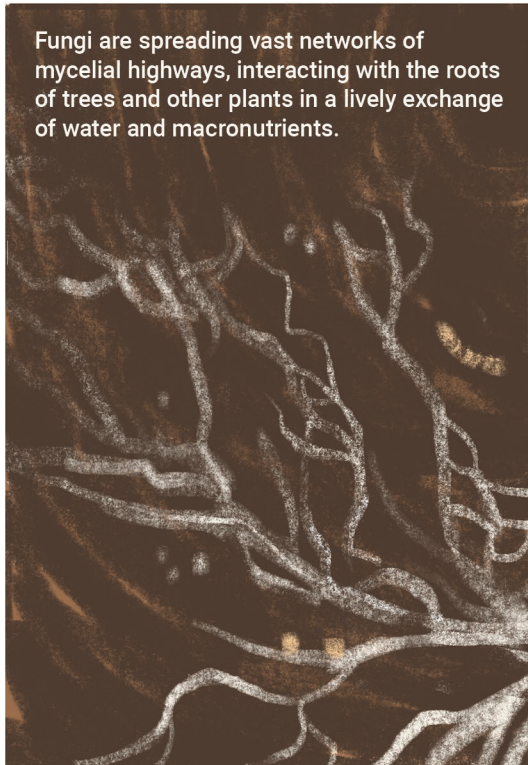
Have you ever stopped to consider the ground beneath your feet? When soil is healthy, it's a living universe all its own, teeming with life.



In thriving soil, protozoa and bacteria are busy building bustling communities.



Fungi are spreading vast networks of mycelial highways, interacting with the roots of trees and other plants in a lively exchange of water and macronutrients.



Most of what we eat, whether flora, fauna, or fungi, ultimately derives its nutrients — if you go back far enough along the food chain — from soil.



Our bodies string together iron and boron and calcium to build bone and sinew.



Eventually, soil's nutrients literally become our bodies —



Become us.



And at the end of our lives, the nutrients will return to the land from which they came. Dust to dust, soil to soil.

When we die, we join the dry leaves, the broken-winged bird, the insect husk, the fallen log, the deer droppings.

With the help of soil's microorganisms, we become soil ourselves.

In this way, soil works as one of the most deeply redeeming forces in the world.

It takes death, rot, disintegration, and excrement and turns them into the rich matrix from which fertility and new life can emerge.



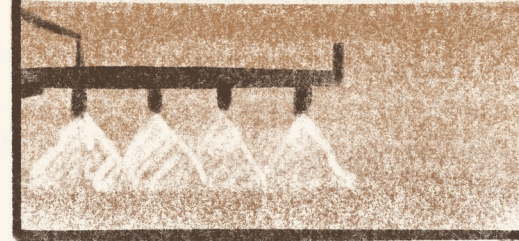
"This slow work of growth and death, gravity and decay... is the chief work of the world. All creatures die into it, and they live by it."



– Wendell Berry, farmer, poet, and essayist, in "The Work of Local Culture"

Despite our deep dependence on soil, its well-being is often disregarded.

Industrial agriculture douses the ground in synthetic pesticides derived from petrochemicals, killing off the vital microbiome that gives soil its natural resilience and fertility.

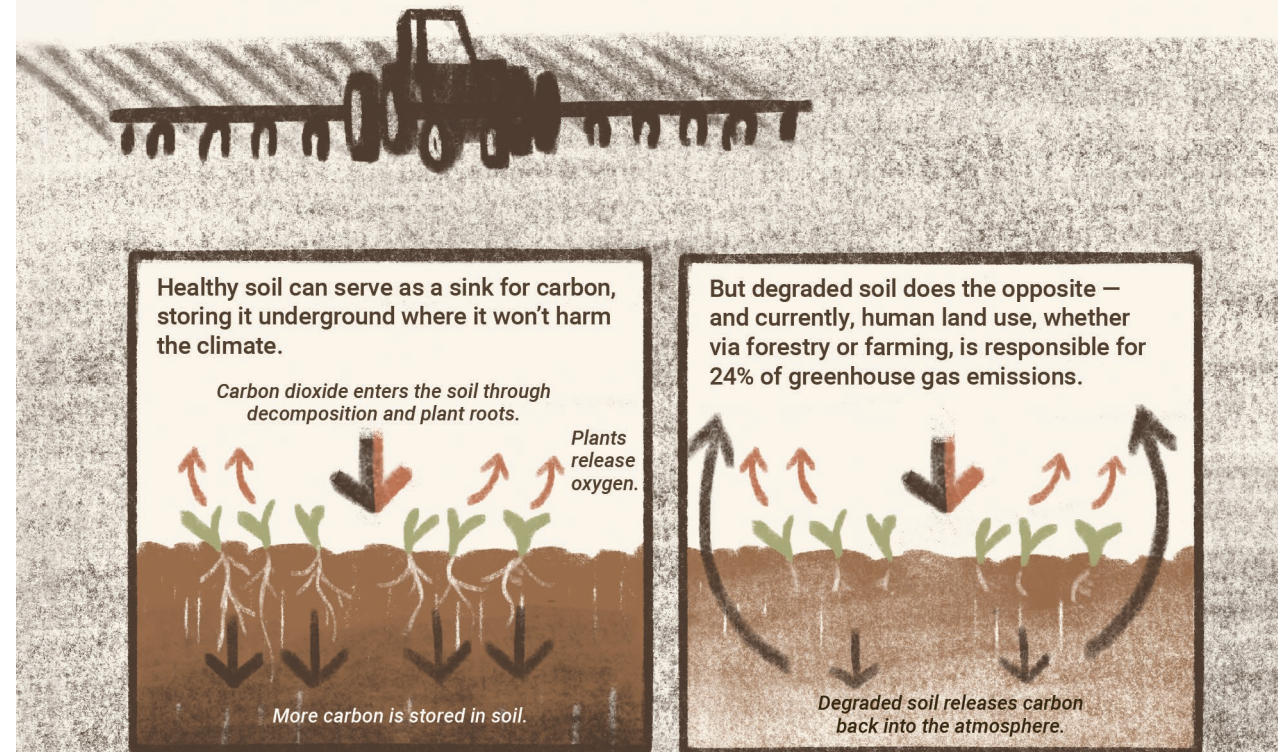


It tills soil when it should be left alone, leading to erosion and limiting soil's ability to absorb water.

And it overuses soil – pushing it to produce more quickly than it can replenish itself, not allowing time for the nutrients and organic matter that make soil rich to rejoin it.



It can take years to build one inch of topsoil. And it's being destroyed faster than it can be replaced: Each year, soil erosion costs us around 25 million acres of cropland worldwide.



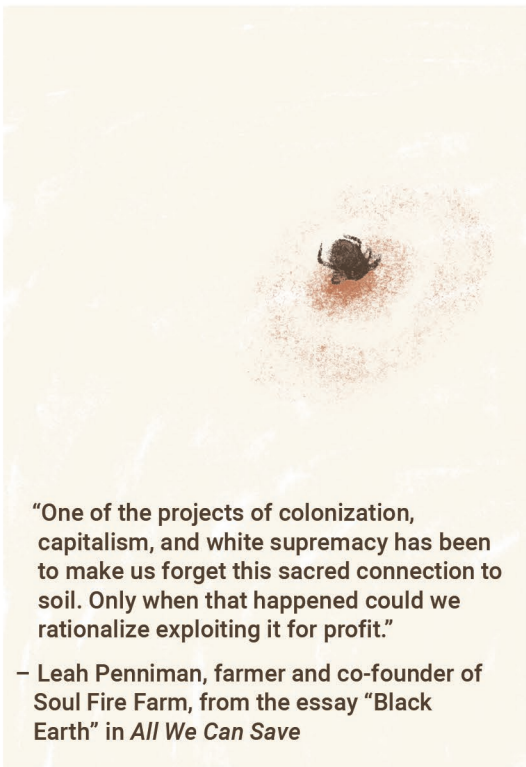
All of these practices arise from a vision of soil as an unlimited resource.

Extractive capitalism gives its practitioners the mindset of the parasite:



The host seems unimaginably vast; the depletion of the host's resources is just the necessary cost of doing business to sustain endless growth.

In this framework, soil is a thing to be extracted from — and when it is used up, the parasite detaches and moves on.



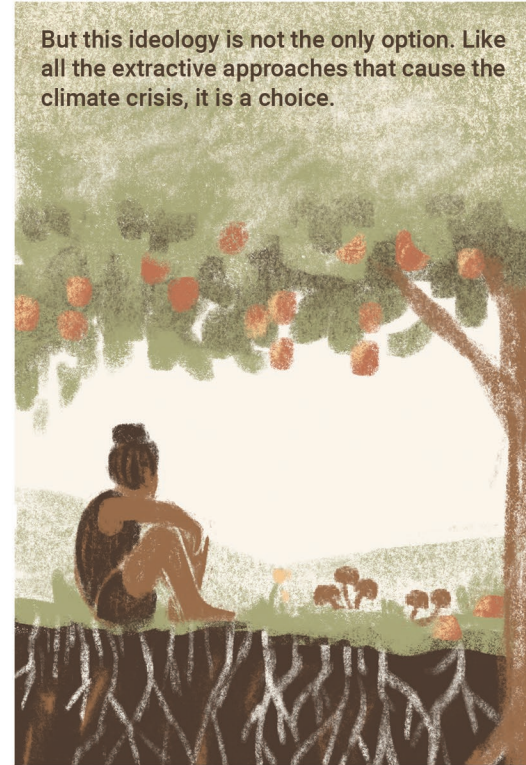
“One of the projects of colonization, capitalism, and white supremacy has been to make us forget this sacred connection to soil. Only when that happened could we rationalize exploiting it for profit.”

— Leah Penniman, farmer and co-founder of Soul Fire Farm, from the essay “Black Earth” in *All We Can Save*



“We need to take all heavy industry, all polluting industry, and move it into space.”

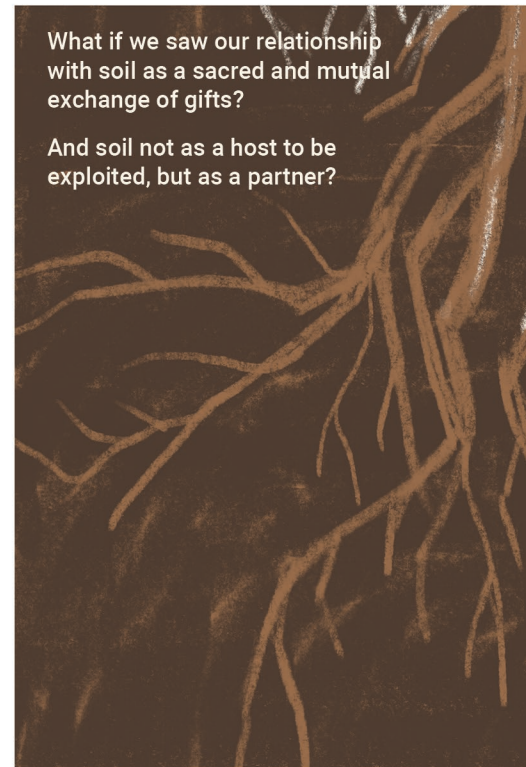
— Jeff Bezos, billionaire and Amazon founder, in an interview with NBC in July 2021



But this ideology is not the only option. Like all the extractive approaches that cause the climate crisis, it is a choice.

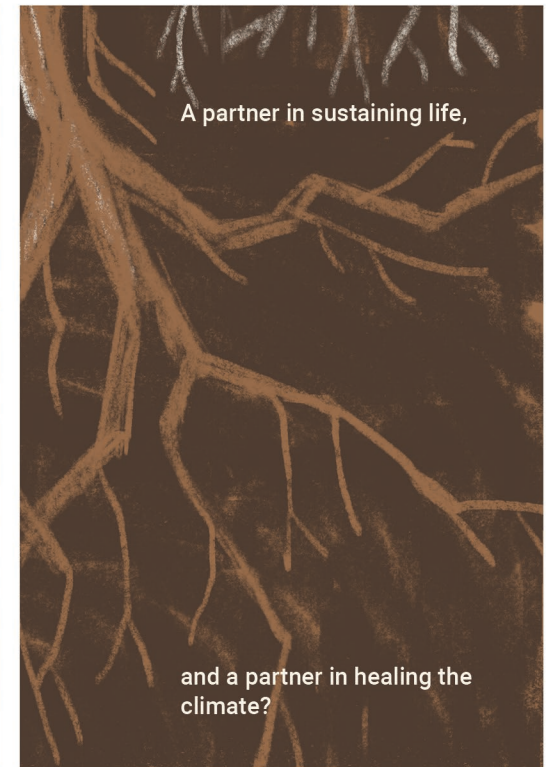


What if we made a different choice?



What if we saw our relationship with soil as a sacred and mutual exchange of gifts?

And soil not as a host to be exploited, but as a partner?



A partner in sustaining life,

and a partner in healing the climate?

Some farmers are choosing this other path — cultivating ways of relating to soil that are not exploitative and extractive, but allow for mutual flourishing.

Whether via regenerative agriculture, reclaiming Indigenous traditions, or a host of other land management practices that go by a variety of names, these farmers are drawing on ancient knowledge to grow plants for food, fiber, medicine, and more in a way that honors the needs of the whole ecosystem — including soil.

These farmers are devoted to soil health and sequestering carbon in the soil. Practices that are better for the soil also make agriculture an active part in climate solutions.

Carbon dioxide

Oxygen

Carbon

Around the world, farms are springing up that reimagine conventional agriculture by centering soil as a partner, not just a resource.

Red Hook Initiative, New York

Leah Penniman describes an admonishment from the Queen Mothers of Odumase Krobo, Ghana:

“How can it be that you Americans put a seed in the ground, and you do not pray, sing, dance, or pour libations, and you expect the Earth to feed you?”

The Earth is a relative, not a commodity.”

Their practices also protect against floods, as regeneratively farmed land can absorb as much as eight times more water than conventionally farmed land.

They rotate crops to give soil a chance to replenish nutrients depleted by one kind of plant with nutrients provided by another.

Penniman is the co-founder and manager at Soul Fire Farm. Soul Fire is one of many — like Sylvanaqua Farms and the Red Hook Initiative — that are centering racial justice and equity in their pursuit of a healing relationship with soil.

They’re building mutual flourishing with soil in a way that also cultivates justice in their communities — uprooting racism and building food sovereignty.

Soul Fire Farm, New York

They avoid excessive tillage of fields to allow the microscopic organisms in soil to go about their lives without their universes being repeatedly turned upside down.

Worms aerate the soil.

Cover crops crowd out weeds.

Happy micro-organisms and carbon stay underground.

Rooted in Indigenous practices, silvopasture integrates trees and animals into a growing system, recognizing that diverse species enrich ecosystems. Animals move through the land, eating insects and fertilizing soil with their droppings.



Sylvanaqua Farms, Virginia

Moving toward a relationship with soil that sustains it and us will mean letting some of our current practices die:

Releasing patterns of consumption that result in food and fiber for clothes being tossed as waste into bloating landfills.



Moving beyond reliance on fossil-fuel-based fertilizers and pesticides.



Rewriting the policies that provide subsidies for abusive land and labor practices.



The death of these ways of being will make way for new things to grow.

With the old stories about extraction and domination thrown on the compost heap, we can slowly metabolize our way to a new world —



One in which soil, and everything that lives above it, can thrive.



BOOKS ARE IN YOUR NATURE.

If getting lost in a mountain of comics, books, and magazines is your natural state of being, it's time to answer the call of the wild.

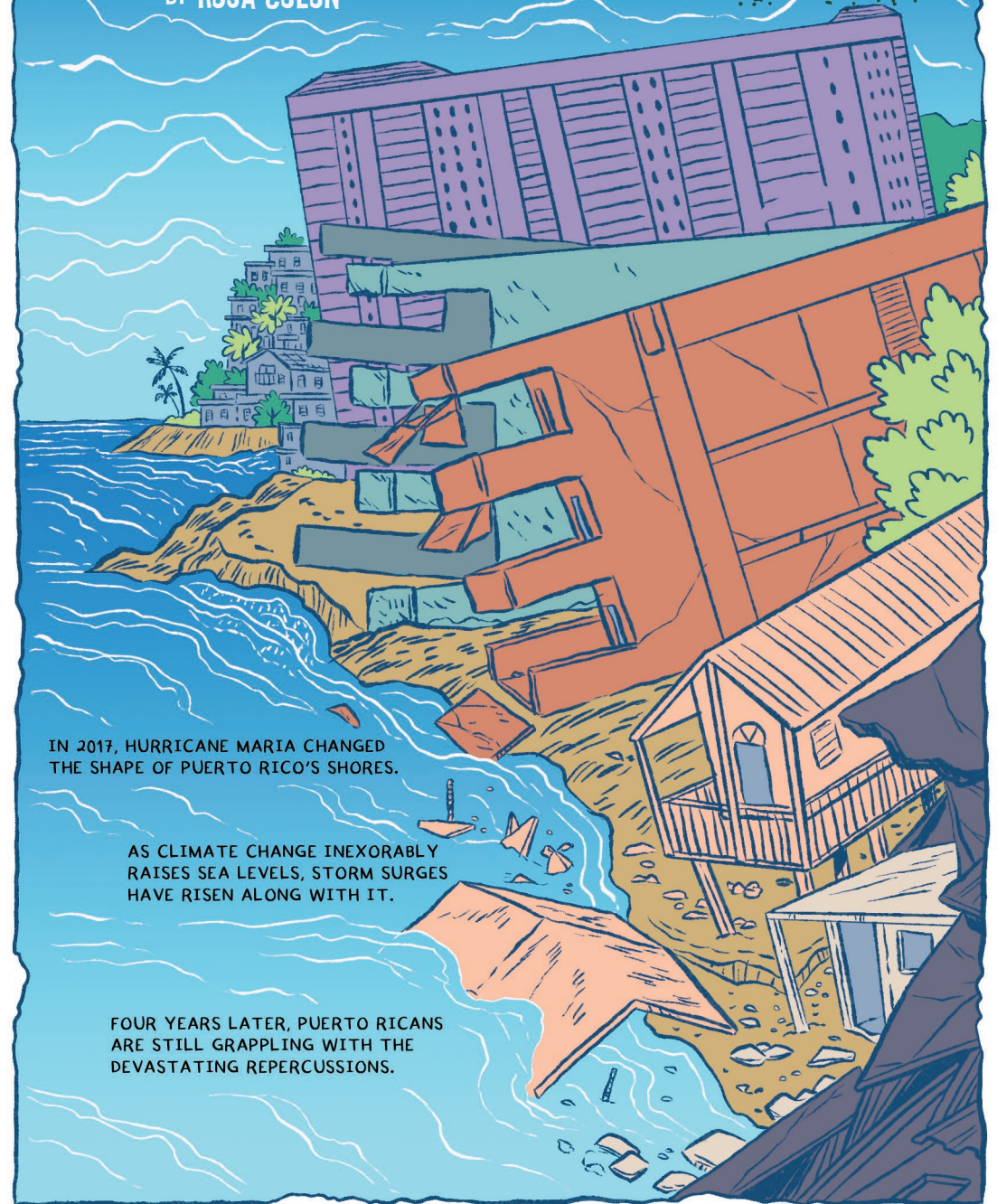
Visit our online bookstore for back issues of *The Nib* magazine and stacks of nonfiction comics and graphic novels curated by our editors at thenib.com/books.



Illustration by Maria Stoian

COASTAL COLLAPSE

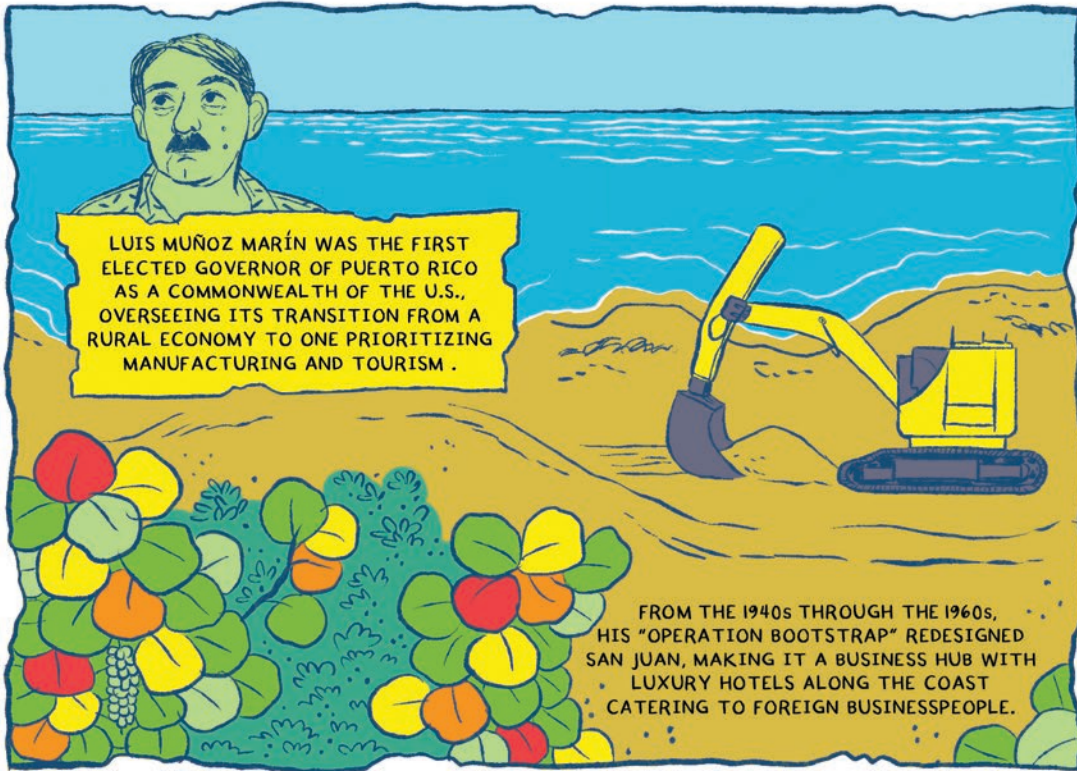
BY ROSA COLÓN



IN 2017, HURRICANE MARIA CHANGED THE SHAPE OF PUERTO RICO'S SHORES.

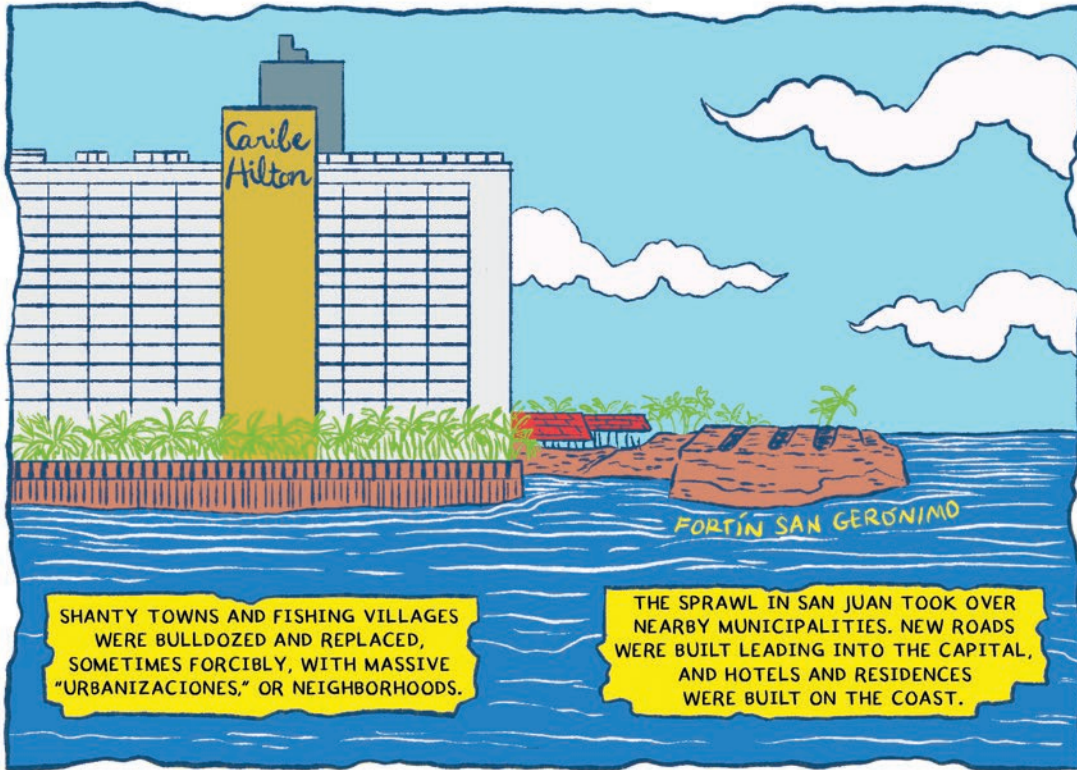
AS CLIMATE CHANGE INEXORABLY RAISES SEA LEVELS, STORM SURGES HAVE RISEN ALONG WITH IT.

FOUR YEARS LATER, PUERTO RICANS ARE STILL GRAPPLING WITH THE DEVASTATING REPERCUSSIONS.



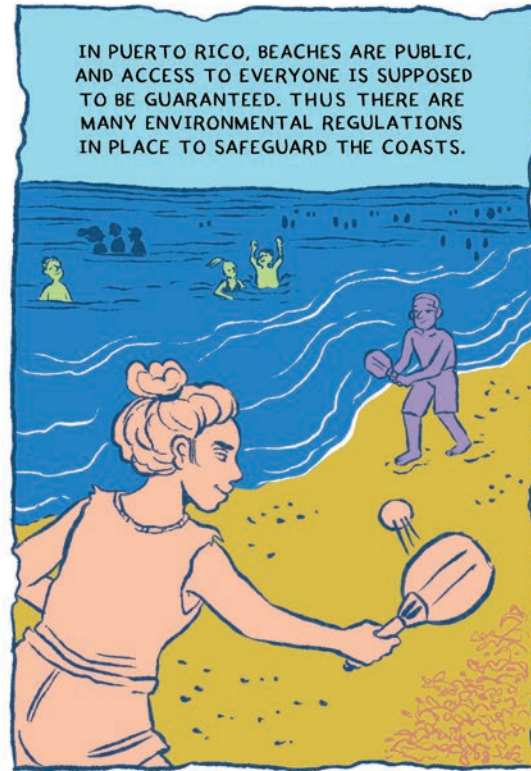
LUIS MUÑOZ MARÍN WAS THE FIRST ELECTED GOVERNOR OF PUERTO RICO AS A COMMONWEALTH OF THE U.S., OVERSEEING ITS TRANSITION FROM A RURAL ECONOMY TO ONE PRIORITIZING MANUFACTURING AND TOURISM.

FROM THE 1940s THROUGH THE 1960s, HIS "OPERATION BOOTSTRAP" REDESIGNED SAN JUAN, MAKING IT A BUSINESS HUB WITH LUXURY HOTELS ALONG THE COAST CATERING TO FOREIGN BUSINESSPEOPLE.



SHANTY TOWNS AND FISHING VILLAGES WERE BULLDOZED AND REPLACED, SOMETIMES FORCIBLY, WITH MASSIVE "URBANIZACIONES," OR NEIGHBORHOODS.

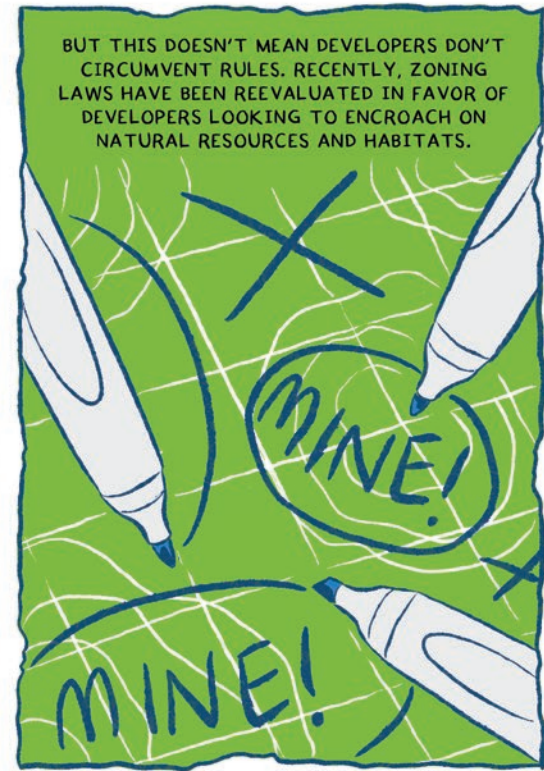
THE SPRAWL IN SAN JUAN TOOK OVER NEARBY MUNICIPALITIES. NEW ROADS WERE BUILT LEADING INTO THE CAPITAL, AND HOTELS AND RESIDENCES WERE BUILT ON THE COAST.



IN PUERTO RICO, BEACHES ARE PUBLIC, AND ACCESS TO EVERYONE IS SUPPOSED TO BE GUARANTEED. THUS THERE ARE MANY ENVIRONMENTAL REGULATIONS IN PLACE TO SAFEGUARD THE COASTS.



PUERTO RICO IS AN ARCHIPELAGO, WHICH MEANS ITS VERY BORDERS ARE VULNERABLE TO THE EFFECTS OF CLIMATE CHANGE. COASTAL EROSION BROUGHT BY RISING SEA LEVELS AND STRONG HURRICANES HAS REDRAWN THE NORTHERN COAST. IN RINCON, BUILDINGS THAT COLLAPSED INTO THE OCEAN DURING MARIA STILL LIE IN RUINS.

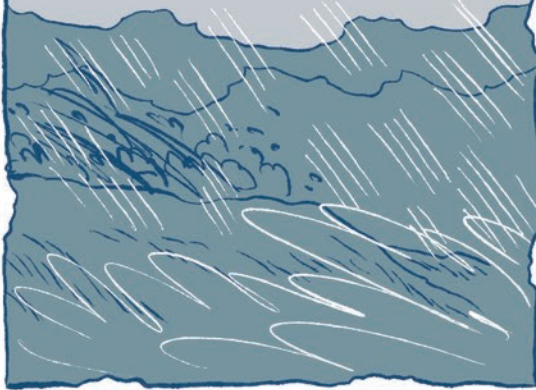


BUT THIS DOESN'T MEAN DEVELOPERS DON'T CIRCUMVENT RULES. RECENTLY, ZONING LAWS HAVE BEEN REEVALUATED IN FAVOR OF DEVELOPERS LOOKING TO ENCRANCH ON NATURAL RESOURCES AND HABITATS.



NEARBY, ZONING PERMITS HAVEN'T CAUGHT UP TO THE NEW COASTLINE, AND THE PUBLIC BEACH NOW OVERLAPS WITH THE RUINS OF A RESIDENTIAL POOL. ACTIVISTS ARE CURRENTLY FIGHTING TO SAVE CAREY TURTLE NESTS FROM THE CONSTRUCTION SITE AS THE PROPERTY OWNERS ATTEMPT TO REBUILD.

BUT IT'S NOT JUST THE BIG CATAclysmic HURRICANES THAT EAT AWAY AT THE COASTS AND INFRASTRUCTURE OF PUERTO RICO.



IN MANY PLACES ON THE ISLAND, COMMUNITIES ARE BUILT ON HIGH BLUFFS ABOVE THE BEACHES. BUT RISING WATER CAN CHIP AWAY AT THE POROUS CLIFFS, CAUSING THE TOP LEVELS TO FALL.



ARECIBO IS ONE OF THE MUNICIPALITIES HIT HARDEST BY BLUFF EROSION. THE ELECTION OF A NEW MAYOR, CARLOS RAMIREZ, HAS BROUGHT SOME HOPE.



HE'S ESTABLISHED A COMMITTEE TO PLAN FOR AND MITIGATE THE PROBLEM, BUT CHANGE IS SLOW IN COMING.



BLUFF EROSION HAS BEEN THE CAUSE OF COLLAPSES IN ARECIBO, DORADO, AND SAN JUAN.



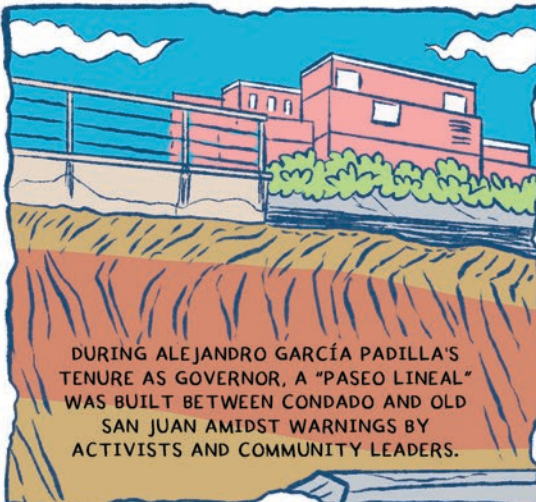
PART OF THE PROBLEM IS THAT WE KEEP BUILDING IN PLACES THAT WE KNOW ARE VULNERABLE TO CLIMATE CHANGE.



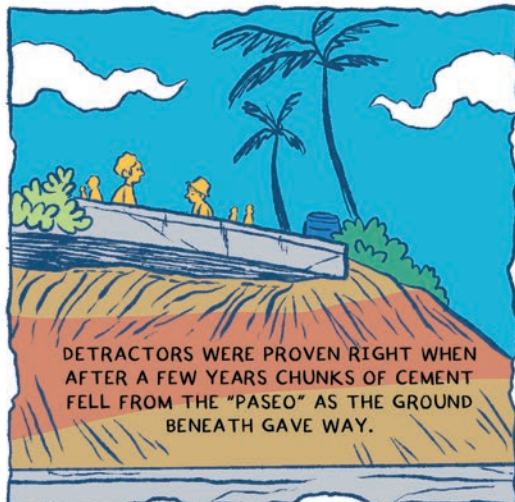
COMMUNITIES IN ARECIBO AND DORADO HAVE BEEN LEFT TO THEIR OWN DEVICES FOR SO LONG THAT THEY'VE RESORTED TO THROWING DEBRIS AND CONSTRUCTION MATERIALS DOWN THE SHARP INCLINES.



IT'S A DESPERATE EFFORT TO STAVE OFF THE CLIFF COLLAPSES THAT THREATEN THEIR HOMES.



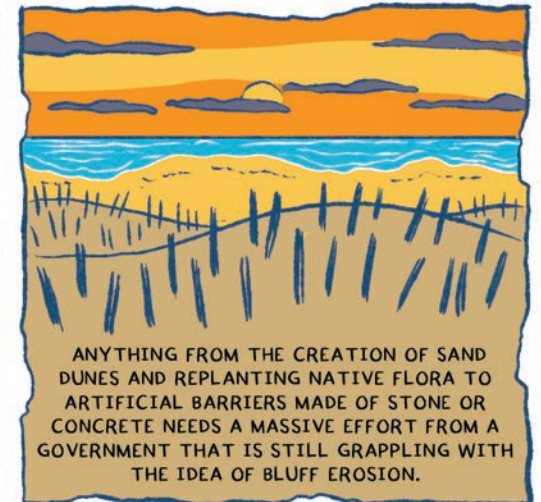
DURING ALEJANDRO GARCÍA PADILLA'S TENURE AS GOVERNOR, A "PASEO LINEAL" WAS BUILT BETWEEN CONDADO AND OLD SAN JUAN AMIDST WARNINGS BY ACTIVISTS AND COMMUNITY LEADERS.



DETRACTORS WERE PROVEN RIGHT WHEN AFTER A FEW YEARS CHUNKS OF CEMENT FELL FROM THE "PASEO" AS THE GROUND BENEATH GAVE WAY.



TRUE MITIGATION EFFORTS ARE COST-PROHIBITIVE AND WOULD BANKRUPT MUNICIPALITIES.



ANYTHING FROM THE CREATION OF SAND DUNES AND REPLANTING NATIVE FLORA TO ARTIFICIAL BARRIERS MADE OF STONE OR CONCRETE NEEDS A MASSIVE EFFORT FROM A GOVERNMENT THAT IS STILL GRAPPLING WITH THE IDEA OF BLUFF EROSION.

"IT'S INTERESTING, THE CONTRASTS BETWEEN DORADO VERSUS ARECIBO, IN BOTH PLACES THEY ARE THROWING DEBRIS IN INFORMAL MITIGATION MEASURES. IN BARRIO OBRERO (ARECIBO) THEY DO IT TO SURVIVE, BUT IN DORADO IT'S TO PROTECT SECONDARY RESIDENCES WHICH ARE USED FOR AIRBNBs"



RAFAEL R. DÍAZ TORRES
CENTRO DE PERIODISMO INVESTIGATIVO



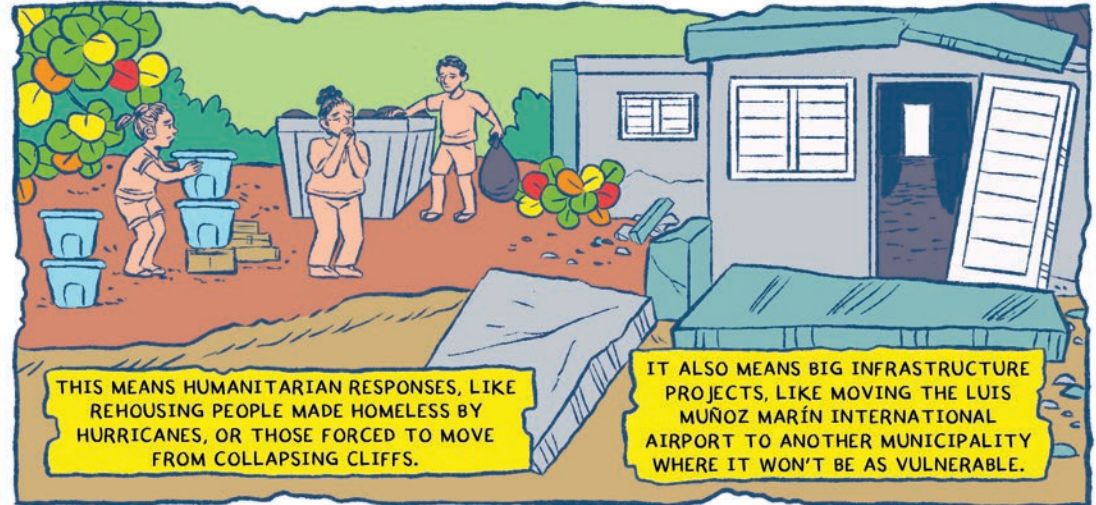
PREDICTABLY, THE EFFORTS TO CURB COASTAL AND BLUFF EROSION VARY FROM WEALTHY NEIGHBORHOODS TO POORER COMMUNITIES.

Come to
PUERTO RICO

THE U.S. ARMY CORPS OF ENGINEERS HAS A 50-YEAR PLAN TO PRESERVE BEACHES IN CONDADO AND OCEAN PARK AND TO PLACE STONE REVETMENT IN RINCÓN, ALL AFFLUENT AND TOURIST-FRIENDLY PLACES. BUT IN PUERTO RICO, THE COASTLINE DOESN'T END WHERE THE TOURIST DOLLARS DO. STONE REVETMENT HOLDS UP FOUNDATIONS BUT LEAVES THE SAND UNPROTECTED.

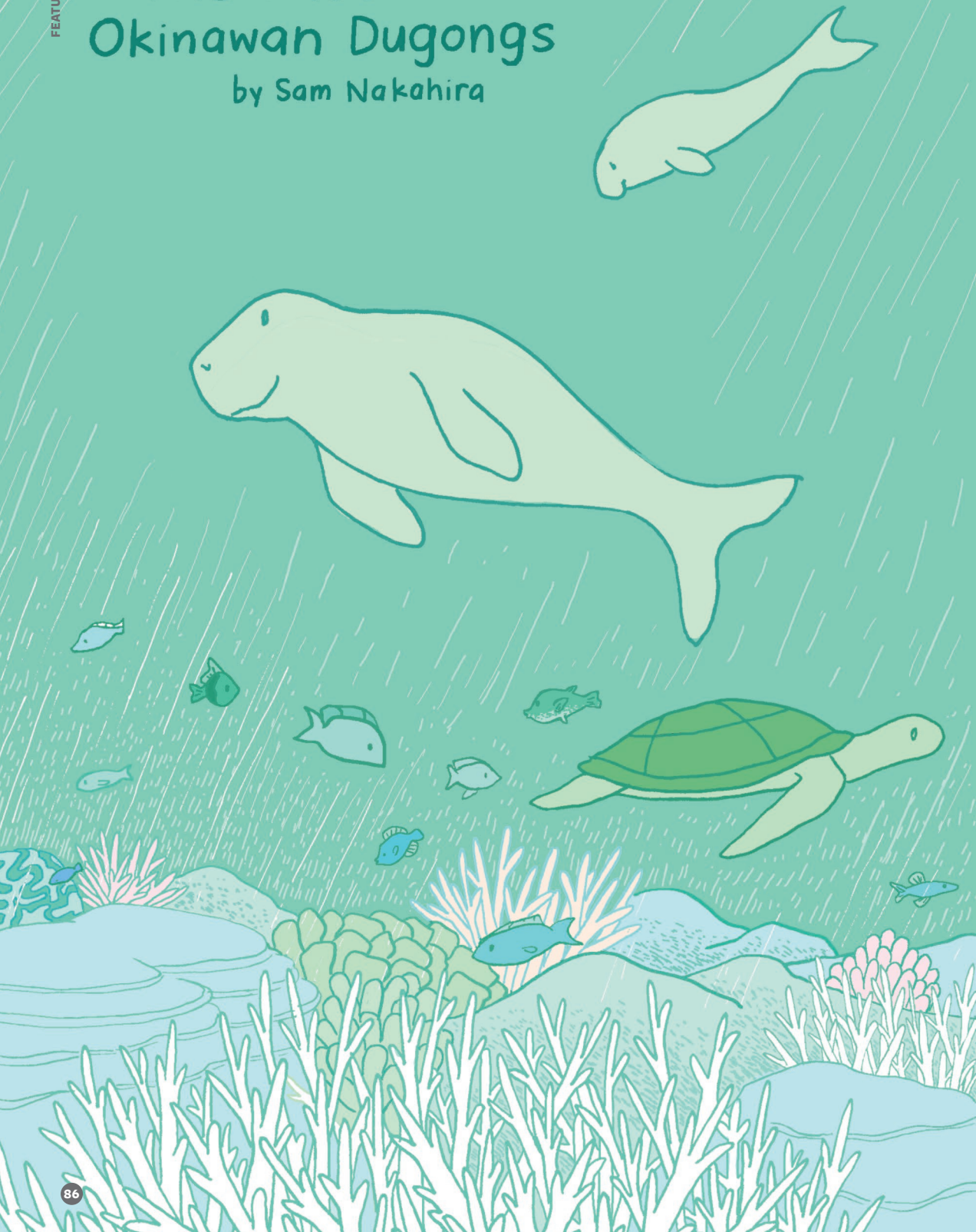
PUERTO RICO

CREATING DUNES AND REPLANTING NATIVE PLANTLIFE HELP, BUT IT'S NOT A LONG-TERM SOLUTION. THE FEDERAL GOVERNMENT IS EXPECTED TO PAY FOR HALF OF THIS PROJECT. WHERE PUERTO RICO WILL FIND THE REST OF THE FUNDS IS, AS USUAL, UP IN THE AIR.

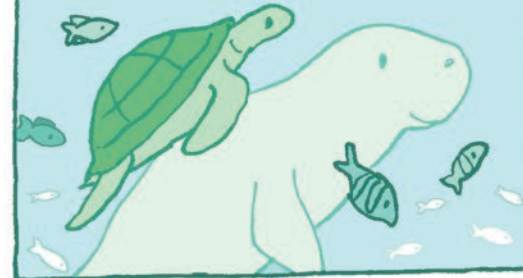


The Last Okinawan Dugongs

by Sam Nakahira



The Okinawa dugong is a gentle sea mammal, revered by its fellow sea creatures and also treasured by the Ryukyuan people/Uchinaanchu, indigenous to Okinawa.



In the Ryukyuan people's ancient folktales and mythology, it is said that the gods from Niraikanai (afar) travelled to Okinawa by riding on the backs of the dugongs.



For thousands of years, the dugong thrived together with indigenous Uchinaanchu.

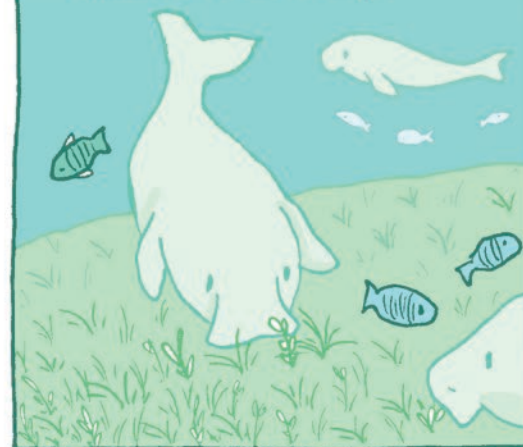


Robert Kajiwara, director of the Peace for Okinawa Coalition

"Only in recent times, under the U.S. and Japanese occupation, has the dugong become endangered."



Fewer than 50 dugongs live in Okinawa's waters today.



The Japanese government estimated that between 2009 and 2013 the population has potentially dwindled down to only 3 dugongs.

Okinawa's Henoko-Oura Bay, the last remaining habitat for the Okinawa dugongs, was once called the Galápagos of the East.



But, to make way for their Henoko base in 2018, the U.S. military destroyed and dumped landfill into the bay, killing off the coral reefs, the seagrass that the dugong live off, and over 5,300 marine species.

Under the U.S. military occupation, the indigenous Ryukyuan people and wildlife are facing displacement and destruction of their homes, noise and soil pollution, and contaminated waterways.

Our beautiful, tropical ecosystem, with all of its internationally proclaimed and protected biodiversity, was to soon be crushed, destroying coral and marine life.



Moé Yonamine,
high school
teacher and
activist

"This, despite the overwhelming opposition of Indigenous island people. I began to cry as I held up my protest sign."



Okinawa was an independent kingdom prior to annexation by Japan in 1879 and is still home to the indigenous Ryukyuan.



After WWII, the U.S. government stole Okinawan land for the U.S. military to establish their own bases to "protect" the islands in 1945.



The landfill that the U.S. military is using to build their latest base has been taken from burial grounds of Ryukyuan civilians and Ryukyuan, Korean, and Taiwanese conscripts who were forced by imperial Japan to fight and die at the hands of American soldiers during the Battle of Okinawa.



The group Okinawa Women Act Against Military Violence argues that the military occupation is a violation of human rights.

Since the Battle of Okinawa in 1945, U.S. soldiers have committed sexual violence against hundreds of local women and underage girls, many cases of which have not been prosecuted.

Thousands of Ryukyuan people regularly protest the military's violence and call for a complete withdrawal of U.S. troops.



So many lives are being sacrificed to preserve the U.S.-Japan security alliance. One must question, whose security is being protected?



Maybe if you live in the U.S., it's hard to imagine, but living on a small island like Okinawa, the physical reality is there.



Hideki Yoshikawa, anthropologist and director of the Save the Dugong Campaign Center

"We have a beautiful environment, but in the same area, we also have military bases. Environmental protection is part of the peace movement. If you want to create a peaceful world, you have to protect the environment."



The fight to protect the dugong from extinction has become a symbol of the Ryukyuan people's struggle against American and Japanese imperialism.



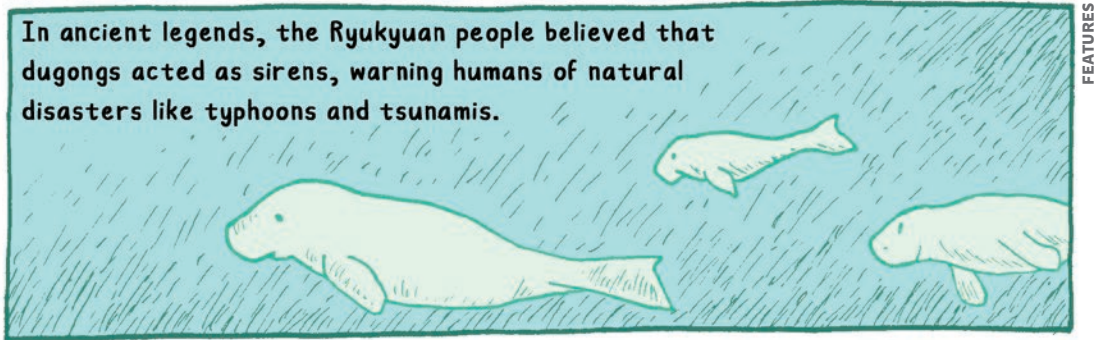
In 2003, four Japanese and American environmental groups and three Okinawan individuals sued the U.S. military for their Henoko base expansion plans, invoking the National Historic Preservation Act to protect the Okinawa dugong.



In 2020, the U.S. 9th Circuit Court of Appeals ruled in favor of the Pentagon and U.S. military bases, reaffirming previous rulings. The Okinawa dugong did not qualify for protection as a symbol of culture because the court did not understand the animal's cultural and historic importance.



In ancient legends, the Ryukyuan people believed that dugongs acted as sirens, warning humans of natural disasters like typhoons and tsunamis.



I believe our dugongs are warning us that this sea will no longer provide us with such abundance if the base is constructed.

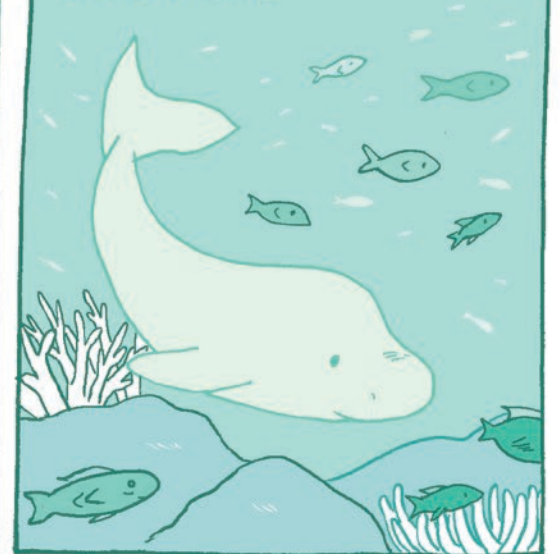


Takuma Higashionna, an Okinawa scuba diving guide and plaintiff in the lawsuit against the U.S. military base

As the world's largest polluter, the U.S. military currently operates around 800 bases. Areas under occupation face similar problems to Okinawa.



Connected by the same ocean, somany communities and marine creatures around the world suffer from the loss of life and ancestral homes.



CHANGING ECONOMIES

NOT QUITE NOTICED

WEEDS, BRAMBLES, PIONEERS

CRACKS IN THE HARD GROUND

CLOSING

PALE GREEN THINGS

CREEPING IN AT THE EDGES



\$TRIPS

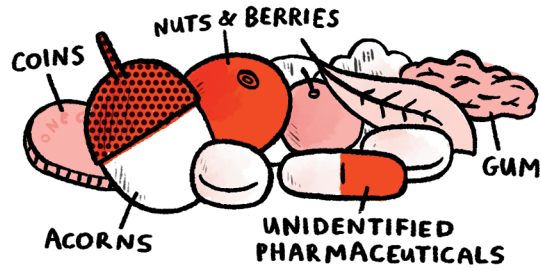
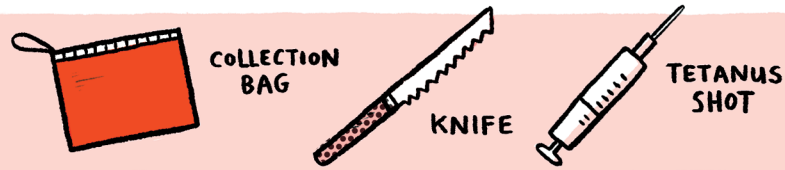


A BEGINNER'S GUIDE TO

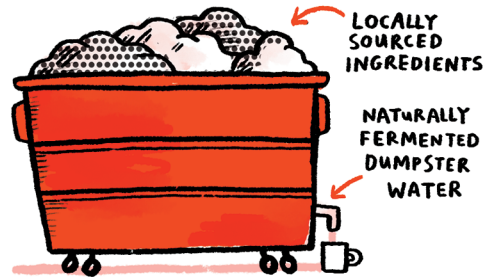
URBAN FORAGING

DISCOVER THE CORNUCOPIA OF DELICIOUS TREATS THAT MOTHER NATURE HAS PROVIDED - RIGHT OUTSIDE YOUR FRONT DOOR!

YOU WILL NEED:



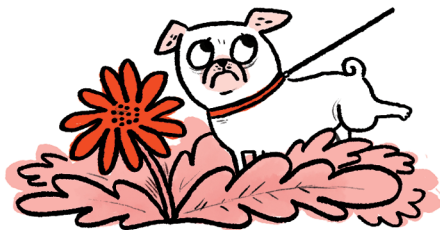
"NATURE'S CANDY"



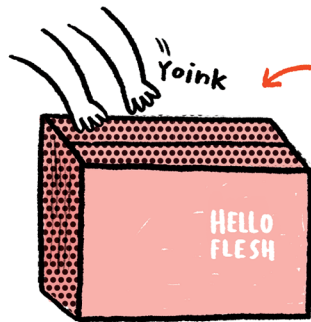
BREW YOUR OWN KOMBUCHA!



A WIDE SELECTION OF ALTERNATIVE MILKS



A VARIETY OF EDIBLE* WEEDS THAT MAY OR MAY NOT HAVE BEEN PEED ON * PROBABLY?



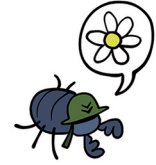
YOUR NEIGHBOR'S MEAL KIT DELIVERY BOX





KUPER

The modern world's days are up! It's time for an old hand to show them how to run the wagon train.

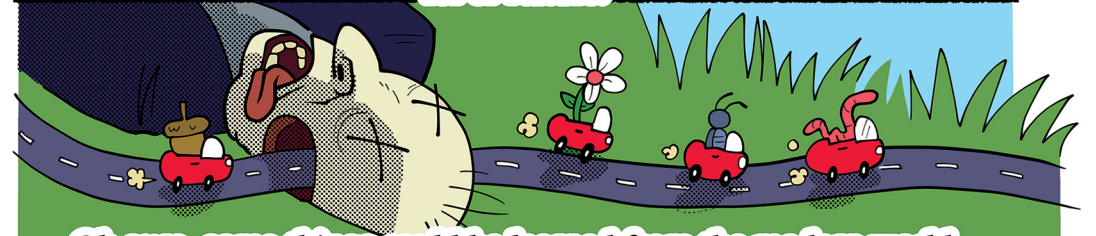
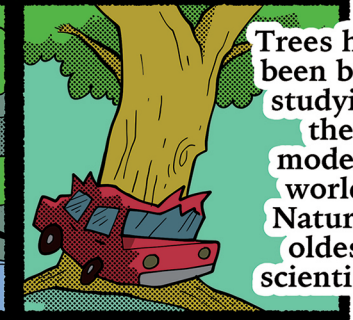
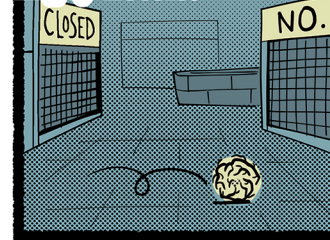


Yes, the steady and ever-growing hand of...



NATURE!

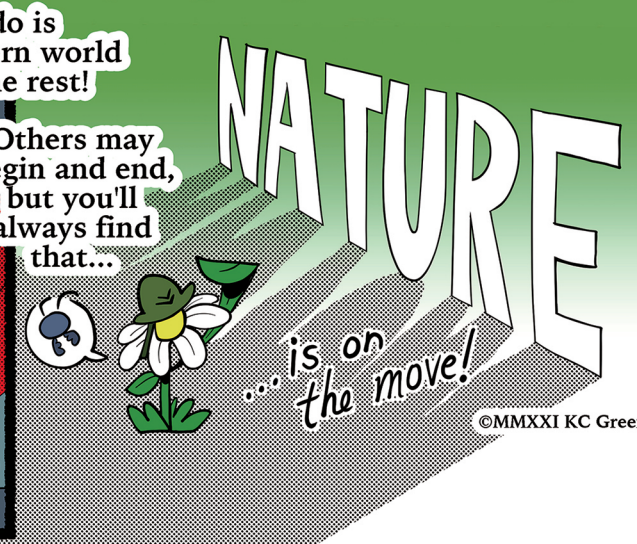
Dead malls? Empty hotels?



Oh sure, some things could be learned from the modern world, like the use of roads and highways to speed up Nature's natural growth!

All we gotta do is wait out the modern world and they'll do the rest!

Others may begin and end, but you'll always find that...



©MMXXI KC Green

POV: YOU ARE ME IN THE YEAR 2002

▶MATTIE LUBCHANSKY

GRIFFIN WANTS TO GO ON A WALK IN THE WOODS. YOUR CELL PHONE IS TOO BIG FOR YOUR PANTS POCKETS.▶



LEAVE PHONE IN YOUR 1995 MITSUBISHI GALANT ▶GIVE GRIFFIN THE PHONE, HE HAS CARGO SHORTS

THIS IS NICE.



IT'S BEEN AN HOUR OR SOMETHING. YOU WOULD LIKE TO GO HOME



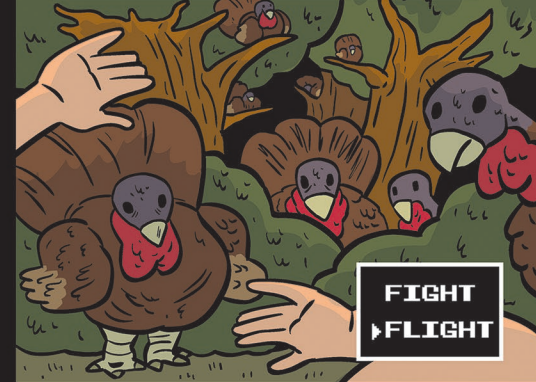
CONTINUE WALKING

▶TELL GRIFFIN YOU' LL MEET HIM BACK AT THE CAR IN A LITTLE BIT

OK YOU' RE LOST, DUDE



ARE THOSE TURKEYS? THAT IS A LOT OF TURKEYS. ARE THEY IN THE TREES?



FIGHT ▶FLIGHT

OH SHIT OH SHIT OH SHIT OH SHIT. HOPE THERE' S NO POISON IVY AROUND HERE.



YOU HAVE LOST THE TURKEYS. THIS SEEMS BAD, HOWEVER.



FUCK AROUND AND FIND OUT ▶KEEP MOVING

IT' S GETTING DARK.▶



YOU' RE OUT OF THE WOODS.▶ TWO TOWNS OVER.▶

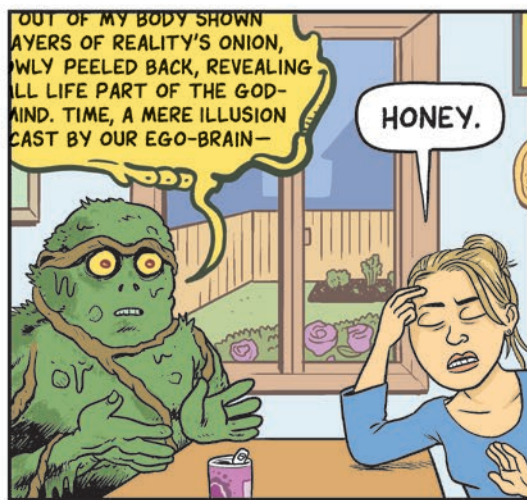
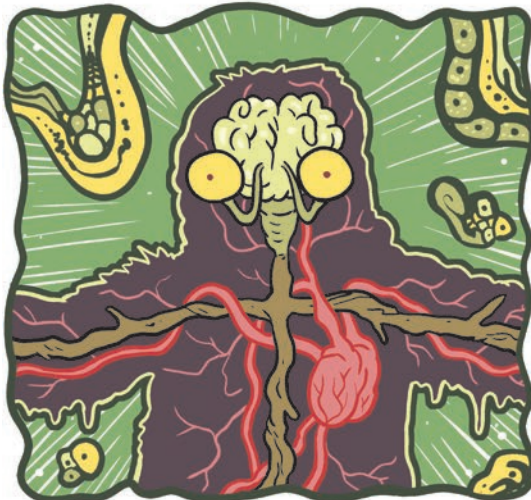
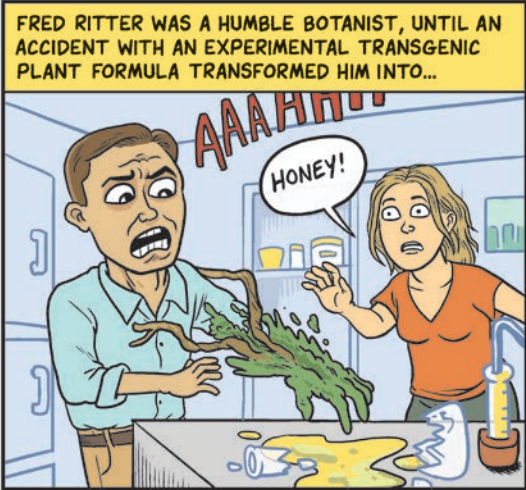


GO BACK INTO THE WOODS ▶ASK THESE TERRIFIED PEOPLE FOR THEIR PHONE

THIS DOCTOR SAYS YOU GOT POISON IVY SO BAD YOU ALMOST DIED.▶















GO BACK INTO THE WOODS ▶NEVER GO OUTSIDE AGAIN



Find the Fish!



- 
Moorish Idol
- 
Triggerfish
- 
Barramundi Cod
- 
Blue Tang
- 
Lionfish
- 
Damselfish
- 
Butterfly Fish
- 
Emperor Angelfish
- 
Clownfish
- 
Watchman Goby
- 
Parrotfish
- 
Cleaner Wrasse

ash S.

WHY DID I AGREE TO GO ON A CAMPING TRIP?



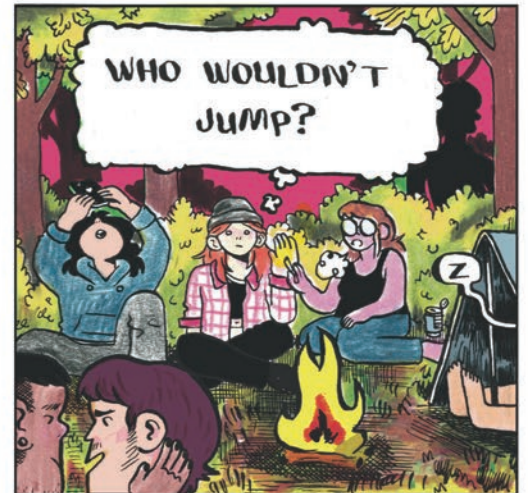
IF EVERYONE JUMPED OFF A CLIFF,



ABSOLUTELY. IF EVERYONE ELSE JUMPED, AND YOU COULD EITHER JOIN THEM OR BE ALONE,

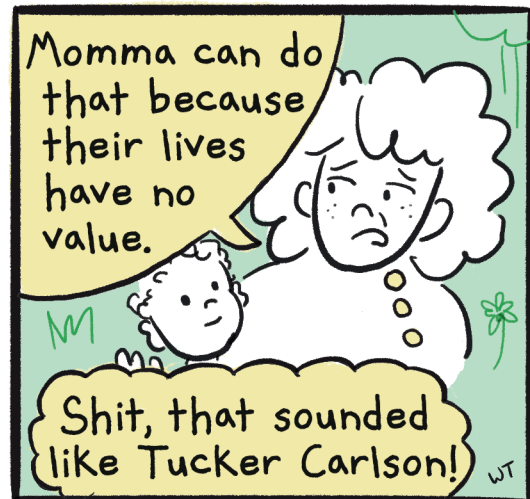
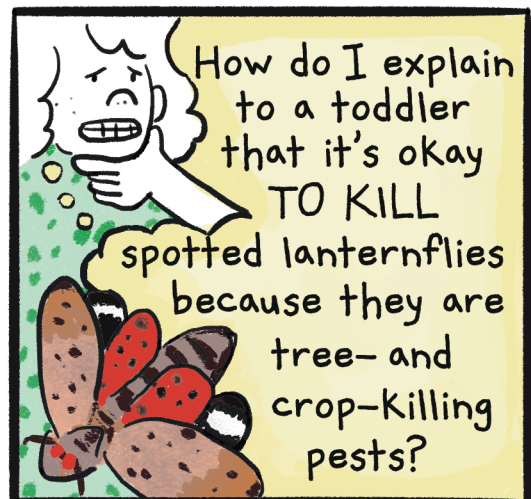
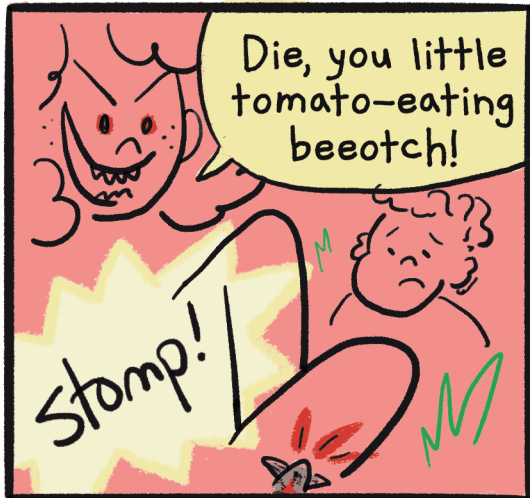
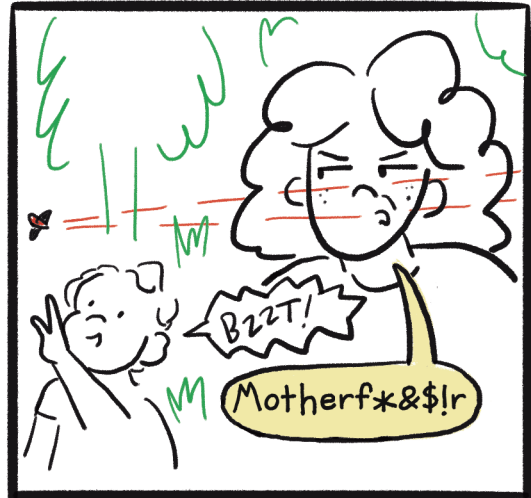
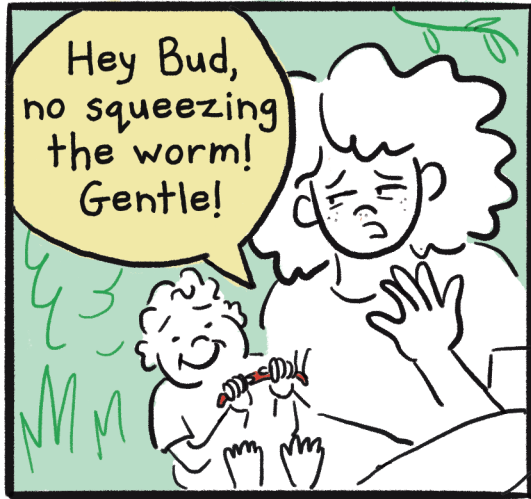


WHO WOULDN'T JUMP?



GOD, I GOTTA STOP THINKING ABOUT CLIMATE CHANGE.



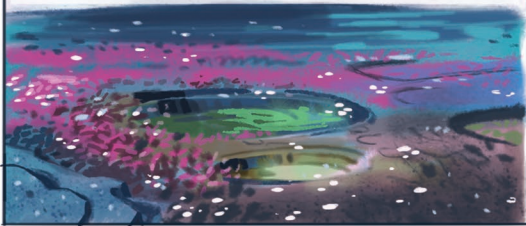




Letters to the Editor

What's Your Favorite Spot in Nature?

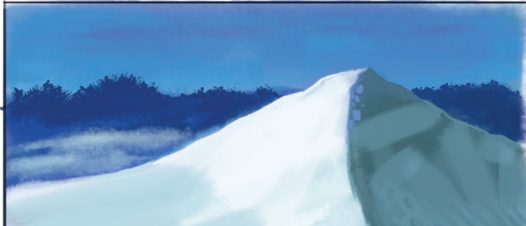
Caño Cristales in La Macarena, Meta (Colombia), the river of seven colors, where utopian dreams take hold. – Felipe



Chesterman Beach, Tofino, BC: We go every year and spread our son's ashes there. – Ricardo



I live on a mountain overlooking the White Sands National Park. We try to go there monthly right after opening when it is quiet. – Steven



Henry Cowell Redwoods State Park has so many wonderful views, but the best view is just looking at the trees. – Steve



Our street, now that my partner and I have escaped to the country. – Alex



The Au'au channel between Maui and Lanai. Especially when the whales are playing. – Andy

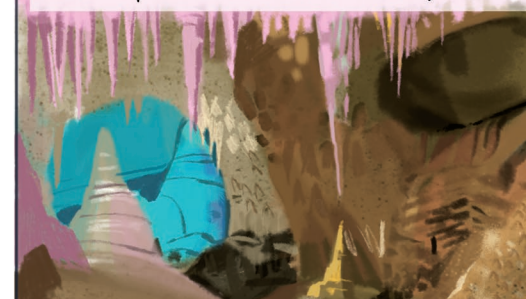


Ah, the great outdoors! We asked The Nib's Inkwell members to tell us their favorite spot to get outside and touch some grass. Beautifully illustrated by Linette Moore.



I just returned from a week in Iceland. This receding glacier is a thing of constantly changing beauty, imposing yet fragile. This three-story ice arch was a cave last year, and will be gone by summer's end. – Avery

Every summer my family went to Carlsbad Caverns in New Mexico. I call it the most beautiful place in the world. – Sonya



Encountering a group of about 30 cuttlefish that put on a vibrant color and pattern display for us snorkeling at Wahikuli Beach in Maui, Hawaii. – Stacy



MASTHEAD

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CONTRIBUTORS



Alexandra Beguez is a Cuban-American illustrator and cartoonist based in New Jersey. Her work explores the themes of overcoming hardship and unconventional relationships. Her family's immigrant history also informs much of her work. Her favorite natural satellite is Saturn's moon Titan, the only known moon to have a dense atmosphere and stable bodies of surface liquid.



Rosa Colón Guerra has been self-publishing comics with her friend Carla Rodríguez for over ten years as Soda Pop Comics. She's been published in *The Nib*, *The Believer*, *The Lily*, and the Eisner-winning *Puerto Rico Strong* anthology from Lion Forge as well as the Ignatz winner *Be Gay, Do Comics!* If you ask nicely, she'll explain the difference between a maga flower and an amapola.



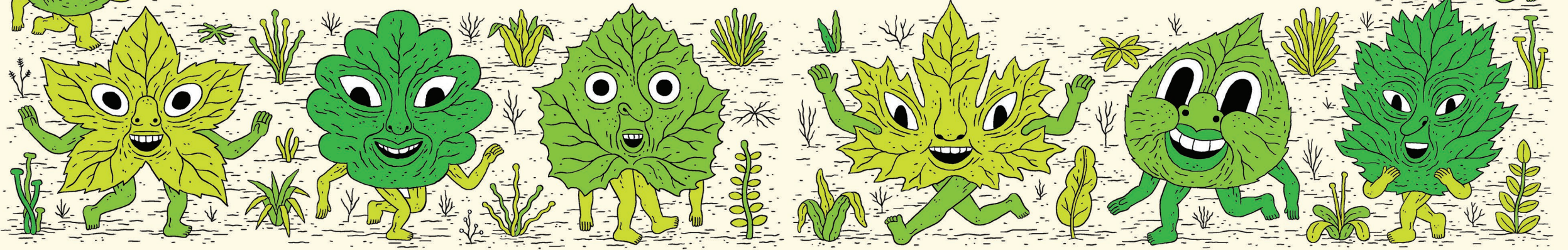
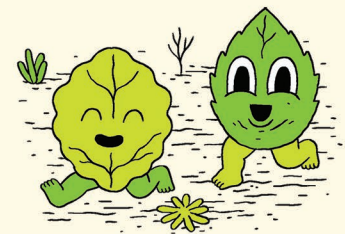
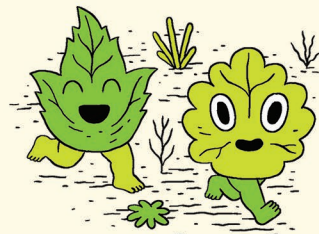
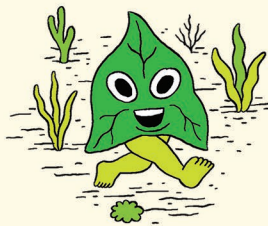
Peter Kuper was born on planet Earth between the first and second millennia. Peter (from the ancient Greek meaning "rock") lives in an asphalt jungle on the island of Manhattan.



Kay Sohini is a comics maker based in New York and is currently drawing her doctoral dissertation *Drawing Unbelonging*, a graphic narrative. She has 6,489 photos of sunsets on her camera roll but she can stop at any point.



Arigon Starr is an enrolled member of the Kickapoo Tribe of Oklahoma and an artist, writer, actor, and musician. Arigon is based in Los Angeles, California, and lives to have her toes dug into the sand, listening to the ocean.



The INKwell

The Nib is an independent comics publication supported entirely by our readers. When you join our membership program, The Inkwell, you will be directly funding a space for nonfiction and political cartoons to thrive. Members receive this beautiful print magazine, exclusive offers on *Nib* swag and books, and that feeling that comes from supporting the media you want to see in the world. Just listen to these fine people!

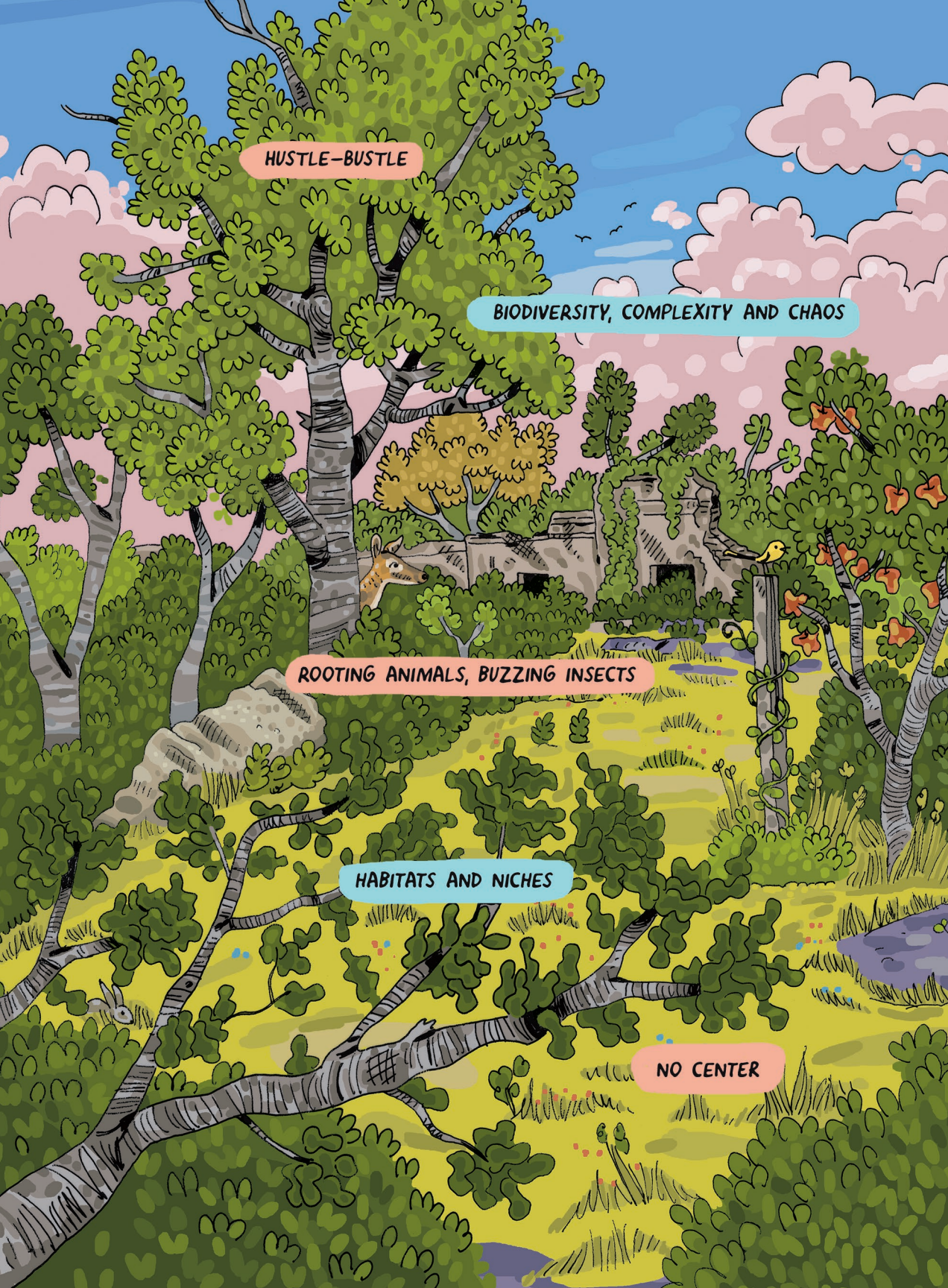


Illustrations by Andy Warner

the NiB MEMBER Hall of Fame

Our daily newsletter and print magazine are all sustained through thousands of members who sign up to The Inkwell. The following list are those who go above and beyond, giving at the highest monthly level. Join them at thenib.com/membership.

Kat Hollingsworth
Jette Canada
Scott M. Burns
Dean Costello
Marlene Cannova
Andy Warner's parents
Marty Chodorek
Anne Fleming
Alison Berry
Therry Neilsen-Steinhardt
Joseph Wyman
Kate Myers
Josh "No Relation to Brett" Kavanaugh
Carole Lombard
Charles Randall
David B. Jones
Dan Pinkel
Daniel Cousineau
Cam Cowan
Jennifer Konikowski
Jason Robbins (he/him), Architect



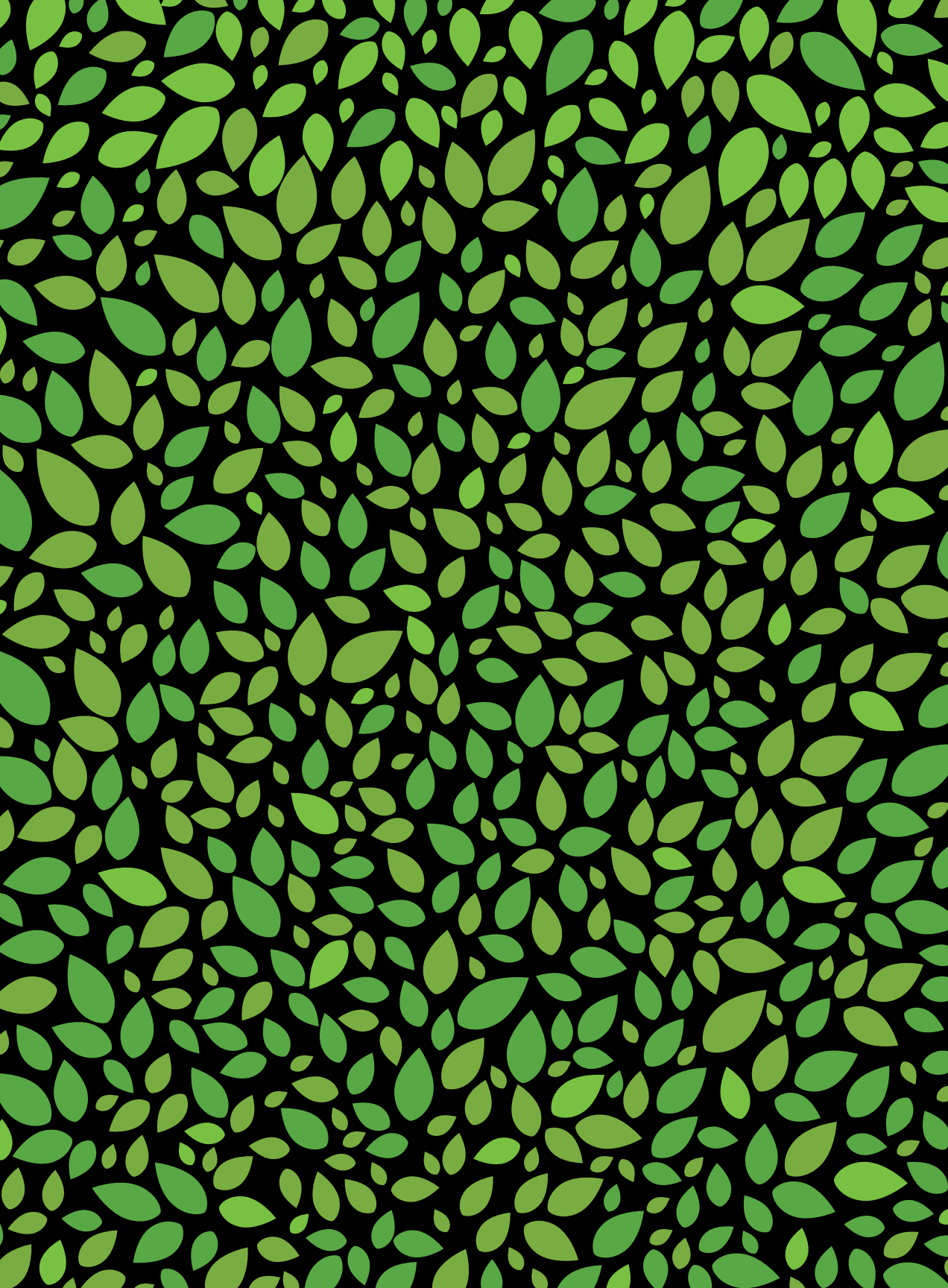
HUSTLE-BUSTLE

BIODIVERSITY, COMPLEXITY AND CHAOS

ROOTING ANIMALS, BUZZING INSECTS

HABITATS AND NICHEs

NO CENTER





In this issue:

From the smallest microorganism to the highest mountain, we went outside to explore our natural world and report on the beauty, power, and majesty of nature.

Featuring over 30 tree-hugging cartoonists!

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