May is Bike Month | Youth forest defenders | Water and indigenous life | Cannabis reform initiative

Farm feature: Comida del pueblo | Lawsuit to protect redwoods | Demystifying the moon | Naturescopes
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The mission of EcoNews is to inform and educate the public on environmental issues around the world, state and bioregion. Many of these issues are complex and have varying levels of support throughout the environmental community. Our goal is to provide a platform to explore, discuss and debate these topics in order to better understand their nuances. The ideas expressed in EcoNews do not necessarily reflect the positions of the NEC or its member groups. We appreciate and welcome alternative points of view.

Sincere Gratitude To:

• Humboldt Bay Keeper’s Executive Director, Jennifer Kalt. Jen was on the NEC board from 2008 - 2022. She has brought significant land use policy and advocacy expertise to the NEC’s board, Conservation Committee and the Executive Committee. We are also grateful to Jen for serving as the point person for the 9th Street Brownfield restoration. Thank you Jen for all your ongoing work to protect Humboldt’s Bay.

• Kris Diamond for her ongoing volunteerism as a proofreader for EcoNews. We are grateful for her keen eye in catching any errors and ensuring the publication’s readability. Thank you for your ongoing dedication to this publication.

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Greetings from the - NORTHCOAST ENVIRONMENTAL CENTER -

The ideas and views expressed in EcoNews are not necessarily those of the Northcoast Environmental Center.
Green Hate

As climate disruption becomes more and more undeniable, it is unfortunately human nature to point the finger of blame at someone else. This often takes the form of scapegoating; blaming those you don’t like and probably don’t understand for the way that your life is being changed. Many of us grew up believing that humanity, when faced with an existential threat, would put aside its differences and unite behind saving the planet and ourselves. Unfortunately for all of us, the pandemic is a prime example of us not rising to the occasion as a unified front, and there is a clear parallel between COVID-19 and climate change.

The rising movement to find a scapegoat for climate change is often called eco-fascism, but we’ve also heard it referred to as “Green Hate.” It manifests itself in various ways, one of the most insidious of which is blaming migrants and people from the global south for the causes of climate change. Here at the NEC we’ve gotten letters from locals advocating eugenics and brochures from national and statewide groups who are calling for closing our borders because, in their opinion, migrants are the cause of climate change. This is despite the fact that the United States, with its falling birth rates, is still in the top three emitters of carbon worldwide. Scapegoating serves the purpose of diverting attention from our collective responsibility to change our systems and change our consumption habits, and points the finger at someone else. Not only is this often racist and classist, it also prevents us from coming at the problem from a place of unity and collective responsibility to change our systems and change our consumption habits, and points the finger at someone else. Not only is this often racist and classist, it also prevents us from coming together to find solutions to the problem. As environmentalists, we have a responsibility to counter these narratives and work to root out the hate in our movement so we can work towards a better future.

As our journalist, Elena, addresses on page 6, these racist and xenophobic ideas are not new to the environmental movement. And unfortunately, Green Hate is growing, as is the link between far-right wing ideology and the environmental movement. hop hopkins, the Sierra Club’s director of organizational transformation, has said, “We need to be educating our base about these dystopian ideas and the scapegoating that’s being put upon Black, Indigenous and people of color and working-class communities, such that they’re able to identify these messages that may sound like they’re environmental, but we need to be able to discern that they’re actually very racist.” This is exactly why we are working tirelessly to link racial justice and environmentalism and to make sure that our work to heal the planet doesn’t come at the expense of those who are bearing the brunt of the climate catastrophe. Not only do we need to push back against Green Hate, but it’s also important that we work, collectively and following the leadership of communities of color and working-class communities, to present a vision of a better world and work to achieve it.

Indian Child Wellfare Act

Another harmful thread that we are following is the attempt to challenge the Indian Child Welfare Act, which is at the heart a challenge to the concept of tribal sovereignty and the concept that individual tribes, rather than state or federal governments, have the authority to make decisions regarding tribes or tribal members. The Supreme Court announced in March that it would hear challenges to the Act, which was passed in 1978 and is considered the gold standard in child welfare because it prioritizes family and community connection for children. Tribal sovereignty has played a role in the environmental movement because the ethic and law of many tribal entities (see the yurok Tribe’s Constitution, for example) prioritize the rights of nature, and sovereignty has been used to reject and fight projects on tribal lands that would negatively impact those rights. We’ll be watching to see how this challenge plays out and what effect it has on tribal sovereignty as a whole.

Humboldt Candidate Forum

As we enter into election season, the NEC is proud to once again be collaborating with allied groups in the social justice and labor rights movements to be hosting candidate forums for the Humboldt County Board of Supervisors, Districts 4 and 5. As a nonprofit, the NEC is prohibited from endorsing or supporting candidates, but we hope our education mission seriously and see this as an opportunity to help voters learn about where these candidates stand on issues that are important to us. Tune in live on KMUD radio (or catch the live stream on the KMUD Facebook page) on May 2 and 9 from 6-8pm. If you happen to have picked up EcoNews after those dates, you can find the recordings on the Access Humboldt YouTube page. The last day to register to vote in the June 7 primary is May 23, so make sure your registration is up to date by then and get out and exercise your right to vote.
Caroline Griffith, NEC Executive Director

Whether it’s the harsh realities of climate change, the rising price of gas, or a realization that fossil fuel extraction fuels global conflict, more and more people are looking for less resource-intensive ways to get around. As the days get longer and warmer, traveling by bike is an easier choice to make for those of us who aren’t already getting around on two wheels. May is also Bike Month, which, according to the League of American Bicyclists, was founded in 1956 as a way to showcase the many benefits of bicycling and encourage those who are bike-curious to give it a try. Here in Humboldt County, there are plenty of opportunities to get on (or back on) your bicycle and experience the joys of human-powered transportation. Doing so is also a form of direct-action activism that can help improve the safety of our roads for everyone who gets around by bike, regardless of why they do so.

According to Wikipedia, the first bicycle, basically a wooden frame with two wheels called “the dandy horse” that the rider propelled using their feet, was introduced in Mannheim, Germany in 1818. Innovations on this model soon abounded as pedals, chain-drives, more comfortable seats and all sorts of variations on wheel size and geometry were introduced, and the 1890’s were considered the Golden Age of Bicycles. In the era before cars were invented, bicycles were an incredibly popular mode of transportation and cycling clubs formed all over the world. In fact, bicycles were credited by many early feminists as contributing to emancipation because of the personal liberty and freedom of movement that bicycles provided, not to mention the liberating modifications to dress (Goodbye corsets, hello bloomers!) that bicycle travel inspired.

Since the advent of the internal combustion engine and rise to dominance of the personal vehicle, the nature of transportation and the rules of the road have changed to favor cars and trucks over human-powered transportation. Anyone who has ever walked or biked along Broadway in Eureka knows that the road is not designed for their safety, but rather to facilitate movement of vehicles.

Safety concerns are a common reason that aspiring cyclists feel uncomfortable taking to the roads, specifically due to the lack of bike lanes and cycling infrastructure.

Olympic cyclist, bicycle attorney and author of Bicycling and the Law: Your Rights as a Cyclist, Bob Mionske has proposed a Cyclist’s Bill of Rights, the first tenet of which is that cyclists have the right to equality of infrastructure. Although in the state of California cyclists have the right to take the lane of traffic if there is no established bike lane, this right doesn’t help new cyclists or those who are not confident or comfortable enough to exercise this right; having the right to do it doesn’t mean it’s safe. However, if cities and counties recognized cyclists’ right to equality of infrastructure by establishing protected bike lanes and by prioritizing other non-vehicular infrastructure, our roadways would become safer and more welcoming to those who are trying to get where they are going via bicycle.

Stevie Luther works on transportation infrastructure planning with the Humboldt County Association of Governments, and backs up this need for infrastructure change. “The goal of our regional bicycle planning is to create multimodal transportation networks that give people convenient and comfortable access to the places they want to go. With e-bikes becoming more popular, it’s easier than ever to swap out the car for a bicycle. It’s important to build the infrastructure separating bikes and cars, and to educate everyone, including youth, on how to share the roads safely,” said Luther. Despite this support, there is still a need to show local governments that these changes are necessary and that they are wanted.

One effort to bring awareness to cyclists’ right to share the road is Critical Mass, an organized bike ride that happens around the world. Here in Humboldt we are lucky to have two Critical Mass rides, one in Eureka on the first Friday of the month and the other in Arcata on the last Friday. Information about meeting times and places for both can be found on Instagram. Critical Mass rides started in San Francisco in the early 90’s to build awareness of cyclists’ rights and to challenge the domination of cars and oil in our transportation system. They now happen in hundreds of cities around the world and are fun, music-filled rides in which cyclists take a lane and collectively exercise their right to the road. As Misael Ramos, organizer of Eureka Critical Mass said, “I wanted to organize a Eureka ride to provide people with a safe environment to comfortably experience the ease and joy of traveling around town on a bicycle or PEV (personal electric vehicle).” The safety and visibility of riding with a group can help cyclists build confidence. It’s also a great opportunity to share stories and ideas about how to make our roads safer for non-vehicular travel and strategize about how to bring about those changes.

An important part of safely getting to where you are going is route-finding. Because our road systems are designed for cars, many of us are habituated to using routes that are best for vehicular travel, and it’s easy to forget that there may be better ways to get where we need to go on a bike. You can find both a pdf and an online bike map for Humboldt County at hcaog.net/documents/humboldt-bay-area-bike-map. And when in doubt, take a side street. These generally have lower levels of traffic, which will reduce your interactions with cars and increase your cycling pleasure.

No matter why you are riding a bicycle, you have a right to safely get where you are going. Bike Month is a great opportunity to join a group ride or hit the streets solo and exercise your right to the road. More cyclists on the road means more visibility and more legitimacy for cycling as a serious form of transportation, which is exactly what we need in order to advocate for the changes that will make us all safer. So get out there and have fun. And don’t forget your helmet.
May is Bike Month, so EcoNews stopped by Mooncycles at 1905 Alliance Road in Arcata to ask Sprout and Sage about what’s new and exciting, and for some reminders about best bike practices for those who haven’t been riding lately but want to start up again.

Sprout started, “You want to be comfortable on a bike—comfortable in your abilities, able to be on a road with cars and still feel safe.” For safe places to practice, they suggest bike paths, the Arcata Bottoms, the Hammond Trail, and even a big parking lot.

Physical comfort is important. “A lot of road bikes aren’t made for comfort. Commuter bikes are more upright, can carry weight, are practical and utilitarian. “The comfort is more baked into upright. Your muscles are more aligned.” That comes from the angles of the frame, or “geometry”.

“Gravel bikes are a new trend,” Sprout went on. “They’re a great mix between a road bike and a mountain bike. You can use a lot of trails and explore new places. More comfortable than a road bike for touring and bike packing with their geometry, handlebars, wide tires.” They’re good for “bike pathing.”

“Bikes can be converted to upright with a new riser and stem extension” (they indicated the neck between the frame and handlebars) “and new handle bars.” A wide variety of handlebars are available. “There’s so many conversions you can do with an existing bike—bikes can be converted for the purpose you want. We can turn any 90’s mountain bike into a gravel bike.” Electric conversion is another option.

Being able to carry stuff will increase your bike’s usefulness, and there are lots of options: “A back rack, front basket, zip tie milk crate or really strong cardboard, pannier bags. Different styles. Rainproof, or open like grocery bags. I recommend keeping your bike narrow,” Sage advises.

For night riding, you want “lots of light, and high visibility clothing. Blinking rear lights are much more visible than non-blinking. Lights or reflectors on your wheels are really visible. With one type, each spoke – the entire rim – is a reflector. Wheels are a great place to increase your visibility. Most bikes get hit from the sides.”

For a quick safety check before heading out, remember ABC: air (in the tires), brakes and chain in good working order. Air is important, especially for thin tires. No rips or tears in the sidewalls. Be sure the wheel quick release is in the closed position and the wheels are on tight. Lubrication is really important. “Use anything,” even olive oil. But never WD40.

There’s another handy acronym for riding in traffic, PAL: be “predictable, alert, and lawful.” For longer rides, be ready to change tubes or fix a flat. At least have the gear you need, so someone else can do it if you can’t. “You never know!” Sage jokingly admonishes.

A good quality lock is well worth the investment. Expect to spend a minimum of $50. Sage says, “An easy rule of thumb is, the heavier the better.” The classic U locks are good. “Completely stay away from cable,” they advise, and “chains are risky unless they’re super hardened steel.” There are some very good new lock designs. “If it’s newer and weird, thieves are just going to look at the next bike.” They add, ”Don’t leave your bike outside anywhere.” Indoors is safe from theft and also rust.

Want to ride more often? Sage suggests, “Make a space for your bike that’s easy to access. Keep your bike in a location that’s really easy to get it in and out—grab and go. Make it comfortable. Get a water bottle for the bike. Keep the lock on the bike.” Bikes can go on racks on Redwood Transit System buses at no extra charge.

There are several great bike shops around Humboldt Bay. Other resources include the Eureka Bike Kitchen, which provides tools, resources and mechanics’ knowledge to help people repair bicycles, and sometimes has used bikes for sale (eurekabikekitchen.org). CalPoly Humboldt’s Bicycle Learning Center offers tools and assistance for students’ bicycle maintenance needs, and has some supplies and parts (wrrap.humboldt.edu/bicycle-learning-center).
We stopped by the Arcata Farmers Market on April 2 to ask the community what a car-free lifestyle looks like to them and what it would take for them to go car-free. Many people mentioned reliable and efficient transportation as being hard to come by. The general consensus was the need for food; some residents drive from Arcata to Eureka to get groceries. What about those who use their cars for transportation and shelter? Then there are the bike enthusiasts that would like safer bicycle lanes and the workforce that has to use their cars to run work errands. One thing is certain, there is a need for more accessible modes of transportation in Humboldt County.

Dave B. - “I try to use other forms of transportation, but I need to get my tools to and from work. I try to drive on Mondays and get them to the site so I can ride my bike or take the bus the rest of the week. Also just switching to electric cars isn’t the answer, because it’s just trading one finite resource (lithium) for another. I heard there is a possibility of mining lithium from the Salton Sea, which it would be great if we could create our own lithium without exploiting other countries and child labor. In the meantime, I think we should use the technology we have now instead of waiting for the oil companies and their carbon capture. I don’t have any faith in the oil companies to do the right thing. They just want to keep kicking the can down the road. We all can do something. That’s what gets me mad about old people like me, you know they say that’s you kids’ problem now, I don’t have to worry about that. That’s not fair to you young people to dump it all on you guys.”

Sabrina B. - “I think a lot of the issue is with rent. As prices go up, it’s a lot to pay with nothing to show for it. If you live in a car, you have a lot more freedom. I am currently staying on my friend’s couch and I’ve considered saving for a car rather than saving for a deposit. I think more reasonable rent would get people out of their cars. There needs to be more accessible housing.”

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Reise R. - “Being in a walkable community would be huge. Having access to groceries stores and schools and cool hang-out places. Arcata is cool because we have this central hub, but I drive to Eureka for groceries, so having an affordable place to get groceries nearby would be a huge thing for me.”

Monica L. - “I love my car. We’ve made steps by going to an electric car and a hybrid car, but I love my car. It’s my solace. When I have a busy day at work it helps me decompress and rock out to good music.”

Gracie L. - “More local job opportunities. I have to go to Eureka to my office and then run errands for work, so I need reliable transportation to do that.”

Joanne M. - “I have a car that I drive as infrequently as possible. I make a weekly trip to Eureka and plan my trip to make the rounds. I have an old fossil fuel vehicle that will probably be the last I ever get. I really want our communities to become difficult to drive in so that we all can do other things and get places in other ways. I want to see significant public transit improvements. We need two transit hubs in Arcata, in Samoa and Valley West, and have a shuttle or bus system that moves through town on a regular basis, morning, noon and night.”

Emily S. - “I like biking and if there were more bike lanes – safer, wider bike lanes, that would make it so much easier. I feel like in the downtown area, the traffic is pretty slow, so that’s good for picking up groceries and stuff. I like to recreational bike. But if I have to go to a farther away grocery store, I’d like more bike lanes.”
Unpacking Outdated Environmental Ideologies
Is Overpopulation to Blame for Climate Change?

Elena Bilheimer, EcoNews Journalist

For many people who have been working in any sort of environmental sphere, the topic of overpopulation in relation to climate change and environmental destruction is a familiar point of conversation. Whether portrayed through the lens of women’s empowerment or under the guise of border security, concern about overpopulation is ubiquitous for people across the political spectrum. It is often used to explain both the problem (there are too few resources and too many people) and the potential solution (if there were only less people, these climate problems would be much less prominent). Few ideologies are as pervasive and controversial in the environmental world. While using such a simple explanation to understand the cause of environmental problems is seductive, blaming climate change on the sheer number of people on earth overshadows the deeper issues associated with how land is used and related to and how resources are unevenly distributed within the current system.

What is This Belief and Where Does it Come From?

Although different variations exist, many beliefs about population are rooted in the ideas of a British cleric and political economist named Thomas Robert Malthus in the 1800s. Malthus’ theory was that human population grows exponentially, while food production growth is linear and thus more limited. According to his projections, the amount of people on earth would soon outgrow the resources necessary to maintain human life, resulting in overwhelming famine and hardship. Kaitlin Reed, an Associate Professor of Native American Studies at Cal Poly Humboldt, explained that underlying Malthus’ ideas about population were his deeply entrenched views of sex and religion, and the belief that the poor shouldn’t receive assistance in order to ensure they weren’t able to reproduce and negatively impact the environment. These ideas helped inspire the concept of eugenics, which focuses on the selective reproduction of certain heritable characteristics in order to “improve” future generations. Both the concept of eugenics and malthusian population beliefs have contributed to a long history of scientific and environmental racism, forced sterilization, violent population control efforts, and the mistreatment of immigrants and climate refugees. Many of the environmental movement’s early figureheads were influenced by these ideas. “Environmental and eugenics projects reinforce each other,” said Sarah Ray, head of the Environmental Studies Department, in a panel put on by the Native American Studies Department at Cal Poly Humboldt entitled Decolonizing Sustainability. “Earlier environmentalists wanted to dictate who belonged on America’s precious soil. Examples of the overlapping interests of eugenics and conservation abounded.”

Unfortunately, variations of these beliefs have endured throughout the decades and still permeate many of the conversations about population growth. While these beliefs are often updated to include the importance of voluntary access to contraception (called neo-malthusianism), the notion that human numbers are responsible for the current crisis has remained.

Why is This Belief Misguided?

First and foremost, according to Reed, Malthus was wrong in his conjecture about the relationship between people and food. The Food and Agriculture Organization of the United Nations (2009a, 2009b) found that the world’s farmers produce more than 1.5 times enough food to feed everyone on earth. This means that hunger is not a result of there being too many people, but instead how food is distributed and who gets fed.

Due to global capitalism and colonialism, resources other than food are also disproportionately used and abused by wealthier countries. Climate change is not a result of overpopulation, but rather the unfair allocation of resources based on the economic principle of infinite growth. Despite falling fertility rates in the U.S., it is still one of the top emitters of CO2, with rates growing annually. This shows that population does not determine consumption or pollution rates, but rather indicates there are many other complex factors affecting the U.S.’ contribution to climate change.

“When we talk about, ‘Oh, this is a population issue, there’s simply too many people,’ that obscures the reality of the situation, which is more about how we relate to land and how we use land,” said Reed. Assertions about the role of population are often used to justify the removal of Indigenous communities from their land in an effort to “preserve” or “protect” whatever so-called pristine wilderness is left. These beliefs have also been used as justification to redirect blame for climate change onto women in the global south whose fertility rates are higher than the U.S., despite producing exceptionally less greenhouse gases.

In the book On Infertile Ground, author Jade Sasser argues, “This is not to say that there are no limits to the earth’s ability to sustain and renew itself and its resources, nor am I arguing that human numbers do not play a role in stretching those limits. However, what I do argue is that there is not, and never has been, a single, evidence-based model that has successfully calculated or predicted the global environmental impact of human numbers alone. Local context, resource consumption, polluting technologies, state- and corporate-based resource extraction and pollution, and the environmental impacts of military operations all make it impossible to produce such a number on a global scale.”

Limiting population growth cannot repair a situation caused by complex social, political, cultural, and economic factors. Instead, change requires fighting oppressive social structures and systems. “I think the sustainability movement really hasn’t reconciled with their kind of history and legacy of colonial dispossession,” said Reed.

Redirecting attention away from the amount of people allows there to be more consideration for the way people exist in relationship with the land and environment. “The taken-for-granted idea that population growth is a threat to nature and the environment does not in fact reflect an essential, immutable biological reality,” wrote Sasser.

Resources:
- On Infertile Ground by Jade Sasser
- The Ecological Other by Sarah Ray
- Stuffed and Starved by Raj Patel
- Yes, Colonialism Caused Climate Change, IPPC Reports (atmos.earth)
- The Overpopulation Myth and Its Dangerous Connotations (www.sierraclub.org)

Elena Bilheimer graduated in winter of 2021 with a degree in environmental studies and a minor in journalism from Cal Poly Humboldt. In her studies she mainly focused on the importance of incorporating social justice with environmental activism to work towards creating a more sustainable world. Some of her passions include being outside, reading, and cooking.
Youth Forest Defenders in the California Capitol

*Sara Rose (Age 16), Co-founder of the Mendocino County Youth for Climate*

If you had asked me about Jackson Demonstration State Forest (JDSF) this time last year I would have said, “It’s cool that someone’s tree sitting, but what are they up there for?”

It’s crazy to realize that just a year ago I didn’t know anything about the nearly 50,000 acre forest or the devastating logging operations that were happening in our community’s backyard. April was the anniversary of Direct Action in JDSF, which started when a local high schooler took up residence in a tree in the Caspar 500 Timber Harvest Plan, an area of forest tucked in behind the community of Caspar, California, in the Caspar watershed. Over the last year the movement to change the management of JDSF has grown tremendously. We’ve gone from one teenager in a tree to a recent rally on the capitol steps with hundreds.

In the days before the rally, Mendocino Youth for Climate activists went around Sacramento knocking on state representatives’ doors to lobby support for defense of JDSF and co-management of the forest by the Coyote Valley Band of Pomo Indians. I went with a cross coalition team that was comprised of the other Mendocino County Youth for Climate (MCYC) Co-Founder, Ravel Gauthier; Michelle McMillan, organizer and Media Representative with Mama Tree Mendo and President of Overstand; Matthew Bostock, Environmental Activist and Movement Coordinator for Overstand; Chad Swimmer, Co-Founder of the Mendocino Trail Stewards, climate and LGBTQIA+ activist, and educator for 25 years; and Justine Lemos Ph.D., Youth Climate Activist Liaison. We spent Wednesday and Thursday engaging with our state senators and assembly members about the state of JDSF, the climate crisis and the Coyote Valley Band of Pomo Indians’ call for co-management of the forest.

It was a unique and empowering experience to not only knock on office doors, but to get to speak to our elected representatives about the issue at hand – changing the management of JDSF so that it fits our shared future.

On Friday, March 25th students around the world were holding school strikes for the climate. In California, students, community members, and Indigenous tribes from around the state gathered at the Capitol in Sacramento. The rally was a combination of a Pomo Land Back rally and a school strike for climate. Co-organized by Michael Hunter, Tribal Chairman of the Coyote Valley Band of Pomo Indians and myself, Sara Rose, Co-Founder of the Mendocino County Youth for Climate (MCYC), the rally intended to highlight the intersection between the shared goals of restoring Native American Land Rights and addressing climate change. The rally had Native American dancing and singing groups from around the state and youth climate activists sharing the stage to bring light to how the movement in JDSF ties these issues together perfectly.

The rally was a combination of a Pomo Land Back rally and a school strike for climate intended to highlight the intersection between the shared goals of restoring Native American Land Rights and addressing climate change. Photo provided by Mama Tree Network.

We just learned that logging could start in JDSF as early as May 3, despite promises of Indiginous co-management and widespread community pushback. For a year now we have been calling for a moratorium on all logging activities but our representatives still haven’t listened. As was proven last summer, if logging starts the community will stand up and stop it. People will be in the woods until we have a moratorium that stays in place until the management plan can be rewritten to reflect Indigenous sovereignty and co-management, and the reality of the climate crisis and modern climate science.

If you’re interested in learning more about the movement, head to savejackson.org. You can also visit the “Take Action” page to send a letter or call your representatives, donate to the cause, and more.

For more on the Mendocino County Youth for Climate, head to the-mcyc.org.

And for more on Pomo Land Back and Coyote Valley’s call for co-management, go to pomolandback.com.

Youth activists in the California State Capitol protesting the logging of Jackson Demonstration State Forest, March 2022. Source: Sara Rose.

Native American dancing and singing groups from around the state and youth climate activists shared the stage to bring light to how the movement in JDSF ties these issues together perfectly.

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Fluidity and Sovereignty: Water and Indigenous Life

Farzad Forouhar

Despite the different narratives in Indigenous creation stories, what they all have in common is water, which has an essential part in creation. Many Indigenous creation myths assert that the world was covered by water and many of them share the common narrative that animals or people brought some elements of Earth to the surface. These elements accumulated and became the Earth. Accordingly, water is an ancestor to the Indigenous people of Northern America. In this sense, water, as an ancestor, became something that they shared roots with and had a familial relationship and a sense of kinship. Indigenous stories of creation indicate a deeply embedded correlation between Indigenous people and their environment and nature. For instance, the Winnemem Wintu creation story tells of the relationship between Nur (the Salmon) and the Winnemem in which the Salmon gave them their voice, and in return, they promised to always speak for them. This story is a beautiful metaphor that indicates Indigenous people see themselves as the stewards of their environment, land, and water. It indicates the Indigenous people were aware of their reciprocal affiliation and their symbiotic relationship with their environment, nature, and the earth and all its inhabitants. They acknowledged that their well-being, existence, and fulfillment of themselves and their environment depend on mutual respect and understanding.

Such a delicate and substantial understating of nature, along with the Indigenous people’s subsistence livelihood, helped this land to thrive for more than 10,000 years until European settlers arrived. In the context of settler colonialism, which manifests itself in terms of land alteration and alters the relations between – and associated with – land to favor white settlers, Indigenous subsistence rights, customary uses of land, and their particular landscapes have been disenfranchised, undermined, and eliminated.

Settler colonialism is a form of colonialism that seeks to replace the original population of the colonized territory with a new society of settlers. Settler colonialism is an ongoing process that works through erasure, elimination, and replacement of Indigenous cultures and communities. Settlers have to establish their sovereignty in a new environment, so they need to create imagined communities. To develop such imagined communities, they need to erase the history and eliminate the culture (social, political, and economic elements) of Indigenous communities and Indigenous land dispossession and erasure. Settlers also initiate a process of racial formation through genocide, forced assimilation, and land dispossession because the land is their primary objective.

As noted earlier, the main objective of settler colonialism is land, but water fits into this equation because land and water, along with nature and the environment, are not just the vital sources of all material wealth but also the potent ideological resources for the settlers to establish and justify their sovereignty and obscure the realities and atrocities of settler colonialism. In this context, water becomes a vehicle of colonization in which the state, through the use of water and implication of water rights, justifies its hegemony and alienates, subjectifies, and subjugates the Indigenous people.

Water is a vital part of Indigenous identities and lives and an essential part of their water-dependent ecosystems and cultures. The view in which humans and the environment (any natural and environmental elements) are part of an extended ecological family with shared roots and origins creates a sense of kinship and familiality that embraces all elements of an ecosystem and a structure that comprises total interconnectedness between space, place, land, water, and people. This sense of familiality and ancestral relationship with water creates a cyclical relationship between the Indigenous people and their world. A world that, as Dr. Kyle Powys Whyte, an Indigenous philosopher and climate/environmental justice scholar, asserts, consists of the “complex interrelations of human health, storytelling, gendered and intergenerational relationships, cultural and ceremonial life, the intimacy of human relations with plants, animals and entities (e.g., water), and the moral responsibilities that come with family, clan, and band memberships.” Whyte believes “spiritual relationships with non-humans, the cultivation of places as sacred (or not), and social rules that commit people to help one another and repair fraught relationships motivate us to see ourselves as bound to a covenant of reciprocity.”

The notion of kinship to water is a reminder of the symbiotic and reciprocal relationship of the Indigenous people with their environment. This form of kinship involves and requires familial responsibility to the world around and establishes interpersonal and interactive terms of engagement across all species and environments. Thus, water becomes the centerpiece of the kinship between people, environment and landscape, and a key element in producing an environmental identity that links to Indigenous people’s individual, clan, and racial/ethnic identity.

There are possibilities of decolonization beyond reconciliation, which could help Indigenous communities be considered normal populace with customary rights rather than special rights, which is an unpalatable notion invented by settler constituencies. Decolonization focuses explicitly on countering the colonial and post-colonial devaluation of Indigenous identities, knowledge, traditions, and ways of living. Decolonization could occur externally and internally. The external aspect of decolonization is about challenging the dominant narratives produced by the settler state as prominent assumptions and validating and authorizing alternative narratives. The internal part relies on individuals and focuses on decolonizing our minds which requires us to obtain a different view. Such processes of decolonization help to alter dominant narratives and create alternative narratives and discourses. In this sense, water becomes a vehicle for decolonization.

The fluidity of water contrasts with the solidity of the dominant and hegemonic context of settler colonialism that surrounds nature, the environment, and all their related entities. Indigenous people are water-based people, and they share the same fluidity with water, which contrasts with the solidity of marginalization and subjugation embedded in settler colonialism. At the same time, the material struggle of decolonization acquires fluidity as an agent and uses water as a vehicle of decolonization. The fluidity of water and its life-giving agency helps to create a vibrant struggle for decolonization of mind and body along with land and customary rights and lifeways. Water gives life to humans and non-humans and connects us to everything. We must always remind ourselves that Water is our Ancestor. Water is Life!

Farzad Forouhar works for the Wiyot Tribe in Eureka, California. Farzad moved from Iran to the United States in 2014 and since then has been residing in Eureka, CA. Farzad holds a B.A. degree in Political Science with an emphasis on Global Politics and Environmental Politics with a minor in Journalism from Humboldt State University.
Citizens Seek More Voice Through Cannabis Reform Initiative

Elena Bilheimer, EcoNews Journalist

A new ballot initiative, entitled the Humboldt Cannabis Reform Initiative, is seeking signatures in order to potentially be approved by either the Board of Supervisors or by ballot vote in the November 2022 election. While everyone agrees that there are improvements that could be made regarding the current condition of the cannabis industry in both the county and the state, the Humboldt County Growers Alliance (HCGA) has come out in strong opposition to this particular initiative.

According to Betsy Watson, a retired Cal Poly Humboldt professor and one of the creators behind this project, the ballot initiative was created after several people in her community in Kneeland received notice of a new grow that was going to be 44,000 square feet next to three other farms, two of which she considers large. This made her neighborhood feel industrial rather than agricultural. After an unsuccessful community meeting, Watson and her neighbors looked at the ordinance that permits cannabis grows and learned that the current cap on new permits was 2,500, around 2.5x the amount of permits that have already been approved. Watson found this information alarming and after attending County planning meetings decided to create the initiative as a way to give neighbors more of a voice in the permitting process. The most important components Watson wanted to include in the Initiative were a cap on new cultivation permits and a limit on new permits to 10,000 square feet.

“The instruction that we gave our attorneys was to put a cap on the numbers and to be biased for small farmers and biased against industrializing farmers,” said Watson. “And being a very good attorney, he constantly, as we went through the process, advised us to be legally conservative, which we followed his advice. We went to a firm outside the county who has a lot of experience writing initiatives because this is a tremendous responsibility. You know, once you get this in motion as it is now, you can’t change it except by going back to the voters.”

The permanence of a ballot initiative process is one of the main reasons Natalyne DeLapp, the Executive Director for Humboldt County Growers Alliance, is against it. “I think that a lot of the goals that they have in mind are goals that we share in common,” said Delapp. “But the devil is in the details. And the actual initiative language was never circulated for public review. So that means no members of the public agencies, experts, or affected stakeholders had the opportunity to review the language. And this is not a simple initiative. It’s not just to put a moratorium on new cannabis cultivation. Instead, it includes 35 pages of additional amendments to our land use ordinances that apply to cannabis as well as the general plan update.” Instead, DeLapp advocates for a more public process and explained that she thinks the creators of the initiative could get their needs met through conversations with their supervisors. “Okay, you want to adjust and say that there shouldn’t be more new permits,” said DeLapp. “One could easily say ‘Hey County, I would like to work with the County to amend section five 55.4.6.8’. I do it all the time.”

However, Watson asserts that the people in her community tried to create change through the public process, but were disappointed by the response. “We tried, and, I mean, the elected officials either didn’t get back to us to answer our questions or were borderline not civil,” said Watson. “We tried. There is no place in this process for neighbors to do or say anything.”

On March 21, 2022, HCGA issued a letter stating their strong opposition to the Cannabis Reform Initiative, outlining some of their main complaints. The Humboldt Cannabis Reform Initiative responded in kind, adding a Q&A section to their website replying to many of HCGA’s comments. Part of what can exacerbate the problem is the confusion over the type of permits the Initiative is referring to, in addition to confusion about what kind of permit is counted in the 2,500 cap set by the Board of Supervisors.

Getting a new cannabis cultivation permit itself can also be confusing, and there are multiple steps required. According to John Ford, the Humboldt County Planning and Building Department Director, the process begins with an application assistance meeting to determine the details of the cultivation (who, what, where) and the necessary documents needed. The application is then submitted, and referred out to other county, state, and federal agencies, depending on its location. During this referral period, a determination is made whether additional environmental review is required under the California Environmental Quality Act (CEQA) and the County’s 1st or 2nd Cannabis Ordinance. If all goes smoothly, a staff report is then written and scheduled, and the permit is approved by either the Planning Director, Zoning Administrator, or Planning Commission. Oftentimes, the people seeking the permit hire engineering firms, planning firms, and/or lawyers to help them navigate the process. If the permit is appealed, it goes to the Board of Supervisors for a vote.

Regardless of the complexity of this process, Watson believes that the County’s process doesn’t account for the many diverse environments in Humboldt and the people and places that are affected. “The whole thing when we legalized was, tell them to come in out of the hills and be part of legal business,” said Watson. “And they have, and the County hasn’t done anything to promote their business, to protect them. All they’ve done is said yes to big, ever-expanding grows that are industrial by any standards.”

While Watson is particularly frustrated by the way cannabis is being managed by the County, DeLapp’s disappointment is directed at the state. “What is happening in Humboldt County, why are our farms suffering?” said Delapp. “It’s because what is happening is happening on a California level. Because the state of California has authorized the massive proliferation of new cannabis cultivation across the state of California. That is, California is now over producing cannabis in excess of three to five times more than California’s market can consume.”

In order for the initiative to make it to the ballot, it needs 6,000 valid signatures by May 24, 2022. To learn more about this issue, visit the Humboldt Cannabis Reform Initiative’s website (cannabisinitiative.org/initiative), and the HCGA’s website (hcgco/updates).
Fire Suppression Impacts on Wilderness

Luke Ruediger
Siskiyou Conservation Director & Klamath-Siskiyou Fire Reports Coordinator, Klamath Forest Alliance

In recent years, the impact of fire suppression activities on sensitive federal lands has been expanding in scope, scale and intensity. During the 2021 fire season, unprecedented wilderness dozerlines and other inappropriate fire suppression activities occurred throughout northern California doing great damage to cultural, biological, scenic and recreational resources on public lands.

In response, activists in the area began expressing concern about both damaging and ineffective fire suppression activities being implemented during wildfire events and on sensitive federal lands. After many years of monitoring fire suppression impacts with their Klamath-Siskiyou Fire Report Program (www.klamathsiskiyoufirereports.org), Klamath Forest Alliance began coordinating with activists across the region to document the impact of wilderness fire suppression in the 2021 fire season, and we recently published our findings in the 2021 Region 5 Fire Report.

Over the course of the last ten years activists have seen a dramatic increase in fire suppression related impacts to Wilderness Areas, National Monuments, Botanical Areas, Research Natural Areas, Riparian Reserves, National Recreation Trails and National Scenic Trails, like the world-famous Pacific Crest Trail. Impacts to irreplaceable resources such as intact meadows, wetlands, old-growth forests and significant Native American archeological sites have become routine.

For example, during the 2021 Monument Fire crews bulldozed across numerous ridges in the proposed Pattison Wilderness near Hayfork, California and in the designated Trinity Alps Wilderness Area, damaging recreational trails, scenic values, biological values and Native American archeological sites. Residents in Trinity County who are very familiar with wildfires were shocked by the damaging fire suppression tactics they were seeing implemented during the Monument Fire and reached out to elected officials with their concerns. In response, the Secretary of Agriculture, Tom Vilsak, specifically requested that fire suppression impacts be limited in these wildlands. Unfortunately, these recommendations were ignored by fire managers and wilderness bulldozing both continued and intensified during the remainder of the fire period.

Kent Collard, owner and director at Camp Trinity/Bar 717 Ranch, a wilderness youth camp at the edge of the proposed Pattison Wilderness Area and Monument Fire area stated, “The wilderness character of the Pattison Proposed Wilderness is vital to the operation and success of our summer camp business. Families choose our program because of our proximity to wild lands. For the past 92 summers, our campers have ridden horses, hiked, swam in Hayfork Creek and explored the mountains and forests of the Pattison Proposed Wilderness Area. In 2008, 2015, and again last year in 2021, US Forest Service fire managers sent dozers into those mountains and forests. Miles of historic pioneer trails that we’ve used at Camp Trinity were dozed out for fire lines and every significant ridge in the Pattison Proposed Wilderness Area is now plowed out with dozerlines. Fire managers must fully consider and understand the irreversible consequences of their decisions to send heavy equipment into wild places.”

Over 11 miles of dozerline were also built in the Bucks Lake Wilderness on the Plumas National Forest during the 2021 Dixie Fire, including 5.6 miles built directly on top of or adjacent to the Pacific Crest Trail. “Forest Service leadership ignored their own local fire and fuels experts, who said dozers would be ineffective and unneeded in the Bucks Lake Wilderness and recommended constructing dozerline outside of the small Wilderness Area. Friends of Plumas Wilderness analysis of the efficacy of fire suppression efforts in the only Wilderness Area on the Plumas National Forest found local experts were right, only 14% of dozerline was effective while 71% of handline worked. It is hard to fathom why the Plumas National Forest Supervisor, who is new to the area, did not listen to his staff and requested the construction of over 11 miles of dozerline in the 36 square mile Wilderness,” said Darrel Jury, President of Friends of Plumas Wilderness.

The Region 5 Fire Report documents the impacts to the Bucks Lake Wilderness in the Dixie Fire, the Trinity Alps Wilderness in the River Complex Fire, the Mt. Shasta Wilderness in the Lava Fire, and both the Trinity Alps Wilderness and the proposed Pattison Wilderness Area during the Monument Fire. It also provides policy recommendations to avoid these unfortunate and unnecessary impacts in future wildfire events.

Klamath Forest Alliance, and many of our partners across the West, believe that fire suppression impacts can and should be dramatically reduced in our wildland habitats, while also providing for public safety and effectively suppressing or managing wildland fires. Yet, we believe that change will only come when the current impacts are exposed and Forest Service land managers are made to answer for the increasing destruction of our natural and cultural heritage during wildfire events.

Resources:

• Executive Summary: siskiyoucrest.com/wp-content/uploads/2022/03/Executive-Summary-2021-Region-5-Fire-Report.pdf
• Full report:klamathsiskiyoufirereports.files.wordpress.com/2022/03/2021-region-5-fire-report-3.pdf
EPIC and Allies File Lawsuit to Protect Redwood Forest From Logging

Tom Wheeler, EPIC Executive Director

EPIC, the Center for Biological Diversity and the Coast Action Group have filed a lawsuit to stop the Mendocino Redwood Company from logging nearly 1,000 acres of redwood forest in a California watershed that provides habitat for threatened northern spotted owls and fish. The timber harvest plan, called “Russell Brook,” is emblematic of the failures of California Department of Forestry and Fire Protection (CAL FIRE) to regulate the timber industry.

The logging project would potentially remove many of the largest trees in the area. Northern spotted owls, protected as threatened in 1990, rely on these trees, but their habitat continues to decline because of commercial logging operations in the redwood region. In 2020 the U.S. Fish and Wildlife Service said northern spotted owls should be reclassified to endangered, but the birds are still awaiting that more protective upgrade.

Many trees were previously set aside to reduce harm from logging practices, but the new logging plan would allow the logging of these large, old trees.

“Mendocino Redwood Company is planning to log large, old trees that are protected under a previous agreement,” said Matthew Simmons, an attorney with the Environmental Protection Information Center. “They shouldn’t log what they’ve promised to protect.”

The lawsuit says CAL FIRE approved the logging project even though it violates a voter-approved county ordinance intended to reduce fire danger and ignores spotted owl protections required by the California Environmental Quality Act.

“CAL FIRE blatantly ignored state and local laws to approve this destructive logging project, so we’re hopeful the court will put an end to it,” said Justin Augustine, an attorney at the Center for Biological Diversity. “The last thing we should be doing in the midst of a climate emergency and an extinction crisis is whacking down magnificent old redwoods, killing tanoaks and jeopardizing the coastal redwood ecosystem.”

The project would also kill numerous tanoaks because the tanoaks compete with trees that can be sold for profit. Logging companies kill the tanoaks using a method known as “hack and squirt,” cutting open the tree and injecting herbicide to kill it. In 2016 Mendocino County voters approved Measure V, which prohibits the hack-and-squirt method.

The proposed logging will also further degrade the local watershed, which is listed as impaired under the Clean Water Act due to its current condition. Logging causes increased sedimentation and higher water temperatures, which prevent the Big River and its tributaries from being able to support threatened and endangered fish, including coho and Chinook salmon and steelhead trout.

“The Department of Forestry is not following the rules,” said Alan Levine, director of Coast Action Group. “The first step in forest practice reform is being consistent with the Forest Practice Rules and Act.”

The California Environmental Quality Act and the California Forest Practice Act together require logging projects to disclose their potential impacts and to avoid or mitigate any significant harm that logging will cause.

The Mendocino Redwood Company has refused to disclose which large old trees in the project area will be cut down, violating state requirements to protect spotted owls. The company has also refused to comply with Mendocino County’s Measure V.
Wigi Wetland Restoration Volunteers Wanted!
Come join us for a volunteer workday to help restore beautiful wildlife habitat in Eureka. Behind the Bayshore mall lies a wonderful section of trail and surrounding habitat called Wigi Wetland. The area is right on Humboldt Bay and on any given day you may see an array of shorebirds, waterfowl, song birds, deer, frogs, and even river otters. It is also home to a myriad of native plant species, but is partially overtaken by invasive plants. During the workday we focus on removing the invasives and picking up trash. This will allow the native plants to flourish, maintain the beauty of the area, remove potential hazards to wildlife, and help restore the overall ecosystem. We meet directly behind Walmart on the 4th Saturday of every month from 9-11am. If you want to have fun in the sun (or rain) and help restore our local wildlife habitat, email Jeremy Cashen at jeremy.cashen@yahoo.com, text at (214) 605-7368, or just come on by! We’ll provide snacks, tools, and a great time! Just bring yourself.

This month’s volunteer day is May, 28th from 9-11 a.m. (See Field Trips below.)

RRAS Field Trips in MAY!

Sat. May 7th – 9-11am. Arcata Marsh, led by Larry Karsteadt.
Sun. May 8th – 9-11am. Ralph Bucher will lead a walk at the Humboldt Bay National Wildlife Refuge.
Sat. May 14th – 8:30-11am. Arcata Marsh, led by Michael Morris.
Sat. May 14th – 8-12pm. West End Road. We’ll spend the morning birding along the entire length of West End Road from Arcata to Blue Lake. Emphasis will be on birding by ear. Contact leader Ken Burton for more details (shrikethree@gmail.com), We should be back by noon.
Sun. May 15th – 9-11am. Ralph Bucher will lead a walk on the Eureka Waterfront. This trail is paved and is wheelchair accessible.
Sat. May 21st – 8:30-11am. Arcata Marsh, led by Bob Battagin.
Sat. May 28th – 9-11am. Wigi Wetlands Volunteer Workday. Help create bird-friendly native habitat and restore a section of the bay trail behind the Bayshore Mall. We will provide tools and packaged snacks. Please bring your own water, gloves, and face mask. Please contact Jeremy Cashen at jeremy.cashen@yahoo.com or 214-605-7368.
Sat. May 28th – 8:30-11am. Arcata Marsh, led by Drew Meyer.

RRAS Field Trips in MAY!

Sat. May 7th – 9-11am. Join Daisy Ambirz-Peres for the monthly Women and Girls' Walk - a bilingual birding trip at Ma-le’l Dunes North. This gorgeous location combines the beauty and birding of Humboldt’s wetlands, forests, and dunes with shorebirds and waterbirds using the Mad River slough and many species of sparrows, warblers, finches, and thrushes singing and likely starting to nest in the forests as well. The native dune vegetation here is also a hallmark for native dune restoration. *For reservations and meeting location contact Janelle Chojnacki (see below). Únase a Daisy Ambirz-Peres para un viaje bilingüe de observación de aves para mujeres y niñas en Ma-le’l Dunes North. Este magnífico lugar combina la belleza y la observación de aves de los humedales, bosques y dunas de Humboldt con aves playeras y acuáticas que usan el lodazal del río Mad y muchas especies de gorriones, currucas, y zorzales cantantadoras; que probablemente están comenzando a anidar en los bosques. La vegetación nativa en este lugar es un sello distintivo de la restauración de dunas. Para reservar su lugar, mande un correo electrónico a daisy@f teachdunes.org.
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*Contact Ralph at thebook@reninet.com for any walks he leads and all Arcata Marsh walks.
*Contact Field Trip Chair, Janelle Chojnacki at janelle.choj@gmail.com for all other walks.
**Spotlight on Denise Seeger**

**Interview by RRAS President, Gail Kenny**

Denise has enthusiastically served RRAS for several years in many roles and although she is stepping down from the board, remains as a valuable volunteer. I chose to interview Denise out of appreciation for all she does.

**Gail:** How did you get involved in RRAS?

**Denise:** I think it was in February 2014. Ken Burton asked if I wanted to be involved with the RRAS education committee. We had met through various environmental education activities when I worked with a Friends of the Dunes project called, “Share the Beach” doing Western Snowy Plover outreach, and then through my work at Humboldt Bay National Wildlife Refuge (HBNWR). I thought RRAS was a well-greased machine. It seemed like there were a bunch of volunteers doing really great things. I ended up joining the board. I have been the publicity chair, volunteer coordinator, and education committee chair. Due to other commitments, I recently resigned from the board but want to continue with the Education Committee because that is where my main interest is. I am honored to be part of RRAS. We are looking for a volunteer to take over our monthly publicity, so if anyone out there would like to help out RRAS, that would be fantastic! (Contact Gail Kenny at gailgkenny@gmail.com.)

**Gail:** What is your educational background and what got you interested in environmental education?

**Denise:** Growing up in Marin County, on Mount Tamalpais, I literally lived across the highway from Muir Woods. I didn’t understand how fortunate I was until I moved away. Not everybody has a national monument in their front yard. Many school field trips were to Audubon Canyon Ranch, Point Reyes, Angel Island and Muir Woods. I always thought it was cool that rangers got paid for taking people on hikes. I wondered how to go about doing that. In college I bounced around several disciplines and finally found Humboldt’s natural resource planning and interpretation major. My career has included a lot of visitor services, volunteer management, and environmental education but I enjoy the education aspect the most. My birding interests really increased while working at HBNWR - kind of had to!

I became enamored at how charismatic birds are, and as representatives for their habitats. Birds make it easy to connect people to their environment. I think a lot of humans have forgotten that they are even part of nature. That’s what you are always trying to do as an educator, find the pathway that connects people to information and experiences that will expand their understanding.

**Gail:** What was your first job after you graduated?

**Denise:** I was a seasonal park aide at Humboldt Redwoods State Park during the summers while attending school. I continued as an interpretive specialist eventually becoming full time with the Humboldt Redwoods Interpretive Association. I got to work in that incredible place for 14 years. Time for a change led me back to school to study early childhood education and then the opportunity to work at Friends of the Dunes.

(Continued on next page)

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**President’s Column**

**By Gail Kenny**

Spring will be in full swing by the time you read this. That means migrating and breeding birds and lots of wildflowers. I hope you get out and partake in the wonder and joy of exploring the natural world. Send in your photos to The Sandpiper editor!

I got out for the March, Moonstone Beach Field Trip and Social hosted by our Field Trip Committee Chair, Janelle Chojnacki. It was a beautiful evening, and the event was well attended with a nice mix of folks. There were quite a few newer people including a fair number of wildlife students from Cal Poly Humboldt, along with some longtime RRAS members. The birding highlight was a dozen ravens hanging out together on the other side of Little River. It looked like they were having their own get together!

RRAS is planning our first in-person evening program since the COVID shut down, on Friday, May 13, outside in the garden at the Unitarian Church in Bayside. This should be a fun event with opportunities to socialize and hear some music played along with birdsong. See the front page of this Sandpiper for more information on the program. I hope to see you there! This will be our last regular program meeting evening until September when we will start them up again in-person and/or hybrid with a zoom option.

RRAS has an opening for secretary. The main task of the secretary is to take and submit the minutes of our board of directors’ meetings once a month. This is an easy task starting with the agenda and making notes regarding action items. We also are looking for a new publicity chair. The publicity chair mainly prepares the emailed press releases announcing our field trips, regular program meetings, and other events each month. Please contact me at gailgkenny@gmail.com for more information if you are interested in helping with either of these tasks.

Spring has sprung – send us your photos! Above left: Rufous Hummingbird. Above right: Anna’s Hummingbird chicks. Both photos submitted by Zsazsa Dallenbach.

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**Purple Martins Back at Blue Lake Hatchery!**

**By Ralph Bucher**

Purple Martins return every year to the Mad River Fish Hatchery in Blue Lake to make their nests in the pipe ends of the protective structure that supports the cables hanging over the salmon runs.

This structure protects the fingerlings from birds who like to feed on the steelhead and salmon grown in the runs. In the past I’ve photographed four nests at the entrances, with young begging to be fed. I took this photo in April this year.
For Keeps

Sun makes the day new,
Tiny green plants emerge from earth.
Birds are singing the sky into place.
There is nowhere else I want to be but here.
I lean into the rhythm of your heart to see
where it will take us.
We gallop into a warm, southern wind.
I link my legs to yours and we ride together,
Toward the ancient encampment of our relatives.
Where have you been? they ask.
And what has taken you so long?
That night after eating, singing, and dancing
We lay together under the stars.
We know ourselves to be part of mystery.
It is unspeakable.
It is everlasting.
It is for keeps.

– Joy Harjo

Joy Harjo was appointed the new United States poet laureate in 2019. Born in Tulsa, Oklahoma, in 1951, Harjo is a member of the Mvskoke/Creek Nation. She is the author of several books of poetry, including An American Sunrise (W. W. Norton, 2019), and Conflict Resolution for Holy Beings (W. W. Norton, 2015). She is a current chancellor of the Academy of American Poets and lives in Tulsa, Oklahoma. (Photo/copy reprinted from poets.org.)

Five years as an apprentice Steller’s Jay

By Pia Gabriel

It’s hard to estimate how many thousands of hours I spent chasing, stalking, trapping, annoying, and enjoying Steller’s Jays, all over the HSU campus and the Arcata streets, yards, and parks, in my effort to learn more about why they do what they do. I had convinced myself that I had trained this raucous neighborhood of jays.

A lot of them – most of them, in fact, were now showing up more often than not whenever I gave a specific whistle as I was filling strategically placed feeders with peanuts. These feeders were housed by friendly, curious, and very helpful folks throughout Arcata neighborhoods opening their yards to me, my binoculars, and my observational data sheets. Many of those friendly folks regarded Steller’s Jays as a general nuisance when my study began. Those little blue rascals show up at bird feeders, chasing away the smaller peeps and making a mess scattering the small seeds to get to the bigger prizes; they raid outdoor cat food and dog food bowls, and they’ll enjoy the fruit of your hard labor in your orchard, picking at all the fruit until they find the one that’s just perfectly ripe for their plucking.

Thanks to their unique social system where individual home-ranges overlap widely among neighboring pairs, you might get 6, 10, even 20 jays showing up for some ephemeral but particularly profitable food source in your yard, and the ensuing racket as individuals and pairs squabble over who gets which choice bits becomes overwhelming. But annoyance usually gave way to fascination with our little blue corvid neighbors once my friendly feeder hosts had learned to tell apart their resident and visiting jays by the colored leg bands I adorned them with.

Like me, they were picking up on the astounding variety of calls Steller’s Jays give (from sex-specific “rattle” and “chink” calls, over soft warbling songs exchanged among mates, to startling mimic calls of resident raptors), and their behavioral adaptability and ingenuity that makes them so successful in human-built environments. Some cold January morning, one of my feeder hosts told me with amused excitement how she watched a shy young female learn how to dart into the feeder after her cantankerous mate is done “shopping” for the best, biggest peanut in the pile, and how she quickly chooses not one, but two peanuts at a time, which she artfully crosses over in her beak to be able to carry both of them off. Another enthusiastically helped me test the hypothesis that jays will adjust the distance they travel tocache a peanut based on who is watching: I suspected that they cache close to the feeder when they are alone, farther away when their mate is watching and might pilfer the cached prize, and make the greatest effort at concealing their cache (i.e., fly farthest away before caching) when an unrelated neighbor is present.

Turns out I was right! Jays are capable of considering the outcome of their action in relation to the assumed action of another animal – an accomplishment that behavioral ecologists consider as requiring a “theory of mind.” Thousands of hours into watching goofy jay fledglings wander around in noisy juvenile bands and trying to figure out what a peanut is and how to open it, or watching one of the oldest birds in “my flock” – a 13+ year old male – bring mating gifts of food to his mate of many years, and I never had a dull moment. I learned that some of them are homebodies, while others travel far and wide; that having a homebody for a mate when you are a homebody yourself is a good thing; similar personalities are better at rearing offspring together; that trapping a traveler is easier than trapping a homebody (and realized the conservation implications that come with differential trapping ability of different personality types...); among so many other fascinating details of their winged lives. I also figured out that these beautiful, boisterous little corvids had trained me just as much as I thought I had trained them. They trained my eyes, my ears, my patience, my curiosity, and my humility.

Above Left: Pia Gabriel works with a Steller’s Jay.
Above: Steller’s Jays squabbling over peanuts. Both photos by Jeff Jacobsen.
The 17th Annual Student Nature Writing Contest

Submitted by Sue Leskiw

2022 was the second year in a row that nearly 100 poems and essays were submitted by students in Humboldt and Del Norte counties. RRAS awarded $100 in prizes to the following students in grades 4 through 12 who explored the topic “What Nature Means to Me”:

Junior Division (Grades 4-8) Winners
First Place: Bony McKnight, Grade 5, Coastal Grove Charter
Second Place: Trillium Pitts, Grade 6, Alder Grove Charter
Third Place: Indumati Stewart, Grade 5, Coastal Grove Charter
Honorable Mentions: Jasmine Christian, Grade 5, Six Rivers Montessori; Aviva Orlandi, Grade 6, Fieldbrook Elementary; Kael Ahlstrom, Grade 7, Blue Lake School; Zaine Moore, Grade 7, Agnes Johnson Charter; Arianna Benitez, Grade 8, Alder Grove Charter.

Senior Division (Grades 9-12) Winners
First Place: Abigail (A.J.) Garcia, Grade 9, McKinleyville High
Second Place: Jadalyn Weber, Grade 9, McKinleyville High
Third Place: Talon Rodriguez, Grade 11, McKinleyville High
Honorable Mentions: Asa Ryce, Grade 9, Academy of the Redwoods; Olivia Horn, Grade 9, McKinleyville High; William Hufford, Grade 9, McKinleyville High; Lauren Guynup, Grade 11, McKinleyville High.

A booklet containing all nature writing winners will be available for downloading in May at www.rras.org.

First Place Winner, Junior Division
Crashing Waves
By Bony McKnight, Grade 5, Coastal Grove Charter

The past two years have been really hard for me. Nature has been the main way I’ve dealt with all the difficulties Covid has brought. Hanging out with friends is way more stressful with masks and social distance, and there’s so many boundaries for everything, with the threat of Covid hanging over us all, even if we’re vaccinated. Getting outside, away from all my troubles and difficulties has something really calming about it. It’s like waking up and realizing I can just step away from everything for a minute, and when I come back I’ll be calm enough to carefully sort everything out, and not get frustrated halfway through.

I’ve been really anxious lately, about almost everything, and I don’t have much patience with anything. School, accidents, arguments, so many things I just don’t have patience for. Nature helps calm me down, and center me. In some ways nature also reminds me of the world of Covid we’re living in right now. Mainly the ocean. Sometimes you have to let the waves of fear crash over you, before you can reach calmer water. But you have to be strong mentally, and physically, to pull through. Not everyone makes it. Wearing a mask and getting vaccinated is like starting to swim through the waves of fear and confusion and work your way to calmer water. There’s so many things to be worried about, but for me nature’s not one of them. It’s a whole world of calm and wonder that I can let myself relax in.

I remember running my hands through the sand at a beach looking for shells. And then I saw a shell, a very small shell, rolling around right where the waves were crashing. It’s just very magical, seeing something so small and fragile not being destroyed by something so big and powerful. Seeing it made me think “I can do this too. I can be strong enough to stay strong during such overwhelming times.” You don’t need to be physically strong, you just need the strong thought of “I can do this,” and you just need to believe in yourself.

Nature has taught me to believe in myself, and I’ll do everything I can to help it, in return.

First Place Winner, Senior Division
What Nature Means to Me
By Abigail (A.J.) Garcia, Grade 9, McKinleyville High

But what would Nature matter to the world that may destroy it?
Why would we write poems or essays, Documents, legal instruments
On the topic of Nature when we in fact Do not give a single care
A single drop of sweat on what Nature means to us?
We are not dreary or morose
Because we ourselves as the human race do not care about Mother Nature or what surrounds us.
We have instead built walls and Eiffel towers in place of garden walls
We have polluted the seas with plastic and empty beer cans
Homo sapiens inhabit this Earth with arrogance and egos.
We flood our streets with epicaricacy,* burn our homes with the heat and radiance of global warming.
Would you care about the dying Earth if no one else did? Why are we so focused on what the majority of us think?
Would you behave so cold and wretched like the King of Kings, Ozymandias?
I wrote this poem because it wasn’t an essay.
I wrote this poem because I was told I had to.
I write this but I actually seem to derive joy in writing this poem
Because I can use words
Like how protesters can use words
Weapons
Fancy declarations of compassion to Gaia
But we use these declarations to present war as well
So at what cost are we going to go to save what Nature means to us?
When the world is crippling and crumbling
Will we cry? Or beckon upon our “God” to save us?
To take back our sins to what damage we have inflicted.
It’s all about politics or war or walls
Garden walls.
Sacred garden walls might save us from this cruel dying world.
But it doesn’t quite matter when the ocean is choking up bleach.
Or when rhinos are being wiped out of existence.

But words
And long documents help
Poems help – difficult, hard to understand poems.
The line is blurred from what Nature means to me, and how Nature might not mean anything when we are through with it.
Where are the resplendent azaleas, or the insouciant owl?
Where may I bask in the sun and not worry about Nature?
What Nature means to me.
But what would Nature matter to the world that may destroy it?

*The judges had to look this one up. Epicaricacy means “rejoicing at or derivation of pleasure from the misfortunes of others.”

Photos submitted by students:
Left: Bony McKnight.
restaurants, schools, hotels, and one hospital. Over including grocery stores, wholesale food manufacturers, businesses about current food waste reduction options. The ZWH team contacted 102 Arcata food businesses about current food waste reduction options. The ZWH team contacted 102 Arcata food businesses including grocery stores, wholesale food manufacturers, restaurants, schools, hotels, and one hospital. Over half of the outreach was conducted through in-person meetings where businesses could ask questions about waste reduction and prevention opportunities specific to their operations.

ZWH was able to reach 98% of all Arcata food businesses targeted for food waste reduction outreach. Businesses received information fact sheets, recordkeeping templates, and a refrigerator magnet of contact information for food recovery organizations serving Arcata and the types of foods they accept. Businesses also received food waste prevention strategies, and information about signing up for local composting services and/or kitchen scrap collection with local farmers. ZWH learned that Arcata businesses are generally very interested in preventing and reducing food waste, and many have already incorporated food waste reduction into their operations. For example, Arcata grocery stores have a long history of edible food donations multiple times per week, and most separate pre-consumer food scraps for collection by farmers. Arcata’s large wholesale food manufacturers are also donating edible food or have arrangements with farmers to collect production food scraps. Only three restaurants reported making edible food donations, however, many restaurants reported giving extra food to employees, family, or directly to hungry people. Eight restaurants participate in some form of composting or feeding animals. Mad River Community Hospital regularly donates edible food and also collects kitchen scraps for both on-site composting and animal feed. Schools use a mix of on and off-site composting, but also noted that COVID-related policies dramatically increased food and packaging waste.

Although there is interest in, and progress toward food waste reduction in the commercial sector, the recently completed 2021 waste characterization study indicates food waste in Humboldt County has increased by 6% over the last 10 years, accounts for 15% of the current waste stream, and remains the most prevalent disposed material. This is where SB 1383 comes in. In the not-so-distant future all Humboldt businesses and residents will have access to food waste collection and processing services. In the meantime, we still have options for food waste prevention, edible food donations, feeding animals, and small-scale composting. To learn more, see the ZWH website at: zerowastehumboldt.org. Juliette Bohn was a team leader in this project.
In 2021, Centro del Pueblo (CoDP) started Comida del Pueblo in response to worsening food insecurities faced by Indigenous and immigrant communities in Humboldt. “CoDP is a food sovereignty initiative intended to create equitable access to spaces and materials for our local Indigenous and immigrant communities to heal through organic food and medicine cultivation,” said one team member of CdP. “In March of 2021 we established the first Jardín Santuario in Wiyot territory. A Jardín Santuario is a garden by and for our Immigrant community where healing and wellness is centered. We want to remind the community that Humboldt County is a sanctuary for immigrants.”

Humboldt County officially became a Sanctuary County when the Sanctuary Law (Measure K) was passed through a successful grassroots ballot campaign led by Centro del Pueblo between 2016-2018.

The Comida del Pueblo project is led by Indigenous and Latinx migrants, and during the first year of operation they were able to create Jardín Santuarios (Sanctuary Gardens) in Arcata, Loleta, Fortuna and Eureka. They also collaborate with various local organizations including Cooperation Humboldt, Open Door, and the Loleta Community Resource Center at the various gardens throughout the county. The project emerged because Centro del Pueblo’s community advisors were looking for solutions for not only the problems that were created or worsened by COVID-19, but also the ongoing inequities that members of the migrant community were facing. During these discussions, they realized that the needs of the community continued to relate back to food sovereignty. The gardens responded to these issues by creating open spaces for sharing and learning between the community and focusing on the idea that healing happens through the revitalization of traditional practices.

According to the Declaration of the Forum for Food Sovereignty, Nyéléni 2007, “Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations.”

As part of their mission for creating food sovereignty, one of CoDP’s goals is increasing the “Ability to cultivate, harvest and process the traditional staple foods of the daily diet of the Indigenous migrant community.” One of the foods they are most proud of growing is red, black, pinto, and white corn due to the diversity of flavors and methods of preparation that are possible, including tortillas, tamales, drinks or roasted corn. “This corn-based diet is a recognition of the peoples of Mesoamerica, corn is a representative vegetable of the nutrition of our original peoples,” said CdP team members.

Community members are invited to come out on Saturdays between 2-4 PM to volunteer at the Jardín Santuario de Arcata on the corner of 11th and F Street. Additionally, individuals are invited to donate via Centro del Pueblo’s website, cdpueblo.com.

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**traducción por Carbery Arroyo**

En 2021, Centro del Pueblo (CoDP) inició el proyecto de Comida del Pueblo (CoDP) en respuesta al empeoramiento de la inseguridad alimentaria que enfrentan las comunidades indígenas y migrantes en Humboldt. “CoDP es una iniciativa de soberanía alimentaria destinada a crear un acceso equitativo a espacios y materiales para que nuestras comunidades indígenas e inmigrantes locales se sanen a través del cultivo de alimentos y medicamentos orgánicos”, dijo un miembro del equipo de CdP. “En marzo de 2021 establecimos el primer Jardín Santuario en territorio Wiyot. Un Jardín Santuario es un jardín por y para nuestra comunidad Inmigrante donde se centra la sanación y el bienestar. Queremos recordarle a la comunidad que el condado de Humboldt es un santuario para los inmigrantes”. El Condado de Humboldt se reconoció oficialmente como un Condado Santuario cuando se aprobó la Ley Santuario (Medida K) a través de una exitosa campaña electoral de base dirigida por el Centro del Pueblo entre 2016 y 2018.

El proyecto Comida del Pueblo está liderado por inmigrantes indígenas y latinx, y durante el primer año de operación pudieron crear Jardines Santuarios en Arcata, Loleta, Fortuna y Eureka. También colaboran con varias organizaciones locales, como Cooperation Humboldt, Open Door y Loleta Community Resource Center en los diversos jardines del condado. El proyecto surgió porque líderes comunitarios del Centro del Pueblo buscaban soluciones no solo para los problemas creados o empeorados por el COVID-19, sino también para las desigualdades constantes que enfrentan los miembros de la comunidad migrante. Durante estas discusiones, se dieron cuenta de que las necesidades de la comunidad siguen relacionándose con la soberanía alimentaria. Los jardines responden a estos problemas creando espacios abiertos para compartir y aprender entre la comunidad y centrándose en la idea de que la sanación ocurre a través de la revitalización de las prácticas tradicionales.

Según la Declaración del Foro para la Soberanía Alimentaria, Nyéléni 2007, “La soberanía alimentaria es el derecho de los pueblos a alimentos sanos y culturalmente apropiados, producidos mediante métodos sostenibles y ecológicamente racionales, y su derecho a definir sus propios sistemas alimentarios y agrícolas. Pone las aspiraciones y necesidades de quienes producen, distribuyen y consumen alimentos en el centro de los sistemas y políticas alimentarias en lugar de las demandas de los mercados y las corporaciones”.

Como parte de su misión de crear soberanía alimentaria, uno de los objetivos de CoDP es aumentar la “capacidad de cultivar, cosechar y procesar los alimentos básicos tradicionales de la dieta diaria de la comunidad indígena migrante”. Uno de los alimentos de los que se sienten más orgullosos de cultivar es el maíz rojo, negro, pinto y blanco debido a la diversidad de sabores y formas de preparación que son posibles, incluyendo tortillas, tamales, bebidas o maíz tostado. “Esta dieta a base de maíz es un reconocimiento a los pueblos de Mesoamérica, el maíz es una planta representativa de la alimentación de nuestros pueblos originarios”, dijeron integrantes del equipo de CdP.

Los miembros de la comunidad están invitados a salir los sábados entre las 2 y las 4 p. m. para ser voluntarios en el Jardín Santuario de Arcata en la esquina de las calles 11 y F. Además, se invita a las personas a donar a través del sitio web del Centro del Pueblo, cdpueblo.com.
ECONEWS MAY 2022

www.yournec.org

NEC Library Book Review:
Introduction to Energy in California

Ali Ong Lee

With California’s floating offshore wind process underway—off the coasts of Humboldt Bay and Morro Bay—Peter Asmus’ Introduction to Energy in California might prove a useful overview providing the public context as it transitions to this renewable energy and engages with a Community Benefits Agreement process with the Redwood Regional Climate and Community Resilience Hub (redwoodcorehub.org), a Humboldt Area Foundation Initiative.

Introduction to Energy and other energy books are available to borrow from the Northcoast Environmental Center’s (NEC) updated library, although donations of more current energy books would be welcome additions to better address floating offshore wind energy.

Published in 2009 by the University of California Press, Introduction to Energy is Number 97 in a series of California Natural History Guides. These science-based, densely packed, approximately 400-page, reference guides, are presented in modular form.

Introduction to Energy was written by Peter Asmus, an energy journalist—who spent time covering Sacramento energy politics—and is logically presented in seven parts with photographs, charts, maps, tables, lists, glossary, and references.

1. Overview: From Indigenous Stewardship to Millennial Crisis
2. Mainstays: Electricity and Fossil Fuels
4. Challenges: The Risks of the Status Quo and Systems Overhaul
5. Innovation: The Search for Solutions
6. Progress: Seven Ongoing Experiments
7. Conclusion

In section one, “Overview,” Asmus mentions Humboldt, although—in this edition—the north coast does not figure prominently: “By 1900, some 25 hydroelectric plants had been constructed in California, stretching from Eureka in the north down to the previously mentioned Mill Creek facility in the south” and “In 1854, the first oil well was drilled manually way up in Humboldt County, but these efforts came up dry.”

In section two, “Mainstays,” when providing a geologic history of California, Asmus notes, “Petroleum seepages can be found as far north as Humboldt County.” This chapter dryly focuses on electricity and fossil fuels and includes pros and cons lists for both, as are also provided for all forms of energy throughout the book.

In section four, on “Challenges,” Asmus introduces Jan Harming who was pivotal to California’s rapid development of solar energy. “With a degree in Home Economics, she never dreamed she would spend her entire career promoting renewable energy and energy efficiency in California and the rest of the world.” After Harming returned to the university to become a biological ecologist, she specialized in environmental policy and partnered with a wind farm entrepreneur. Hamrin said:

“Unfortunately...there are no widgets that can simply solve the climate crisis. We have to transform the entire system, the technology as well as the infrastructure.”

In “Innovation,” section five, Asmus explains the development of California’s Community Choice Aggregate Assembly Bill 117, passed in 2002, led to Humboldt’s Redwood Coast Energy Authority and Mendocino’s Willits Economic Localization program, “tying together energy, transportation, housing, and food supply concerns with an overall goal of generating as many of the services as possible from within the local community...”

Speaking of local, when Introduction to Energy was published in 2009, Andy Cooper’s Footprint Recycling was both in operation in Humboldt and mentioned (from page 343 to 345), as an example from “a place where lofty ideals about each of our relationships to community are the norm.”

Regardless of how lofty ideals might be, Asmus concludes Introduction to Energy by paraphrasing Art Rosenfeld, who wrote the forward: “there is no cleaner and greener energy source than the energy we do not have to produce in the first place”, calling upon Californians:

• to get informed;
• to make renewable and passive energy choices;
• to reduce energy consumption;
• to engage in smart growth land use planning;
• to creating "A New Power Road", decentralizing energy production and transmission;
• to risk energy innovation.

A second edition for Introduction to Energy would be timely, since it has been 13 years since the first edition. In a subsequent edition, besides updating data, Asmus could cover geothermal energy and carbon sink strategies more in-depth and address floating offshore wind processes and development, unfolding in California, which will necessitate more coverage of Humboldt and Morro Bay. Perhaps, he might highlight current innovators (other than Elon Musk) on the new power road and show how Pacific Gas & Electric Company has charged the public with environmental, health, and financial consequences of deferred infrastructure maintenance while simultaneously working to remove rooftop solar incentives. Until a next edition is published, this first Introduction to Energy serves well as one of the available primers in the NEC library. To check out this and other titles, visit yournec.org/nec-library

FURTHER READING

• Reaping the Wind: How Mechanical Wizards, Visionaries, and Proﬁteers Helped Shape Our Energy Future by Pete Asmus (Island Press, 2001)
Ivy Munnerlyn, Coastal Programs Coordinator

Here at the NEC’s Coastal Programs, we like to focus on making change locally. Our cleanup events like Coastal Cleanup Month and Trash-a-thon, as well as our year-round volunteer programs, have helped remove over 60,000 pieces of litter from local streets and beaches in the last two years. But to really make an impact on big issues like plastic pollution and marine debris, system-wide change is required. Fortunately, the NEC is far from the only organization advocating for plastic reduction and cleanup efforts. Here's a little smorgasbord of plastics news from beyond the redwood curtain.

CALIFORNIA SINGLE-USE VAPE AND TOBACCO FILTER BAN

According to data from California’s statewide Coastal Cleanup Day event, cigarette butts make up almost 30 percent of the total trash collected each year. Cigarette butts contain plastic fiber filters, which release smaller microplastics as the butts break down. In January, assemblymember Luz Rivas (D-La Habra) introduced AB 1690, the California Single-Use Vape and Tobacco Filter Ban. The bill originally sought to ban all single-use tobacco and vape products, including cigarettes with filters and disposable vapes. Anyone who picks up trash in Humboldt is well acquainted with the prevalence of cigarette litter, but vape and e-cigarette products are a rarer find. When they do escape the trash can, their batteries and electronic components can leach chemicals into the environment. Unfortunately, the part of this bill addressing cigarette butts has been removed, but the ban on single-use vapes remains intact. Disappointing, but still a step in the right direction. AB 1690 is in committee as of April, so stay tuned to see if this bill makes it to a vote.

STATEWIDE MICROPLASTICS STRATEGY

In 2018, our state legislature directed the California Ocean Protection Council (OPC) to create a plan to research and address the widespread issue of microplastic pollution. In February, the OPC released the Statewide Microplastics Strategy. The strategy urges the state to take action on a number of fronts, like banning products that contribute to microplastic pollution. In fact, they specifically mention a ban on disposable cigarette filters. Statewide bans on plastic microbeads used in products like toothpaste and face wash already exist, so there is a solid foundation to build on. The Strategy also emphasizes the need for funding and development of plastic alternatives that can make the transition away from single-use plastics easier for businesses and consumers. Among other key sectors, the authors call out products used in recreational and commercial fishing and aquaculture, which is a significant source of plastic debris on the Northcoast. These prevention measures won’t remove all plastics from the state, so the Strategy advises the state to also focus on preventing plastic on land from entering the ocean. Stormwater and wastewater in particular need to be processed further in order to remove microplastics before entering the ocean. To read the full Strategy (it’s less than 40 pages), visit www.opc.ca.gov.

CLEAN HARBORS INITIATIVE

On the other side of North America, one man has made it his mission to rid Canada’s eastern harbors of trash and fishing debris. Before becoming an environmental advocate, Shawn Bath dove for sea urchins in Newfoundland, where he came face to face with the reality of abandoned, lost and discarded fishing gear (ALDFG). Also known as “ghost gear”, these nets, ropes, and traps can continue to capture marine animals for decades as they slowly disintegrate. Since 2018, Bath has removed dozens of these nets from harbors in Newfoundland and Labrador, along with 50,000 lbs. of trash. His nonprofit Clean Harbours Initiative was the subject of the 2021 documentary Hell or Clean Water, which followed him in his trash removal effort. Bath is a powerful reminder that when decision-makers are slow to respond, we can still make a big difference through direct action. Learn more about his work at www.cleanharboursnl.com.
DEMYSIFYING THE MOON

Sabriyya Ghanizada, EcoNews Intern

The word lunacy is derived from the latin word, lunaticus, which translates to moonstruck. Fables of the moon causing intermittent insanity in humans have taken on many iterations; for centuries tales of werewolves have been told around the campfire and silver screen alike, to warn of the mythical creatures’ arrival at the full Moon. Some theorize that our bodies being made up of 60 percent water equates to an emotional or physical effect on humans since the Moon has proven effect on the Earth’s tides. While there has been very little in the western and scientific world view of the Moon to prove any of these claims, there is data to back up that the light from a full Moon can make for more sleepless nights. One thing is for sure, the Moon, Earth’s one and only natural satellite, affects Earth’s rhythms here on Earth.

Though you may be familiar with the full Moon and new Moon, the Moon experiences several phases throughout its orbit. Lecturer in the department of Physics at Cal Poly Humboldt, Tyler Mitchell, explained the cycle that a moon goes through in an entire month, or a ‘moonth’ if you will. “If we are starting at the new Moon,” Mitchell said, “we start with the waxing crescent and move on to the first quarter Moon, then its half Moon, waxing gibbous, onto the full Moon. From the full Moon it wanes to waning gibbous and the third quarter Moon waning crescent back to the new Moon.”

C.D. Hoyle, a professor in the Department of Physics and Astronomy, described the relationship between the Earth and the Moon due to their attraction by gravitational force. “The sun is a big massive object so it pulls on all of the planets that surround it,” Hoyle said, “Think of a string on a ball, the Sun’s gravity pulls on all the planets to keep them in orbit. The Earth pulls on the Moon and keeps it on an orbit around the Earth,” said Hoyle.

It’s important to note that while very bright, especially at the full Moon, the light from the Sun is reflected by the Moon. “The Sun is the only light source in the solar system, except on a new Moon, you can kind of see the Moon in a way that’s light from the earth reflecting on the new Moon,” Mitchell said, “That’s called Earthshine and you can see the other part is dimly lit up. Any illumination on the dark part of the moonbeam is light reflected from the Earth.”

Even though the Moon orbits around the Earth, we are only ever getting one perspective of it. The Moon is tidally locked to the Earth, so we have only ever seen the same side of it as it rotates. “Every time the Moon orbits the earth it rotates exactly one time,” Mitchell said. “The rotation and orbit is the same for the Moon, so it rotates slowly, so the same side faces us.”

Tamara B. Barriquand, an assistant professor at Cal Poly Humboldt, specializes in air-sea interactions and fluid dynamics. She explained that the biggest thing the Moon affects on Earth is the tides. “Ocean tides everyone is familiar with because we see the rise and fall of the coastline,” Barriquand said. “What is actually happening is the Moon is creating planetary-length waves that propagate as shallow water waves.”

According to Barriquand, during both a new Moon and a full Moon we have the biggest tidal ranges. These are the highest high tides and the lowest low tides, called spring tides. King tides are extremely high spring tides. King tides occur during either a new Moon or a full Moon when the Moon is closest to the Earth (called perigee) and the Earth is closest to the Sun (called perihelion).

“That absolutely affects the organisms and organisms are very much affected by the tides. We see migrations of organisms in the tides and organisms live in intertidal zones and adapt to when the water level rises and when the water recedes,” said Barriquand. Organisms like barnacles, oysters and sea stars have adapted to the tides. According to National Geographic, barnacles, along with mussels, adapt by holding on to water during low tides. When the Pacific Ocean’s water has reached the right temperature for roughly a month, Australia’s great barrier reef has an annual mass spawning around the full Moon in November, releasing hundreds of sperm and eggs.

Sabriyya Ghanizada is an Intern with EcoNews for the Spring. A Journalism News Major at Cal Poly Humboldt, Sabriyya has written published pieces for each of the student-run publications: The Lumberjack, El Lenador and Osprey Magazine. Currently, she is the Editor-In-Chief of Osprey running a humble nine-person team. Sabriyya currently has her eyes set for graduation in Spring 2022.

MOON CYCLES

Many cultures refer to the Moon as being feminine and look to the Moon as a sign of fertility. In her book, Red Moon—Understanding and Using the Creative, Sexual and Spiritual Gifts of the Menstrual Cycle, author Miranda Gray explains the significance of the two traditional menstruation patterns some cultures have followed. The average length of a Moon cycle (28 days) is similar to that of a menstrual cycle (29.5 days) and for those assigned female at birth, a menstrual cycle may fall in line with the phases of the moon. A menstrual cycle that falls in line with the new Moon cycle may be known as a white Moon cycle while a full Moon cycle is known as a red Moon cycle. Tracking your menstrual cycle with the phases of the moon can help you find out which cycle you may be on.
**PICKLEWEED**

Pickleweed (*Salicornia Pacifica*) is a low growing succulent plant that dominates the lower salt marsh. It is specially adapted to use saltwater as its main source of water. It is an “accumulator” meaning salt is removed and stored in vacuoles. As the vacuoles become full, they turn red and drop off the plant, removing the salt. Pickleweed is an important source of food and shelter for migrating birds and endangered species, such as the salt marsh harvest mouse or Belding’s Savannah Sparrow.

These plants are very vulnerable to human interference. Although pickleweed can withstand short periods of flooding, it will die under prolonged immersion. The construction of buildings and transportation corridors disrupts natural flooding cycles. In Humboldt, invasive cordgrass (*Spartina Densiflora*) has infested an estimated 90% of salt marshes in Humboldt Bay and the adjacent Eel and Mad River estuaries where it outcompetes and displaces the native pickleweed.


**EELGRASS**

Eelgrass (*Zostera marina*) is a widely distributed type of seagrass. Though it has a tendency to be overlooked in environmental concerns it is important for the health of marine ecosystems. It is classified as an Essential Fish Habitat (EFH). There has been a significant loss of eelgrass habitats in recent years as it is quite vulnerable to human impacts such as urban development, dredging, pollution, and sediment runoff from upland areas.

Eelgrass functions as an important source of food for migratory birds and sea turtles, shelter for young fish and invertebrates, and a spawning area for many species such as the Pacific Herring. In addition to providing food and shelter to marine life, eelgrass also improves the general quality of the habitat. It produces oxygen, improves water quality by filtering polluted runoff, absorbs excess nutrients, stores greenhouse gasses like carbon dioxide, and reduces coastal erosion by trapping sediment and reducing the force of waves.

Source: NOAA Fisheries | Photo: Eric Heupel, Flickr Creative Commons

**PACIFIC SAND LANCE**

The Pacific Sand Lance (*Ammodytes hexapterus*) is a forage fish that is essential to the health of the greater ecosystem. During the day, sand lances feed on zooplankton in large schools and at night they bury themselves in the sand to hide from predators. The sand lance is an important source of food for marine fish, birds, and mammals, including endangered species such as the Chinook salmon.

These fish are sensitive to climate change and human interference. They return to the same spawning and burrowing habitats every year so human impacts on the nearshore environment put them in danger. As a result, they are very sensitive to beach pollution, development of structures near the water, and larger impacts of climate change such as rising sea levels. While the sand lance tends to be overlooked by humans, destruction of intertidal sand and gravel areas may be catastrophic to the greater ecosystem as the sand lance is an essential prey species.

Sources: Washington Department of Fish and Wildlife | Photo: brewbooks and U.S. Geological Survey on flickr and fisheries.noaa.gov
RETURN OF AN OMNIBUS BILL AND EARMARKS

As the reality of 2022 elections for all members of the House of Representatives and a large number of US Senators kicks in, the legislative gears begin to move, and the rhetoric tends to the dramatic. President Biden signed the large appropriations bill that, in the end, got little press coverage due to other world events and the return to collaborative and sometimes backroom politics. Earmarks, popularly known as “pork barrel”, which give members of Congress the ability to crow about success in an election year without typically getting into national news, allowed for Congress to settle back into a decades-old routine of wheeling and dealing. Whether that is good or bad depends on whether your project was funded. Most Americans have no idea what was included in the budget package.

Here are a few take-home notes:

1. Certainly noteworthy to residents close to Humboldt Bay is earmarked funding for the Hammond Trail bridge which will make the Mad River crossing safer and assure a commuter and recreational connection between McKinleyville and the Humboldt Bay communities.

2. With the media spotlight shining elsewhere, the Senate actually pushed for more funding and the House had to compromise on department and agency budgets that overall were unexpectedly generous to conservation efforts. A few highlights:
   - The Office of Energy Efficiency & Renewable Energy received a record $3.2 billion.
   - National Park Service received a budget increase of $142 million which is greatly needed as parks have seen large increases in visitation in the wake of the COVID pandemic.
   - The US Fish and Wildlife Service received a $62 million increase.
   - The Bureau of Land Management received $78 million for sage grouse conservation and $31 million for the threatened and endangered species program.
   - The National Oceanic and Atmospheric Administration (NOAA) received significant funds for climate change including an $18 million increase for climate research; $10 million of that goes for the climate change adaptation programs.
   - NOAA Fisheries received an increase of $51 million. The marine species and anadromous fisheries endangered species category are in their portfolio and the increase also includes $6 million to help support wind farm development.
   - The US Department of Agriculture (USDA) received just over $1 billion for conservation programs, including $7 million for the Healthy Forests Reserve Program (HFRP). The HFRP “helps landowners restore, enhance and protect forestland resources on private lands through easements and financial assistance. HFRP aids the recovery of endangered and threatened species under the Endangered Species Act, improves plant and animal biodiversity and enhances carbon sequestration,” according to the USDA website.

All was not good news, however. A last-minute amendment was attached to the bill prohibiting new regulations on lead ammunition and fish tackle. The NEC signed on to a letter to enact a law to prohibit lead ammo and tackle. Conservation groups will continue to push for this nationwide. California phased in such a law in 2013 in response to research showing harmful effects on wildlife, especially carrion-feeding animals such as eagles and condors. In the final version Congress booted spending for the United Nations’ Green Climate Fund. In addition, they did not fund the much-touted education and training for a new Civilian Climate Corps that has no specific funding. Such is the impact of a closely divided and highly partisan congress.

AND NEXT UP: 2023 BUDGET

Biden has submitted his budget already and it is, once again, generous for conservation and its response to the Climate Crisis. Although jobs and the overall economy are doing well, inflation, including gas prices, is taking a bite out of American’s wallets and the election-year fight has begun on Build Back Better or Slimmer or maybe hardly at all. Progressive members of Congress are concerned about specifics and are fearful the midterms will bring a wall of opposition for programs included in the Green New Deal, climate change research, and implementation of reducing dependence on fossil fuels. Enjoy 2022 because 2023 could be a wipe-out except, of course, for those new earmarks.
State Authorities Support Conversion of SF Bay Area Refineries to High Deforestation Risk Biofuels

Gary Graham Hughes

Over the last two weeks of March, the Contra Costa County Planning Commission held hearings and certified the Final Environmental Impact Reports (FEIR) for two unprecedented SF Bay Area refinery conversions to manufacturing ‘drop in’ liquid biofuels.

Both the Marathon-Neste joint venture at the Martinez refinery biofuels project and the Phillips 66 Rodeo refinery biofuels project have essentially been in simultaneous review under the California Environmental Quality Act (CEQA) since the beginning of 2021.

The county Planning Commission decision to certify the FEIRs has already been appealed by a coalition of local, national and international organizations. These groups include the Asian Pacific Environmental Network, Biofuelwatch, Center for Biological Diversity, Communities for a Better Environment, the Natural Resources Defense Council, and others.

The appeals of these projects will be heard by the Contra Costa County Board of Supervisors in May and June. As of this writing, the dates of these appeals hearings have not been set.

Though Phillips 66 has not yet completed the permitting for their refinery conversion, the Rodeo refinery has already begun processing soy feedstock into a ‘drop in’ diesel biofuel, known in industry terms as ‘renewable diesel’.

This diesel biofuel product is different from ‘biodiesel’ as it does not need to be blended with petroleum-based diesel, nor does it require the modification of a diesel engine for its use — hence the term ‘drop in’ to describe the ‘renewable diesel’.

The soy and canola oil based liquid biofuel product refined at the Phillips 66 Rodeo facility is already available at 76 brand gas stations in Humboldt County, despite the fact that Phillips 66 has not yet secured permits from regulatory authorities to manufacture this fuel.

The ‘renewable diesel’ is produced by a hydrotreated esters and fatty acids (HEFA) refining process for ‘hydrocracking’ the vegetable oil feedstocks to make the ‘drop in’ fuel. The process actually requires massive amounts of hydrogen, which is acquired by the steam reformation of fossil gas, making the refining process itself highly fossil fuel reliant and emissions intensive.

Calculations indicate that the processing of soy feedstock into a ‘drop in’ fuel is as greenhouse gas intensive as processing crude petroleum.

Regulatory authorities have been reluctant to look closely at the predictable climate impacts resulting from the scaling up of this technology for refining liquid biofuels, instead choosing to certify the FEIRs and ignore comments raising these questions.

State authorities have also dismissed the growing body of scientific evidence showing that increased demand of high deforestation risk commodity feedstock like soy for making biofuels contributes to the market dynamics that are driving tropical forest loss, as well as dramatically exacerbating the global food crisis.

The appeal process will offer an opportunity to further expose the erroneous assumptions and flawed science justifying these liquid biofuels as a climate solution. EcoNews will bring you more news on this matter as it evolves.

Gary works as the Americas Program Coordinator with the international organization Biofuelwatch (biofuelwatch.org.uk).

Labor and Environmental Movements

Raven E. Marshall, EcoNews Intern

Perhaps unsurprisingly a lot of overlap exists within differing social justice movements, but the ways some intersect and support the other are not always so obvious. The labor rights movement has long intertwined with the environmental movement, and perhaps it’s no coincidence that the celebration of Cesar Chavez Day and Earth Day follow each other. These holidays give reason to remember the actions behind the movements that helped to achieve many of the rights and protections we have today. Understanding how these movements overlap can be one way to engage current and future movements in more intersectional ways.

Ed Mata, Potawot Community Food Garden’s Garden Specialist, describes working in produce fields in the 60s in the San Joaquin Valley. Mata remembers getting to know the families he worked with at the farms and seeing young children running around. He describes the experience of seeing crop duster planes fly overhead and spray while the workers shouted and covered their heads with scarves. “I didn’t live it everyday like they did. I was out there when we were being sprayed but I was fortunate enough to leave,” he said.

Mata would later describe seeing the effects of workers being sprayed with chemicals by seeing adults and children getting sick and a rise in birth defects. Though Mata doesn’t describe himself as an activist of the labor rights movement he says he was a part of the support behind it. Being familiar with the pitance that farm workers were paid, it was hard to see how people could support their families. Through many years of organizing, the labor rights movement would amp up in the mid to late 60s and prove successful in improving the rights, working conditions, and pay for farmworkers.

John Frahm is Director for United Food and Commercial Workers Local 5, and president of the Humboldt and Del Norte Central Labor Council, a union organization that represents 20 unions and over 5,000 workers in the Humboldt County area. Unions are made up of workers who come together to create a collective voice and empower each other and are an important counterbalance to capitalist systems as they prioritize putting resources into the community. Frahm has worked with unions for over 20 years locally and has seen a dramatic increase in union organizing due to a variety of factors.

Locally, unions sit in on meetings for various proposed community projects as a way to ensure that all workers a part of the project are being represented fairly. This holistic approach to advocacy for workers in the community can be seen as a silent deed gone unnoticed but is one way that unions support the community. “When we all do better, we all do better and that’s the power of collective action” says Frahm.

Expanding on how the pandemic brought forth a surge in new technology, mostly food delivery services, Frahm sees this as a push for selling convenience by big tech companies fueling a “need it now” philosophy. It’s this idea of convenience that is creating unrealistic demands on workers and the environment, both of which are suffering at this expense to keep up. Better labor rights for workers are contingent on better environmental protections.

One way to slow down the capitalist machine is to resist this push for convenience. People who live in urban areas could learn from the lifestyles of folks living rurally such as planning ahead to get everything you may need when making trips to the grocery store.
Get on Board for the Climate

California Could Get Tougher Than the Feds on Super Greenhouse Gas

Martha Walden

As the world gets hotter, staying cool becomes more important. Even here on the north coast air-conditioners are becoming more common. AC, refrigerators, and other cooling equipment use a refrigerant gas called hydrofluorocarbon (HFC) that traps thousands of times more heat than CO2. California is currently working on a bill to address the deadly loop of proliferating HFCs leading to higher temperatures, which lead to more HFCs.

350 Humboldt and 350 Silicon Valley have been working together on this issue, meeting with Senator McGuire and state regulators. We’re glad to endorse SB1206, authored by Senator Nancy Skinner. Her bill speeds up the federal timetable for phasing out HFCs that was established by the AIM Act in 2020. SB1206 would ban the sale of HFCs with a global warming potential (GWP) of more than 1400, starting in January of 2025. Phase two begins in January of 2030 when the GWP threshold would be lowered to 750.

SB1206 doesn’t stop there. It requires the Air Resources Board to prepare a plan for how to transition to natural alternatives — propane, ammonia, and carbon dioxide — by 2035. Now we’re talking about GWP scores of less than 15. But that part of the plan is in danger. Chemical companies such as Chemours are lobbying state legislators to remove from the bill any mention of “natural alternatives.” They are strongly opposed to natural refrigerants and are positioning hydrofluoroolefins (HFOs), their latest generation of fluorinated gases, to be the anointed successor of HFCs.

Some HFOs do have an impressively low GWP, but they’re toxic and much more expensive than natural refrigerants. R-1234yf is a good example. Its formula includes carbon tetrachloride, a carcinogenic chemical that was becoming less common until R-1234yf was invented for use in automobile air-conditioning. Now carbon tetrachloride production is booming again.

The proposed California law doesn’t just speed up existing federal law but also limits its gift to the chemical companies in the form of an exemption for any HFC — no matter how high its GWP — that is blended with an HFO. A lot of refrigerant gasses are blends of HFC and HFO. So Chemours can gush about Opteon XP40 as a "proven" climate-friendly coolant even though its GWP is 1,282. That won’t fly in California after 2030 if SB1206 passes.

But recycled HFCs are exempted by SB1206 for two good reasons. One is to incentivize reclamation of the gas from equipment at the end of its useful life. Right now it’s all too common for such equipment to just get junked and emit their gas into the atmosphere. Also, the availability of recycled product can save owners from having to upgrade their equipment before the end of its usefulness.

Climate activists hope that California will not only pass SB1206 but strengthen it. One proposed amendment would provide for a statewide training and certification program for refrigerant technicians. Better refrigerant management could greatly reduce leakage. Annual refrigerant leaks in the United States are already responsible for more greenhouse gas emissions than all passenger aircraft travel in the US in 2019.

If SB1206 makes it to the floor, Senator McGuire will vote for it, but it faces plenty of opposition in other districts. So if you have friends and family in other parts of California, encourage them to contact their senators with the message that California should eliminate HFCs before they eliminate us.
CARBON CAPTURE IN URBAN FORESTS

Researchers in Boston, MA, found that trees and soils on the edges of forests and in large city parks may capture more carbon than we thought.

Trees and the soils they grow in are vital parts of the global temperature balance. Trees ‘inhale’ carbon dioxide gas and separate the carbon to store in their trunks (turning gas into mass!). The trees then ‘exhale’ the oxygen byproduct, which is great news for creatures that breathe oxygen. This feature of holding carbon in trees and plants is known as a terrestrial carbon sink.

“We’re not feeling the full effects of climate change because of the terrestrial [carbon] sink,” says Professor Lucy Hutyra, a biogeochemist and ecologist at Boston University.

But what happens to this process when large forests are fragmented by development? "We think about forests as big landscapes, but really they are chopped up into all these little segments because of the human world," says Hutyra. What would otherwise be a large coverage area with a long-running forest edge becomes many small areas with many small edges. Historically, it has been assumed the trees and soils along a forest edge capture and release carbon at similar rates as forest interiors. But Hutyra and researchers in her PhD lab at Boston University have published two papers describing their findings to the contrary.

In a pair of studies, Hutyra and her teams observed that trees on the edges grow faster than their counterparts within the forest, and that soil in urban areas can hold more carbon than expected.

Their work is one of the most detailed reports of temperate forest edges to date. Examining data from more than 48,000 forest plots around the Northeastern US, Hutyra and her team found that edge trees grow nearly twice as fast as trees just 100 feet deeper into the forest. “This is likely because the trees on the edge don’t have competition with interior forest, so they get more light,” says Luca Morreale, lead author of the report. The more a tree grows, the more carbon it is holding.

Hutyra and another team conducted a related study focused on soils. "Soils contain wild amounts of bacteria, fungi, roots, and microorganisms," says Sarah Garvey, PhD candidate and lead author of the soils paper. "And just the way we breathe out CO2 when working and being active, they respire CO2, as well." Visiting eight field sites every two weeks for 18 months, the researchers’ measurements showed that in rural areas with lower foot traffic, organic matter at a forest edge decomposed more quickly, releasing carbon back into the system at higher rates than forest interiors. Urban forest soils were hotter and drier overall and released less carbon than expected, potentially acting as longer-term carbon sinks.

Their results give us more reasons to love urban green spaces, adding carbon sinks onto the list alongside species habitats, recreation uses, and mental health benefits.

Sources: Good News Network

INVASIVE SPECIES FOR CONCRETE

Two British designers used invasive species to replace some of the ingredients in concrete, resulting in a strong, sustainable building material with colors so stunning they pleased global luxury brands.

Brigitte Kock and Irene Roca Moracia are the design duo behind this beautiful bio-concrete. They combined their concern for the high price of invasive species removal and its wasteful disposal rules with concern for the emissions-heavy process of making concrete. Of particular interest were Japanese knotweed and American signal crayfish: corrosive knotweed has no predators in the UK and must be removed by specialists, while crayfish undercut riverbanks and speed up erosion and sedimentation. Once collected, these species (among others) are sealed up and stored or shipped away.

But the duo found that incinerating the knotweed produced ashes which could replace the sand in concrete, and pulverized crayfish shells could replace the gravel component. This removes two highly carbon-intensive steps that are common in making concrete. Moracia remarked, “We want to showcase the absurdity of the classification and disposal rules here in the UK that do not allow anything to be done with those species after they are treated and sealed in bags, while you can easily order those byproducts online and import them from China for example.”

And then there are the colors. Good News Network described a variety of rich, gorgeous tones that put to shame the dull grey of typical concrete: Jade green, dark burgundy, marbled colors, natural stone…. "We have played with the percentages and ratios to obtain really strong results," Moracia explained.

The task was commissioned by LVMH, a conglomerate of luxury brands including Dior and Louis Vuitton. The commission was part of a graduate program in collaboration with the London-based art and design college Central Saint Martins. The program aims to innovate sustainable construction materials for use in luxury stores, and “to respond to the environmental emergency and mobilize emerging talents, through creative education.”

Sources: Good News Network, LVMH.com

Millions of trees are being planted beside Scotland’s rivers and streams to help cool water temperatures and protect wild salmon from the effects of climate heating

Sources: Good News Network
NATURESCOPES: TAPPING INTO THE ELEMENTS

Sabriyya Ghanizada, EcoNews Intern

In Tropical Astrology the zodiac is divided into 12 signs. Each sign represents a part of the human body (Pisces represents the feet whereas Taurus represents the throat) and each sign is also represented by an element: fire, water, earth and air. Keep reading to find out which element corresponds to the zodiac and how to honor that within and around you. You can easily find out your Tropical zodiac sun sign by knowing your date of birth. To dig deeper into your chart you’ll need to know the exact time and location of your birth. Many people use search engines to find this information or an astrologer to calculate their chart.

FIRE: LEO, ARIES, SAGITTARIUS

Fire signs are transformative beings who are known to bring attention their way. These typically charismatic signs can burn low and slow or bright and quick just as their element does in nature. Hone in on your fire qualities by burning a safe fire. You can do this by burning a candle with intention, cozying up by a fireplace, or bringing loved ones around a fire pit. Gaze into the fire and allow it to stir up the fiery power within you.

EARTH: TAURUS, VIRGO, CAPRICORN

If you have earth in your chart you can honor this sturdy and steadfast element by “earthing,” otherwise known as grounding. Earth signs crave stability. They tend to be the signs that like to have roots planted where they stand by creating happy homes and building legacies within the foundations they reside. In order to ground down, all you’ll need to do is kick off your shoes and walk on the grass, sand, or dirt around you. Earthing connects your body to the Earth’s natural electric charge and may help to reduce inflammation, pain, stress and possibly give you a better night’s sleep.

WATER: CANCER, SCORPIO, PISCES

Water signs are a fluid element that take shape based on the energies around them. If you have water in your chart you are most likely to be intuitive, picking up on the subconscious energies around you. Honor your element by finding yourself near water. A trip to the beach or even a long, luxurious bath can help you tap into your magnetic nature.

AIR: LIBRA, GEMINI, AQUARIUS

Those with air in their charts tend to be communicative and idea-makers. Just like the wind around us, they carry knowledge and experience from one plane to another. Air signs are known for conveying information through creative outlets. Air signs can tap into their inner power by doing pranayama, which is the ancient yoga practice of breathwork. Just bringing awareness to your breath throughout the day is an easy way to garner intention towards your air-sign qualities. For a more advanced practice you can try Nadi Shodhana, or alternate nostril breathing. Consult your physician before beginning any new exercise.

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