

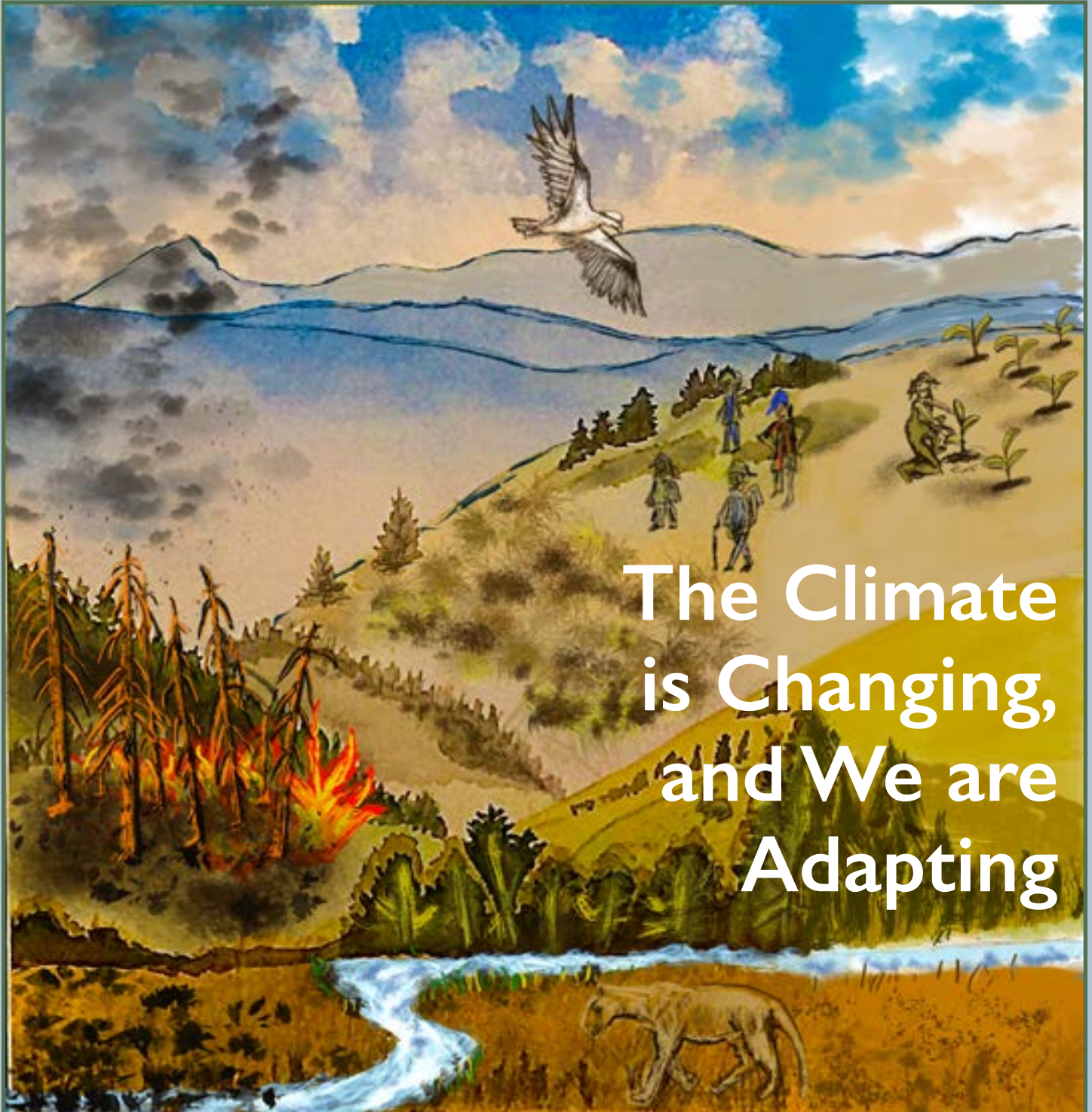
Redwood Needles



Winter 2022

Sierra Club Redwood Chapter

Volume 64, No. 1



The Climate
is Changing,
and We are
Adapting

On the Path

a note from
Chapter Director Jeff Morris

As we move into 2022, beginning the third year of a global pandemic, and looking back on another year of significant climate related disasters and shifts for the Redwood Chapter region, it is no surprise that uncertainty has become more of a rule for our lives and how we may perceive the future.

Much like early ocean-going navigators who have sailed off course, it can feel like we're in a boat adrift at sea, weathered by storms and rudderless, with the fresh water running low and the undrinkable salt-water spilling onto the deck. It is uncertainty on a vast, and real, scale.

Much has been written about the complications turning back climate change and even just surviving it. As humans, we've scuttled our own ship and now we're trying to bring it back from the depths, a seemingly impossible task.

Across our region, even as the impacts become clearer on a daily basis, there is also a "hear no evil" attitude that is also on the rise, even from our public agencies who, in some cases, are either not enforcing standing regulations or actually participating in accelerating the pace of destruction. It can be disheartening, but we must continue to chart a course with the hope that we'll find the landfall or at least some more solid footing.

Here in the Redwood Chapter, we're fortunate to have a pair of North Stars to guide us anew. Alisa and Emily, two youth interns for our Napa Group, are grabbing the tiller and charting their own course on climate related issues. From developing educational materials on climate change for their peers and their community, to appearing at City Council meetings to lobby for a moratorium on new gas stations, to joining us at major donor events and presentations, Alisa and Emily are beacons of leadership and hope that we can use to wend our way across the expanse of the coming years. They know their future is at stake and are owning their part of it. I am so proud to be a part of their team.

Following their example, keep doing your work, get plenty of rest and then set your course and start again. It's what we can do, and what we must do.



A handwritten signature in dark ink that reads "Jeff Morris".



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A Climate Catastrophe or a Climate Opportunity?

Staying focused, providing space and feeling a sense of community bolster climate action work



By **Shoshana Hebshi**
Editor

In the lead up to the United Nations Climate Change Conference, COP26, in Glasgow last fall, there was both hope that the global leadership conference would spark more action to fight climate change across the world and some skepticism that there would be enough consensus for meaningful action.

Days of demonstrations led by climate activists called the conference more of the same, and a process that has led to little perceivable action.

Yet, for that week in November, climate change was making

headlines. People were paying attention.

And that is the first step forward.

The problems presented by climate change can seem so large and overwhelming that it stokes fear, which can lead to denial or

climate change through activism, education and working on policy is the best way to channel angst, despair or hopelessness into productive paths. Their work locally helps sustain regional attention and progress on climate action.

“We are all part of the solution, or not,” said Rue Furch, an activist since her youth and a valuable volunteer member of

the Redwood Chapter leadership team.

Furch, who lives in rural Sonoma County, said she stays committed because she knows she does not have to try to work on every aspect of climate change, and she

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‘We are all part of the solution or not.’
— *Rue Furch, activist*

hopelessness. It’s like when you have a list of 30 things to accomplish in a day, and the feeling of being overwhelmed leads you to procrastinate or do something “easy” instead. But there are people who think dedicating their time and energy to addressing

Redwood Chapter Executive Committee

The executive committee is the governing body of the chapter, with one (1) member delegated by each of six (6) regional groups and six (6) members elected at large. Each group elects its own executive committee. The chapter ExCom meets every-other month in either Santa Rosa or Willits. The meetings are being held over Zoom during the Covid-19 pandemic.

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Napa Leaders Must Focus on Water Sustainability

Roland A. Dumas

Chair, Napa Group Conservation Committee

Napa Valley is the kind of valley depicted in grade school books. Long and narrow, with mountains on either side that capture rainwater and move it toward the valley floor. The water from a very large area finds its way to a river and groundwater in the center of the valley. Its beautiful setting features vineyards and wineries on the valley floor, with pine forests to the west and oak woodlands to the east.

However, there is one problem; the vineyards and wineries are using more groundwater than is sustainable, and by a significant amount. There is an inevitable water emergency right before our eyes.

Napa County continues to permit winery expansion and tourism-oriented developments that consume high volumes of water. New vineyard developments are creeping up into the watersheds, drawing water that would otherwise make its way to the valley floor. We are already headed for trouble before we consider the impact of global climate change.

The 2014 Sustainable Groundwater Management Act (SGMA) requires that areas containing subbasins (groundwater) that have been designated as moderate and high priority create a Groundwater Sustainability Agency (GSA) and submit a Groundwater Sustainability plan (GSP) by a deadline.

Napa County created a GSA, which should be comprised of experts in water management. Instead, the Board of Supervisors appointed itself as the GSA, which turned the process into a political one in a single stroke. The GSA created the advisory committee, which does the actual drafting of the plan, and that committee is comprised mostly of members of the wine-growing industry and has no representation from disadvantaged or minority communities, which is required by law.

Napa is basically a one-industry county, and that industry captured the groundwater planning process. That industry has no interest in actions that might put limits on activities and development; a plan with any teeth would do just that, acknowledge we have limits in the interest of sustainability. We have a fox guarding the hen house problem.

The process of creating a GSP was one in which a consulting organization drafted the plan a chapter at a time and put it before the committee for discussion. The information was voluminous and dense, and the discussions short. When a member

Napa is basically a one-industry county, and that industry captured the groundwater planning process.

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Offshore Wind in Humboldt Holds Promise for Clean Energy, But Not an Easy Path Forward

By Tom Roth

Chair, Chapter Conservation Committee

It's a bit difficult to contemplate. Humboldt County—heart of the magnificent redwoods and past divisive timber wars, a misty land of marijuana grows, the home port of a ravished fishery, a quintessential boom and bust economy—now stands the chance of being born anew, and in doing so, making a major contribution to fighting climate change.

Wind energy, already a reality in parts of California, Texas and the Midwest, and offshore of New England and Virginia, may be coming big time to waters 20 miles west of the city of Eureka.

Last July, the Bureau of Ocean Energy Management (BOEM) officially designated the Humboldt Wind Energy Area (WEA), a major step in initiating a lease sale for a massive wind energy project that at full buildout could have 153 floating giant wind turbines within 206 square miles of ocean. Ironically, BOEM and its predecessor, the Minerals Management Service, is the same agency fought hand and tooth by environmentalists opposing offshore oil drilling.

But times have changed. While Donald Trump ripped up the Paris accords, the Biden administration has signed on again with

a flourish. The U.S. Department of Energy now offers \$3 billion in government-backed loans for offshore wind development, while the Build Back Better bill will—if passed in the Senate—have \$550 billion in tax credits, loans, guarantees and grants for clean energy projects and purchases.

The State of California sees



Prospective offshore wind turbines off Humboldt's coast could generate clean energy for Northern California, but respecting wildlife and the fishing industry could be too big of barriers for the project to come to fruition. Photo: Sierra Club archive.

offshore wind energy, as an important part of its renewable energy portfolio. The Renewables Portfolio Standard (RPS), a legislative mandate from 2018, requires that by 2025, 50 percent of the state electricity comes from renewable sources. That percentage increases to 60 by 2030, and 100 percent by 2045.

While the Humboldt WEA could provide only 3.8 percent of the state's energy needs (the equivalent of supplying energy to 550,000

homes), two other offshore WEAs have also been designated by the BOEM in Central California. There are other prospective sites as well, including waters offshore of Cape Mendocino and the California-Oregon border.

Offshore wind generated energy potential is enormous, if not completely feasible. According to the National Renewable Energy Laboratory, California has the technical potential to produce 158,000 gigawatts of offshore wind energy, which would provide 150 percent of the state's electricity. Resource potential combined with government support has set off a sort of wind rush, with 14 entities submitting nominations of interest in the three WEAs and ten specifying their interest in the Humboldt WEA.

Why does BOEM consider the Humboldt WEA considered such a premier location? First the wind energy is sustainable. BOEM cites a study that estimates the average annual wind speed of 9.2 meters per second at 100 meters above sea level (the theoretical height of the turbines). This average velocity exceeds the average wind speeds of several existing wind farms in Europe's North Sea. Second, water depths in the Humboldt WEA (between 500 and 1,100 feet) are technically feasible for floating platforms attached by

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No Coal in Humboldt builds campaign to fight shady coal trail deal on North Coast

By Jacob Klein
Regional Coal Organizer

Since we found out about a shadowy company attempting to take over the Great Redwood Trail and potentially open a coal handling facility on the Humboldt Bay, Sierra Club has been working with partners to make sure that residents in Eureka and neighboring communities don't have to deal with the toxic impacts of coal.

Forming No Coal in Humboldt, we're collaborating with Friends of the Eel River, Humboldt Baykeeper, Northcoast Environmental Center, Humboldt Trails Council, Coalition for Responsible Transportation, Environmental Protection Center, and more are mobilizing to address this issue head on.

Our campaign is fighting this on multiple fronts. Following in the footsteps of campaigns like No Coal in Richmond, we're pushing jurisdictions to pass ordinances disallowing the storage and handling of coal. Eureka City Council recently passed an ordinance to this effect and we're working on getting Humboldt County and the Harbor District to pass similar ordinances based on the legal merits of protecting public health.

Coal emits fugitive coal dust which contains particulate matter 2.5 (PM 2.5) along with heavy metals like mercury and arsenic. Exposure to PM 2.5 can lead to asthma, respiratory illness, cardiac illness, and prenatal complications. PM 2.5 exposure has been linked to higher rates of COVID-19 mortality as well. There is no safe level of exposure to

While local governments, such as Richmond and Oakland, are taking action within the scope of their 'police power' authority to prevent coal dust emissions and the significant health threat that coal dust poses to local communities, for the Sierra Club, this work is also part of our broader efforts to prevent catastrophic climate change.

PM 2.5 so we must fight for our clean air.

Coal dust can also contaminate water which would impact Humboldt Bay health, recreation, and business. Similarly to coal, the dust from petroleum coke

or petcoke, a by-product of oil refining that is used for industrial manufacturing, releases similar toxic substances. These have no place in the Humboldt Bay Area.

Another thread of this battle falls on the attempt to revive the North Coast rail line stretching from the Bay Area to Humboldt Bay, which has fallen into disrepair and has been slated to be railbanked

into the Great Redwood Trail. Many parts of this 330+ mile route traverse geologically unstable areas,



Railroad tracks along the Eel River lie on geologically unstable ground. Some of the tracks have been covered by landslides or have been overtaken by water.

Photo: Friends of the Eel River.

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including the Eel River Canyon where portions have been covered in landslides, or are getting overtaken by water. The cost of rebuilding this rail line would be astronomical and the feasibility of it is questionable in many parts.

However, rail routes are managed by the Surface Transportation Board, a federal entity that believes in protecting rail. Sierra Club understands that in some cases, freight-by-rail can be more environmentally friendly than long-haul trucking, a transportation method that is harder to electrify. We hope that the STB will understand that while some rail routes can be helpful, reviving the entire stretch of the North Coast rail route would be untenable and unrealistic.

Our coalition is watching the STB docket closely. The shadowy company, North Coast Railroad Company, has signaled an intent for an Offer of Financial Assistance (OFA) which would allow them to take over the rail route and potentially sabotage the

Great Redwood Trail which activists and politicians have been working hard to achieve for so long.

The North Coast Railroad Company seems to be working closely with coal interests who are desperately trying to get as much coal out even as the industry is dying. Coal is likely the only commodity with sufficient volume to repay the multi-billion dollar cost of repair. However, all that money just creates a problem for other communities when the coal sits in uncovered piles where the fugitive dust drifts into the neighboring communities.

While local governments, such as Richmond and Oakland, are taking action within the scope of their “police power” authority to prevent coal dust emissions and the significant health threat that coal dust poses to local communities, for the Sierra Club, this work is also part of our broader efforts to prevent catastrophic climate change.

We’ll continue to keep you in the loop. You can sign up for updates at nocoalumboldt.org.

Napa County leaders must address water sustainability to benefit all

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raised questions about watershed areas or surface water, they were typically ruled out of scope.

Sierra Club Napa Group submitted letters of concern to the committee and asked for the opportunity to present them. The leaders of the process came to us to tell us the reasons why we could not have an audience with the committee. Our concerns were ruled out of bounds and there was no time.

They spent much more time telling us why they had no time for us than it would have taken to present our concerns.

The final Groundwater Sustainability Plan was submitted to the Board of Supervisors/Groundwater Sustainability Agency, which prompted us and others to send formal letters describing shortcomings and remedies for the weak plan.

Our letter complemented letters from other environmentalists, including the dissenting members of the committee.

Our principal challenge was to consider the valley as a system, consisting of all the interdependent water flows including groundwater, surface water, and imported water. The plan as written is so tightly focused on just the groundwater in the center of the valley that it becomes insensitive to an inevitable

scenario: a prolonged drought causes loss of imported water, hillside wells go dry, and all the water users who do not currently draw subbasin groundwater start demanding access to the only resource left. In that scenario, the current level of overdraft would be accelerated, and the adverse impacts quickly felt. Our monitoring and planning needs to be cognizant of the whole system and plan for these scenarios.

We also challenged the method by which indicators and alarms are set. As described in the plan, warning signals would trigger when adverse conditions happen, not before. There are smarter ways of setting alarms that trigger before the adverse events so that action can be taken before there is an emergency.

Our other requirements related to data. We need actual data on water consumption and well levels, not estimates or models. We can become fact based. We need to put meters on all wells, save family home wells, and take regular level readings from every well.

In Napa Valley, the Sierra Club is working to make water planning inclusive and sustainable. The normal political process would capture this planning to the benefit of one industry. We are determined to work to make it benefit all, including human communities, ecosystems and wildlife.

In Napa Valley, the Sierra Club is working to make water planning inclusive and sustainable.

Our Current Transportation Cu

By Willard Richards

Chair of the Transportation & Land-Use Coalition of Sonoma County

and Richard Sachen

Chair of the Sonoma Group of the Sierra Club

More than three years ago, agencies in Sonoma County began announcing climate emergency goals that focused on 2030 as a target year to reach “carbon neutrality.” More recently, an analysis of our driving habits by the County Transportation Authority has revealed that merely providing bicycle-pedestrian trails and bridges are not sufficient to reach those goals. We will need changes in culture as great as those of the recent pandemic.

Our pre-COVID driving habits caused transportation to become the largest source of the greenhouse gas emissions (GHGs) that cause the climate crisis. Long commutes in single-occupant vehicles have been a major source of GHGs, although most car trips are less than 5 miles.

While the complete shift to zero-emission cars will greatly reduce GHGs from transportation eventually, it is unlikely that all of us will give up our fossil fueled cars by 2030, and today’s average vehicle has a 12-year life. Also, we must understand that our cars and highways embody GHGs that need to be reduced. It will take major efforts on many fronts to minimize transportation emissions in the next 9 years. Many of us will probably need to shift to bicycles for short trips; and we may find ourselves relying on golf-cart size vehicles rather than SUVs and pickup trucks for most longer trips.

The steps needed to reduce driving will require actions by every public and private entity in order to:

1 — Incentivize telecommuting, carpooling, van-pools, and transit ridership, to greatly reduce solo commutes in cars.

2 — Create safe streets that enable us to walk and bicycle comfortably, leaving our autos at home for most trips.

3 — Charge drivers for the use of a parking space, so that those who bicycle or walk are not required to pay for something they don’t need.

Sonoma County has been a leader in efforts to reduce greenhouse gas emissions, but we are also known to fail in meeting ambitious goals. Our success in becoming

10 WAYS TO REDUCE YOUR CARBON FOOTPRINT

- 1 REDUCE WASTE**
 Purchase items with less packaging, or bring your own containers to the grocery store and shop in the bulk section. Re-use spray bottles and other items. Use a wash cloth to clean instead of a paper towel. And don't forget to recycle!
- 2 EAT YOUR VEGETABLES AND BUY LOCAL**
 By eating local, vegetarian, or organic foods, you will reduce your carbon footprint and improve your health. Eating less meat and substituting chicken for beef will also lessen your environmental impact.
- 3 DRIVE LESS**
 Riding your bike, walking, carpooling, or taking the bus to work are all great ways to reduce your carbon footprint and your stress levels at the same time.
- 4 TURN OFF AND UNPLUG**
 Turn off and/or unplug your lights, TV, computer, and other electronics and appliances when you are not using them. The planet (and your wallet) will thank you.
- 5 USE RENEWABLE ENERGY**
 While installing solar panels on your home is a great way to use renewable energy, it can be expensive. Thankfully, you can also purchase solar or wind power from your local energy provider.

Culture Has an Impact on Climate

DUCE



6

BE ENERGY EFFICIENT

Purchasing energy efficient appliances, replacing the light bulbs in your home with LEDs, and turning your thermostat up in summer and down in winter are some ways to reduce your energy use.



7

PLANT A NATIVE GARDEN

By growing native plants, you will not need to use expensive chemical fertilizers or herbicides. These yards also require less water and maintenance than traditional lawns. You will be saying goodbye to your lawnmower and hello to butterflies in no time.



8

VISIT A THRIFT SHOP

Try out your local thrift shop the next time you are in need of yard furniture or clothing. You never know what you might find!



9

LIVE IN A SMALL HOME

Smaller homes require less energy and they are easier to maintain. That way you can spend less time vacuuming and more time saving the world.



10

PURCHASE LOW CARBON GOODS

Many brands are taking steps to reduce the carbon footprints of their supply chains and products. These include Patagonia, Coala and PrAna, among others.



carbon-neutral over the next nine years will depend on reducing transportation GHGs. Here are some actions that are working in our favor:

Many firms and workers have become comfortable with remote work, so telecommuting is likely to continue, and long trips may become infrequent. There is a regional goal for large firms to reduce commuting by car to 40% of employees. Zoom meetings of city councils and other groups have also become routine, and such meetings can enable staff and members of the public to participate in policy making without spending time in a car.

SMART and the bus systems are already experimenting with lower fares to attract greater ridership. Parking cash-out systems can give employees the option of saving money by cycling or using transit rather than parking at work for “free.” Technology is also making it easy to pay for parking anywhere, without the risk of getting a citation.

To make streets safer, a Vision Zero project has begun to identify high-risk locations. We can also learn from cities that have shown how reduced driving can improve the quality of life.

The City of Oakland is demonstrating the development of neighborhoods with slow streets. Its efforts took shape just as the pandemic was requiring people to stay at home. Low speed limits and temporary signage were used initially on an experimental basis. The changes are being evaluated; some are being modified, and some are being made permanent. About 20 neighborhoods are involved.

Cities in the Netherlands have shifted from a trend toward the use of automobiles to restoring their reliance on cycling. It took the Dutch several decades to make the transition, but we have seen the results, and can learn from their practices more quickly. There are a variety of designs that can transform existing streets into places that are safe for pedestrians and cyclists.

Neighborhoods can evolve in ways that permit residents to reduce driving for groceries or vitamins. With appropriate zoning modifications, neighborhoods can become more compact, gain better bus service, and acquire corner general stores that serve walk-in shoppers and cyclists.

It will take significant efforts to curtail our driving habits, but the change is essential.

What is Climate Protectors?

Climate Protectors is a 501(c)(4) project of the Sierra Club's Redwood Chapter

Our Mission

To inspire, enable and mobilize teams of informed grassroots volunteers to demand, facilitate, measure and enforce the bold local policies and personal actions needed to cut current greenhouse gas emissions and naturally sequester prior emissions in time to meet UN targets for preventing climate catastrophe.

A climate protector is someone who takes the climate crisis seriously enough to:

- Learn the science of climate change so that our actions are based upon a solid factual foundation.
- Take steps in our own lives to minimize our contributions to global warming
- Network with others locally and beyond to implement effective climate policies

If you are interested in joining the Climate Protectors to take action in your community, please do the following:

1) Provide us with your contact information by completing our Join Us form located at: <https://climateprotectors.net/ready/next-steps-for-you/>

2) Ensure your own Climate Science Literacy (<https://climateprotectors.net/learn/>) by visiting our Climate Science Online Library and passing CLEANNET's Climate Literacy Quiz.

3) Prepare your own Climate Action Readiness by learning how we work, what we do and what we recommend as next steps for you.

4) Participate in and help grow the Climate Protectors Network as we work for real climate solutions!

The climate crisis is accelerating at an unprecedented rate, and we are not ready for it. To cut emissions quickly and effectively enough, governments must not only massively increase funding for green innovation to bring down the costs of low-carbon energy sources, but they also need to adopt a range of other policies that address each of the other market failures.

Further, organizations such as the United Nations are not fit to deal with the climate crisis. The U.N. was assembled to prevent another world war and is not fit to navigate this crisis. In addition, members of the U.N. are not mandated to comply with any suggestions or recommendations made by the organization. For example, the Paris Agreement, an agreement within the United Nations Framework Convention on Climate Change, says that countries need to reduce greenhouse gas emissions significantly so that global temperature rise is below 2 degrees Celsius by 2100, and ideally under 1.5 degrees. But signing on to it is voluntary, and there are no real repercussions for non-compliance. Further, the issue of equity remains a contentious issue whereby developing countries are allowed to emit more in order to develop to the point where they can develop technologies to emit less, and it allows some countries, such as China, to exploit this.

Biodiversity Loss

The past 50 years have seen a rapid growth of human consumption, population, global trade and urbanization, resulting in humanity using more of the Earth's resources than it can replenish naturally.



More broadly, a recent analysis has found that the sixth mass extinction of wildlife on Earth is accelerating. More than 500 species of land animals are on the brink of extinction and are likely to be lost within 20 years; the same number were lost over the whole of the last century. The scientists say that without the human destruction of nature, this rate of loss would have taken thousands of years.

Every minute, forests the size of 20 football fields are cut down. By the year 2030, the planet might have only 10 percent of its forests;

if deforestation isn't stopped, they could all be gone in less than 100 years.

Agriculture is the leading cause of deforestation, another one of the biggest environmental problems appearing on this list. Land is cleared to raise livestock or to plant other crops that are sold, such as sugar cane and palm oil. Besides for carbon sequestration, forests help to prevent soil erosion, because the tree roots bind the soil and prevent it from washing away, which also prevents landslides.

The three countries experiencing the highest levels of deforestation are Brazil, the Democratic Republic of Congo and Indonesia, however Indonesia is tackling deforestation, now seeing the lowest rates since the beginning of the century.

Close to 1 million animal and plant species face extinction, according to a U.N. report, making it one of the top environmental concerns this year and beyond. Indeed, biodiversity is experiencing an existential threat, with the U.N. Secretary-General Antonio Guterres warning that it's declining "at a perilous rate."

Melting Ice Caps and Sea Level Rise

The climate crisis is warming the Arctic more than twice as fast as anywhere else on the planet. Seas are now rising an average of 3.2 mm per year globally, and are predicted to climb to a total of 0.2 to 2m by 2100. In the Arctic, the Greenland Ice Sheet poses the greatest risk for sea levels because melting land ice is the main cause of rising sea levels.

Representing arguably the biggest of the environmental problems, this is made all the more concerning considering that last year's summer triggered the loss of 60 billion tons of ice from Greenland, enough to raise global sea levels by 2.2 mm in just two months. According to satellite data, the Greenland ice sheet lost a record amount of ice in 2019; an average of a million tons per minute throughout the year, one of the biggest environmental problems that has cascading effects.

If the entire Greenland ice sheet melts, sea level would rise by six meters.

Recently, Earth Day activities encouraged the Solano County Library system to progressively begin using this search engine Ecosia across the system by patrons. Ecosia plants trees, restoring and protecting biodiversity hotspots. This is an example of local no or low-cost actions we can engage anywhere that can affect our world with in-kind partner organizations.



Remembering Climate Activist Randy MacDonald

In October, Redwood Chapter and the world lost a dedicated climate warrior in Randy MacDonald. He died unexpectedly at the age of 62.

Randy was instrumental in promoting a resurgence of climate action within Redwood Chapter and spearheaded the Climate Protectors network throughout the region. Randy lived in rural Mendocino County near Comptche. He considered himself and his wife, Janis, "stewards of 50 forested acres in the Mendocino Coast Range," where there is a conservation easement on the parcel, and he sat on the conservancy board. He planted and managed more than 2,500 redwood seedlings on his land.

Read more about Randy on our website: <https://www.sierraclub.org/redwood/blog/2021/10/remembering-randy-macdonald>

Prospective offshore wind farm faces hurdles before becoming a reality

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cables to the seabed. Third, the Humboldt WEA is but 21 miles to the Humboldt Generating Station in Eureka, allowing—with expansions and upgrades—connection to the electrical grid.

Finally, regional energy provider, Redwood Coast Energy Authority, with a goal of converting to 100 percent clean energy, has said they will take every kilowatt available.

The Humboldt WEA could be the first of many such projects on the West Coast, causing the Humboldt Bay Harbor, Recreation and Conservation District to look toward making Humboldt Bay, with its deep-water port, a manufacturing center for offshore wind energy platforms and turbines. All this means thousands of jobs in construction, operations and supporting activities.

Such is the promise of wind energy off the Humboldt coast. But if the project is to come to fruition, some big issues will have to be addressed, including effects on fish, marine mammals and the fishing industry, bird mortality, marine safety, military operations, historic sites and visual impacts.

According to a report from Humboldt State University's Schatz Energy Research Center, the project will have to go through 24 separate permitting processes overseen by 15 federal, state and local agencies. Before a lease auction can occur, an environmental assessment, already underway, must be completed. And if the proposed project is evaluated as a major federal action, which is likely, a full Environmental Impact

Statement will be required. Full permitting could take eight years or longer.

Fisherman, who have faced shortened seasons and off-limits Marine Protection Areas, and a

obstacles posed by wind platforms, construction activities affecting fish, and economic survival in a new high-tech port.

The Pacific Fisheries Management Council (PFMC), the federal



Sierra club file photo

new threat of a proposed salmon farming facility, are especially disturbed by the prospect of new restrictions in the WEA. BOEM uses an analysis of landing receipts and depth ranges of fish species to argue that most commercial fish are caught in shallower water close to shore, and so "a simple depth analysis reveals

that many commercial fisheries are not likely to experience preclusion from fishing grounds as a result of wind energy development in the area." They also point out that the WEA does not overlap with high-value Dungeness crab fishing grounds.

Despite these assurances, fisherman continue to assert that fishing grounds will be lost, and they worry about navigational

If the project is to come to fruition, some big issues will have to be addressed, including effects on fish, marine mammals and the fishing industry, bird mortality, marine safety, military operations, historic sites and visual impacts.

board charged with sustainably managing West Coast fisheries, has its concerns too. In a letter to BOEM, PFMC's chair, Marc Gorelnik, requested greater engagement with fishermen, more specific analysis of impacts on individual fisheries, a coast-wide cumulative effects analysis of all areas proposed for wind energy, and that action be taken to protect

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areas in the WEA officially designated as important fish habitat, some which are not included on BOEM's on-line wind energy mapping tools.

Marine mammals and sea turtles will also have to deal with potentially harmful conditions due to the project. Activities, such as constructing the anchoring foundations, will produce underwater noise, potentially disorienting pinnipeds and whales, or driving them away from the area. As building materials are brought to the platform sites, there will be an increased chance of vessel strikes on marine mammals and sea turtles. Of special concern is the effect of the maze of cables holding the platforms and the miles upon miles of transmission lines, which can result in whale entanglements.

BOEM has noted sightings of blue whales, right whales, fin whales, grey whales, and humpback whales feeding or migrating in proximity to the Humboldt WEA, but states in its WEA designation document that "none of these species are expected to occur within the Humboldt WEA in sufficient number to warrant elimination of some or all of the area from further analysis for potential leasing." Main feeding areas for endangered leatherback sea turtles are designated as Critical Habitat by the National Marine Fisheries Service (NMFS). These areas, however, begin north and south of the Humboldt WEA (Cape Flattery, Oregon, and south, Point Arena).

More information on potential impacts to marine mammals and sea turtles is likely to emerge as environmental groups, marine laboratories, and the NMFS comment and produce results of studies. BOEM itself is funding and partnering with other agencies to publish 11 biological studies related to offshore wind energy slated to be completed in 2022 and 2023.

Two of those studies concern wind energy effects on avian species, a real concern that has always haunted wind projects. Birds and bats do collide with wind turbines and power lines and fall from the sky, and huge industrial projects can destroy habitat. The situ-

ation becomes worse if a project is in the migratory route of a bird species.

The National Audubon Society, in a July 21, 2021 website statement, estimated that between 140,000 and 500,000 bird deaths occur annually because of turbine collision—a substantial figure, but much less than the number of deaths attributed to house cats and collisions with buildings. While they mention migratory birds, there is no discussion of the Pacific Flyway migration route, except that it was an issue raised by stakeholders. Audubon supports wind energy, believing it essential to achieve 100 percent clean energy to curb global warming—and save birds. But, Audubon adds, that it supports wind projects that are "sited and operated properly to avoid, minimize, and mitigate effectively for the impact on birds, the other wildlife, and the places they need now and in the future."

BOEM states in the WEA designation document that 28 sea bird species are present at levels of moderate density within the WEA and seven other further offshore, and two endangered species on

Humboldt beaches (and unlikely to visit the WEA). While it mentions migratory birds, there is no discussion of the Pacific Flyway migration route, except that it was an issue raised by stakeholders. BOEM promises to further address avian issues when the selected lessee submits a Construction Operations Plan and several bird studies are completed.

The long trek toward a zero emissions future has begun in Humboldt County. It is fraught with difficult technical, social, and environmental issues and bureaucratic complexity. Whatever its outcome, at its size, it will set precedents for California and the nation.

Robin Gray-Stewart has been tracking the Humboldt wind project for the Redwood Chapter's North Group, and she has mixed feelings about this giant project. She said she worries about potential environmental impacts and how a project of this great magnitude will bring a surge of growth and change the small-town feel of Eureka.

But, she says, "The bottom line is that our planet is having a meltdown. We have to look at what we can do. The North Group supports the idea of the offshore wind project and we are looking forward to commenting on future specifics as they become available."

More Information

Readers interested in learning more about the Humboldt wind energy project should check the Schatz Energy Research Center website, <http://schatzcenter.org/publications/> where 24 studies sponsored by the California Ocean Protection Council and BOEM can be found.

BOEM's project site <https://www.boem.gov/renewable-energy/state-activities/humboldt-wind-energy-area> will provide current studies and future studies as they are completed, as well as information about upcoming meetings and comment opportunities.

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is grateful that there are people who are focused on specific areas, like transportation, or sea level rise, or zero waste.

It's all related, but the work can feel like separate systems related to a whole body, she said.

One branch Furch is heavily involved with is water sustainability, and she serves as the vice chair of the Advisory Committee for the Santa Rosa Plain Groundwater Sustainability Agency. In this role and other she has a finely honed skill for bringing people together and keeping them informed.

"I don't dig into everything, because my bandwidth is only as big as my bandwidth," she said. "But if there's something that I feel like my skill set can contribute to, caring helps."

Caring about the environment and climate change is something Allison Ford has done since she was young (she wrote her first climate change paper in high school). Now an assistant professor of Sociology at Sonoma State University, Ford is blending her interest in climate change with educating young people, perhaps igniting a spark to become more engaged with the issue on any level.

"We can't control people's behavior but we can create conditions to make people's behavior change," she said.

In a course she taught last semester called Sociology of Climate Change, she incorporated time for reflection as her students processed information, which she said helps manage the distress that can occur with learning about the subject. Black and white thinking about climate change, she added, creates less room for discourse, which can then lead toward positive action.

"What do we actually want to accomplish when we are talking about climate change? It's a life-long process, we'll be dealing with climate change for the rest of our lives," she said.

Through her teaching methodology, which also brings in embodiment practices for students to recognize how information lands in their bodies, she said she sees more active engagement with the content, and has had some students tell her they were thinking about climate change in ways they had not before, including some students who may have never thought about climate change to begin with.



Participating in climate action can be as simple as discussing the topic with people you know or meeting new people and engaging in dialogue, as volunteer Pam Jackson (pictured above) is doing representing Sierra Club during a past event. In her work, Dr. Allison Ford of Sonoma State University reminds her students that climate conversations do not have to be black and white, there is room for discussion to find common ground. *Photo: Redwood Chapter file photo.*

"You can notice, then, that good things and difficult things are happening at the same time," she said.

And this approach allows people to move away from the doomsday scenario that can cause reactive panic or retreat instead of productive action or dialogue.

Education can often be the driving force that builds awareness that can lead to action.

Two high school students in Napa are finishing up an internship with Sierra Club Napa Group, during which they have taken bold steps on specific issues relating to greenhouse gas emissions.

Alisa Karesh and Emily Bit established a project called Fossil Free Future, an ongoing effort to decrease Napa county's reliance on the fossil fuel industry. Their attention turned to new gas station proposals in American Canyon. "This relatively small city already has quite a few gas stations established and did not need two additional gas stations," said Karesh. "The City Council agreed with us, so a temporary ban on new gas stations was proposed."

Their work on this issue involved attending meetings and involving other students to join other climate activists fighting the two gas stations. The City Council enacted the ban in March, and Fossil Free Future

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is continuing to press the council to make the ban permanent in the city.

Bit said as she graduates from high school and moves to into her college career, she will take what she has learned during her internship and continue to work on climate issues.

"My internship with the Sierra Club was immensely impactful on my life, forever shaping how I view the world and approach situations," she said. Bit plans to major in environmental economics and policy in college.

"I am excited and hopeful for what the future has in store, and hope to contribute to the positive change in store," she said.

Karesh said though at times doing this work is tiring, her inspiration to continue climate work grows when she learns more about the issues we face.

"It all began with my passion for environmental science, and since then, the more I learned about our grim situation, the more energy I gained to do something about climate change," she said.

There is work to be done across our chapter's region.

Redwood Chapter's Sonoma Group has a Climate and Energy Committee, which meets quarterly and has been helping to get the Climate Protectors grassroots effort off the ground. The committee's co-chair,

Shirley Johnson, said she is drawn to climate work because she feels "lucky to be alive" and she "wants to give back to this wonderful existence."

She points to groundbreaking actions that have recently occurred in Sonoma County, such as the decision by the City of Petaluma to ban construction of new gas stations. It's all part of the focus on reducing greenhouse gas emissions regionally as a component of global climate action.

To stay motivated with this work, she says she keeps her "eye on the prize. Sometimes it feels like we are losing and sometimes we gain. I try not to lose my focus, this is like anything that takes endurance."

The environmental community, especially those involved with Sierra Club, inspire her. Furch agrees.

She said it is the collegial aspect that can be the glue. "Having allies that care feels like camaraderie," she said.

"Within a volunteer organization, any volunteer organization, the person who feels passionately about an issue is going to elevate the focus of that group on that issue."

That passion can translate to powerful work.

"If you find something you care about that is interesting and you are curious and you can get engaged, and you do something, it's very rewarding," she said. "It's a feel-good moment every time a little victory occurs."

Current Volunteer Opportunities

MEMBERSHIP ENGAGEMENT CHAIR

Be the friendly face that introduces new members and volunteers to Redwood Chapter. This is a key position within the chapter to help it grow and maintain an engaged and active member and volunteer base.

Responsibilities include: creating a calendar for member engagement activities, carrying out social events for members and volunteers, recruiting and leading a member engagement team to help plan activities, welcoming new members, recruiting and tracking new members.

Estimated Time Commitment: 10 hours a month.

WATER CHAIR

The Water Chair will oversee all chapter activity dealing with water issues. This is a position for someone who has a passion and knowledge about water issues in Northern California.

Responsibilities include: maintaining communication with chapter leaders on water issues affecting the chapter's region, coordinating with other organizations to stand up to threats to clean water and healthy waterways, recruiting and leading a water committee, providing leadership and direction on all Sierra Club issues and communications regarding water.

Estimated Time Commitment: 5 hours a month.

OUTINGS CHAIR

Provide leadership, direction and oversight to the chapter and group outings programs. Work to make outdoor activities an integrated and vital element of chapter efforts.

Responsibilities include ensuring all chapter and group outings follow Club policies and procedures, managing and minimizing the risks of local outings programs, maintaining training and First-Aid certification requirements for outings leaders, and ensuring active leaders meet these requirements.

Estimated Time Commitment: 10-15 hours a month.

Redwood Chapter welcomes volunteers who are passionate about local environmental issues and want to help. If you're interested in getting more involved but don't see a volunteer position that calls to you and your skill set, please reach out. There are lots of ways for you to plug in, and we would love to have you! E-mail jeff.morris@sierraclub.org

For a fuller explanation of volunteer positions, please visit www.sierraclub.org/redwood/get-involved

Redwood Needles

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Redwood Chapter

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Happy New Year from Sierra Club Redwood Chapter!

We look forward to a productive year ahead, working with elected leaders, partners and community members across our region to bring about greater environmental awareness, appreciation and protection.

This could be the year you get involved in our chapter as an active volunteer. We would love to match your skillset with a position in our chapter or a local group. Please check out our volunteer job listings on our website at: sierraclub.org/redwood/get-involved

Send an email to redwood.chapter@sierraclub.org with questions or for more information.

www.sierraclub.org/redwood

Sonoma • Napa • Solano • Lake • Mendocino • Humboldt • Del Norte • Trinity • Western Siskiyou