

Redwood Needles



Spring 2021

Sierra Club Redwood Chapter

Volume 63, No. 2



Celebrating the beauty of spring blooms in our region!

On the Path

a note from
Chapter Director Jeff Morris

In the wake of what is likely the most tumultuous yet isolated year of our lives, this issue of the *Needles* features a thoughtful piece on Earth Day and where we are, 51 years from its inception. Across the Redwood Chapter region, we are seeing the results of long efforts in moving forward conservation efforts. With the impacts of climate change barreling down on us like the world's largest freight train, especially upon the most vulnerable in our communities, these achievements can seem like spitting in the wind.



What they are is a glimpse of what's possible.

Just after I started this position, in early 2019, our communications coordinator, Shoshana Hebshi, and I were contacted by a volunteer in Petaluma, Richard Sachen, who was working as the Sierra Club Sonoma Group point person with locals trying to stop the construction of a gas station next to an elementary school. He was juggling this issue in addition to working his day job.

Proponents of the project were less than friendly to the opposition and also to members of the city council. Lawsuits were threatened, and elected officials were nervous, balancing precious city finances against what anyone who was present could tell was the right decision.

Now, two years later, Petaluma is the first municipality in the nation to enact a ban on new gas station development. It made national news, bolstering the effort by local grassroots groups, including No Gas Here and ConGas, and perhaps acting as a harbinger for a wave of other cities and counties doing the right thing.

Also close to my heart is the passage of Rep. Jared Huffman's public lands bill by the U.S. House of Representatives for the third, and, hopefully, final time. While the impact of this bill protects a number of roadless areas as wilderness within a four-county region, there are two areas in particular that resonate for me.

First is Chinquapin on the Upper South Fork Trinity River, which is home to the largest unprotected stand of old growth Douglas fir in California. Second is the Pattison roadless area, which sits directly across Hayfork Creek from Bar 717 Ranch. My great-great aunt Nell was married to Billie Pattison, and they used to take trails from their ranch at Corral Bottom to visit friends at Bar 717 in the early 1900s.

Both of these places were considered for inclusion in the 1984 CA Wilderness Bill and have never left the list that local environmentalists have had in mind if the winds of fortune (and elected leadership) blew the right direction.

The reflections on Earth Day in this issue highlights that we're not doing enough to fight climate change. That is woefully accurate.

Municipalities across the region tout their support for combating the problem in nearly the same breath as when they approve a zoning change allowing a new vineyard or subdivision instead of prioritizing infill and protecting current open space.

However, the gas station ban and the public lands bill are two examples that demonstrate we have the ability, if we're organized and tenacious to make real change. Find your place, take up your flag and join teams that are making progress. They need your help, and we all need to work collectively to accelerate our combined impact.

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



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Earth Day 2021: A Call to Action



The first Earth Day on April 22, 1970 brought out demonstrators across the country to call for environmental action.

By Shoshana Hebshi
Chapter Communications Coordinator

The transition from winter to spring often feels like a rebirth. In our region, the hills turn a bright green, wildflowers bloom abundantly in open spaces, birds busily make their nests and progress on their migration patterns. Spring feels hopeful and fresh. Like a new start.

It also is the season of Earth Day, the annual celebration hailed by the environmental community as a time to honor conservation, enjoy the outdoors, engage in environmental education and, perhaps, drive less.

This year, Earth Day feels especially urgent.

As we emerge from our coro-

navirus cocoon, we face a planet where the effects of climate change are ramping up, but our intentions to draw down climate-disrupting emissions have not manifested in the widespread changes needed to achieve the reduction required. We re-enter a society that has been sequestered from social interaction for more than a year, that has increased its use of single-use materials in the form of face masks, gloves and take-out containers, that has not significantly altered its method of consumption of resources, and that has not learned to live in more harmony with nature and the cycles of the planet.

Earth Day is April 22, a Thursday this year. The celebration began in 1970, organized by activists and politicians to encourage Ameri-

cans to demonstrate against the “impacts of 150 years of industrial development,” according to the Earth Day website. That first Earth Day inspired 20 million people across the country to participate in rallies and events to protest the deterioration of the environment at the hands of industry.

That first Earth Day led to the creation of the Environmental Protection Agency and environmental regulations, including the Clean Air Act. In the beginning of any movement, it’s always exciting. As time passes, we can get used to the status quo and become complacent. We have come a long way with environmental policy and regulation since that first Earth

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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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TALKIN' TRASH

Reducing your waste can help lessen emissions, protect oceans

By Theresa Ryan

Sonoma Group Zero Waste Chair

Remember it's not what you know but who you know it with!

For those of you who missed the "Story of Plastic" panel discussion held Feb. 25 on Zoom, and/or are hunting for more ways to reduce plastic in your life, Sloane Pagel, manager at Zero Waste Sonoma (Sonoma County Waste Management Agency) shared two links to Zero Waste stores that sell re-use and re-fill products:

Heritage Alchemy in Santa Rosa, Sonoma County's first re-fill station and Sustainable Goods Shop <https://heritagealchemy.com/>

Refill Madness on Napa Street in Sonoma <https://refillmadnesssacramento.com/sonoma>

For more ideas on plastics and reducing them, here is a link to a YouTube video a North County San Diego climate group presented on "Plastic Pollution and Solutions." The more you can learn about this the less you will be daunted by the images of plastic floating in the world's waterways: <https://www.youtube.com/watch?v=yjQig52qB10>

You can also view a recording of our Feb. 25 discussion with local zero waste leaders on our website: sierraclub.org/redwood

SB 1383 is state law aimed at reducing GHG emissions from organic matter through reducing the amount of food and plant matter getting sent to the landfill. One of the major requirements is to get residents and businesses to compost, as well as large food generators to donate and recover edible food. The effective date of enactment is Jan. 1, 2022.

Zero Waste Sonoma is actively working on helping all jurisdictions implement this new rule, and letters have been sent to all potentially affected businesses regarding the deadline. Roll out of SB 1383 will be ongoing, and you can look for updates in the *Needles*.

The Sonoma Climate Mobilization draft strategy from the Regional Climate Protection Plan identifies solid waste as 6 percent of Sonoma County's greenhouse gas emissions. Anything you can do to compost your own organics from home or making sure they get into the green bin correctly is one simple step you can take to reducing GHGs.

A *Press Democrat* article from March 2, "Thumbs up: Keeping County Roads Clean and Tidy," describes a group of people who have adopted a 2.5-mile stretch of Valley Ford Road in an effort to keep plastic and other trash out of the watershed. The road runs along the Americano Creek, so any garbage thrown by passers-by ends up in the Estero Americano, which then can lead to the ocean.

Their effort is part of a new Adopt a Road program headed up by the Sonoma County Department of Transportation and Public Works, which allows individuals, businesses or organizations to sponsor cleanup campaigns upon a section of road.

To learn more about the program, contact Clyde Galantine with Sonoma County Transportation and Public Works at clyde.galantine@sonoma-county.org

PG&E hides culpability in wildfires, puts blame on forests

By Shoshana Hebshi

Chapter Communications Coordinator

Sierra Club California, with the help of Redwood Chapter's forest committee chair, Jeanne Wetzel Chinn, has released a white paper analyzing PG&E's "fire management" actions in the wake of wildfires across the state.

California's fire season has become year-round. It is now common to have hot, dry weather that includes strong winds at any season. These winds knock down electrical infrastructure, causing sparks to fly into dry vegetation and spreading fires that are spurred and amplified by these winds.

The white paper, entitled "The Harmful Effects of PG&E's Tree Removal Practices and Recommended Alternatives to Prevent Utility Wildfires," was drafted by Sierra Club's Utility Wildfire Prevention Taskforce, and opens with the line: "Power utility safety must be a top priority for PG&E."

It drives home the point that it is PG&E's highly antiquated infrastructure, not the trees, that is the ignition driver. Updated infrastructure, even if knocked down by a branch or tree, would not automatically start a fire.

"Faced with lawsuits, legislative action, and bankruptcy, PG&E still fails to confront the emergency nature of improving its antiquated infrastructure. There are five primary issues that cause this problem: lack of circuit safety, incursion onto private lands, a vague definition of Hazard/Danger trees, arborist non-qualifications, and misleading influence," the paper states.

The paper goes on to list many ways that the utility company, which is the largest in the state of California, has not upgraded its infrastructure to incorporate modern technology and materials that withstand high winds and automatically cut power to avoid creating fires.

In addition, the paper outlines ways that PG&E has encroached upon landowners' rights by removing, and continuing to remove, trees that should be left alone. The utility has labeled trees as the main problem in



PG&E has been cutting down trees near power lines in wider swaths than necessary, without giving private landowners any right of refusal. The utility has swayed public opinion to think trees are the problem with wildfires rather than its antiquated infrastructure.

Photo: Shoshana Hebshi

fueling these wildfires rather than taking responsibility for improving its infrastructure and bringing it up to modern standards.

In a time when climate change is barreling down on us and the threat of fire is leaving a lasting trauma in our lives, it is important to insist that this very powerful utility company be held accountable for upgrading its infrastructure while maintaining as much healthy forest as possible.

The paper states: "For decades PG&E has endeavored to influence public opinion and affect legislation towards tree removal rather than upgrade utility infrastructure. Blaming the problem on the trees gained acceptance as PG&E sought to limit its liability and expenses while paying its shareholders."

The authors provide solutions to the problem including:

- Infrastructure improvements, including undergrounding wires where possible;
- Forcing PG&E to adhere to current laws that give property owners not only the right to oversee and participate in the work being

done on their land, but also the right to forbid the removal of trees;

- Creating a uniform definition of hazard trees applicable to all agencies and utilities that protects forests, heritage trees and habitat;
- Requiring specific training and education for arborists who are working on classifying trees to be removed; and
- Installing a court-issued mandate to require PG&E to upgrade its infrastructure to "fail safe" conditions, and make tree cutting a secondary measure.

The paper concludes that PG&E is causing "extensive environmental damage to public and private lands" and calls on the state to take swift and bold action to adjust the framing and scope of PG&E's misguided solutions.

Read the full white paper on our website: sierraclub.org/redwood.



In 2017 and 2018, climate marches and demonstrations against environmental regulation rollbacks ramped up in response to the Trump administration's ongoing attacks on protections. Photos by Karen Preuss (left and center), and by Shoshana Hebshi (right).

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Day, but threats to clean air and water, open space, and healthy ecosystems persist. And now, climate change.

The urgency of the climate crisis makes the usual festival in the local park, face-painting, food stands and governmental agencies giving out tips on conserving water, seem inadequate.

If the general population were inspired, as Greta Thunberg has inspired students and young people across the globe, to rally and protest with an impassioned message to demand real, starkly different climate action, if our emergence from the hardships of Covid-19 can re-energize our fervor, this Earth Day marks the perfect opportunity to transmit the necessity of rapid change.

Sierra Club provides some framework for its members to be involved in climate action, and Redwood Chapter also has many irons in the fire as we collectively strive to draw down emissions, provide education, and advocate for a cleaner economy.

“Our best science shows us now that actions we take this decade will make all the difference for the future of our climate.”

Local Action is the Way

Redwood Chapter’s Climate Protectors program launched in the beginning of 2020 with the twofold mission of getting people involved in climate action

at the local level and coordinating with other climate action groups to reduce overlapping agendas.

“Climate Protectors is specifically designed to help people make a difference in their own lives and in their local communities,” said Randy MacDonald, co-chair of the program and chair of the chapter’s climate and energy committee.

As a statewide program, Climate Protectors understands that gaps in climate action work exist at the local level where larger initiatives from the state and federal levels can bypass.

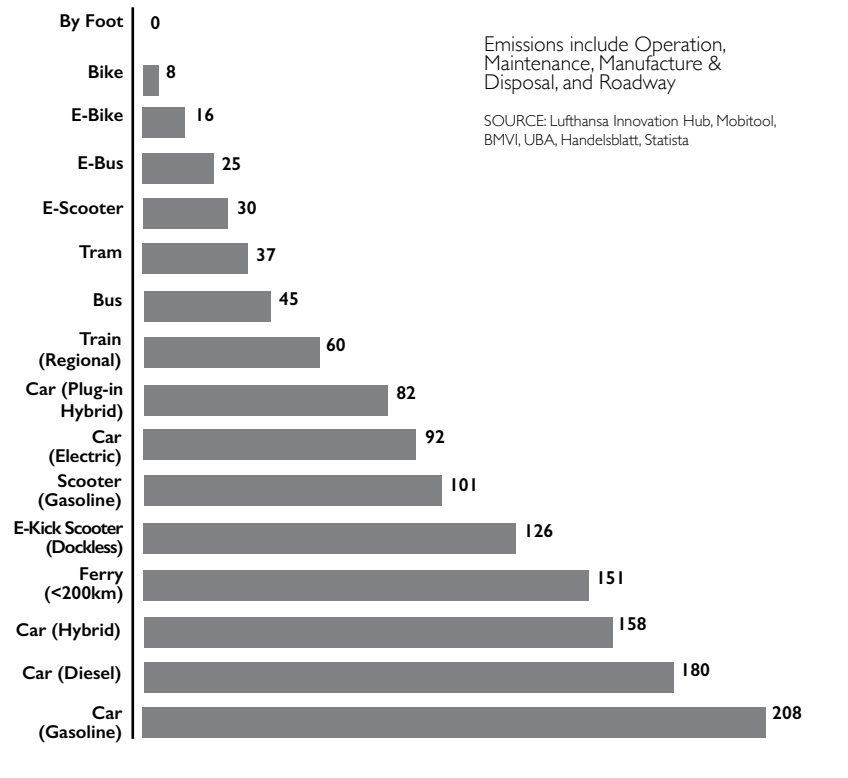
“There’s a dearth of action in local communities,” said MacDonald, who lives in rural Mendocino County. “Our motto is inspiring community-based climate action. We focus on people’s individual lives and communities.”

Members of the program make pathways in their own communities, coordinate actions with existing local climate action groups and advocate local municipalities for good climate policy.

“Unfortunately, climate change is happening faster, and its impacts are more severe than have been predicted,” said MacDonald. “Our best science shows us now that actions we take this decade will make all the difference for the future of our climate. This is why we need people right now to step up and help us. Become a Climate Protector and help us make a real difference for the future of our planet.”

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AVERAGE CARBON EMISSIONS BY TRANSPORT MODE BROKEN DOWN BY CATEGORY (IN GRAM PER PKM)



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Planes, Trains and Automobiles

While initiatives like the chapter’s Climate Protectors group focuses specifically on engaging local climate action from a policy and advocacy standpoint, other efforts, like the work of Transportation Chair Steve Birdleough, aim to support local public transit and carpooling, reducing vehicle miles traveled and promoting affordable infill housing to bring workers closer to their jobs.

“We know that someone who is walking or riding a bicycle is responsible for a lot less greenhouse gas emissions than someone who is driving a car,” said Birdleough, who lives in Santa Rosa and said since the pandemic began he has filled his gas tank only three times. “We know that in many cities, close to half of all trips are less than three miles in length, so they are easily done on a bicycle or on foot, yet our instinct is to grab the keys and hop in the car.”

Cities that work to design themselves to make biking and walking attractive will be more successful in reducing their greenhouse gas emissions, he said. But the only way to meet ambitious reduction targets, such as making Sonoma County carbon neutral by 2030, requires getting people out of their cars entirely.

This work is not without its challenges. Birdleough, who was part of the effort to bring the SMART

train to Sonoma and Marin counties, has watched and fought well-financed opposition interests that have worked to shut down tax measures to fund the system. While SMART has provided a great alternative to driving Highway 101, it has also spurred cities with stations like Petaluma, Santa Rosa and Windsor, to build denser housing nearby to create a more walkable area.

In his work on a project to rebuild State Route 37 between Vallejo and Novato, eventually raising the road above sea level because of flooding, Birdleough has advocated for increased public transit and vanpooling along the route to discourage driving, as well as the construction of affordable housing in Marin to allow employees to live closer to their work. Spending the \$4 to \$5 billion it would cost to transform the highway into an elevated causeway could otherwise be spent on affordable housing in Marin, he said. That would save workers time and money and draw down emissions from

reduced commutes.

“That solution depends on Marin County being willing to have a much more diverse population, and to have a certain number of people, maybe 20,000, move from Vallejo over to Marin, or new people could take those jobs,” Birdleough said.

This kind of shift takes a different way of thinking from municipalities and developers, and it’s a shift that is happening gradually, “glacial speed,” he said. “But the end result can be really good.”

The pandemic has provided another source of emissions reduction as more people have been working and schooling from home and using software, like Zoom, for meetings. Birdleough sees this development as something that will stick around and ease traffic in the long run.

“The thing that I’m trying to make clear to everyone is we need to steadily reduce our vehicle miles traveled by about 1 percent annually over the next 20, 30 years,” he said. “We have to develop a plan and an approach that reduces the amount of driving year by year by year, and there will be no end to it.”

The Climate Protectors’ Randy MacDonald said one thing we can learn from this pandemic is we can exist without driving so much.

“Transportation is a major contributor to climate change in our region,” he said. “If you’ve found ways to avoid driving, let’s try to keep that up as much as

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we used to. Our cars are melting the planet, and the convenience trip is no longer something that we have to do.”

Curbing sprawl

Part of the charm of our region is its wide, open spaces, its swaths of forested hills, its rivers and lakes, its scenic hiking and biking trails and its beautiful coastline. This area has, of course, historically been significantly altered by timber extraction that still includes clear cutting and habitat destruction. Our region also sees modern challenges with wild spaces converted to vineyards or cannabis and ag land converted to housing or commercial use.

In the city of Sonoma last year, voters overwhelmingly renewed the Urban Growth Boundary, which will protect open space surrounding the city for another 20 years. But other threats continue to arise elsewhere, including intensification of land use by wineries to include event centers and venues on ag land.

Regionwide, the more development and natural landscape conversion that encroaches onto open space, the more greenhouse gas emissions occur, the more habitat gets lost, and the more removed we become from our natural spaces.

“Advocating government leaders to protect open spaces from urban sprawl development is one of the ways that Sierra Club uses its voice that ultimately leads to climate action,” said Teri Shore, a Sierra Club activist in Sonoma Group who lives in the Sonoma Valley. “The more we can preserve our wild lands and the habitats and ecosystems and allow them to thrive, the more resilient we will be to climate change.”

Conservation efforts on wide swaths of space in the northern parts of our region, including Del Norte, Mendocino, Trinity and Humboldt counties, are encouraging as well. A sweeping bill heading to the U.S. Senate right now would offer protection to more than 259,216 acres as wilderness and potential wilderness areas in addition to establishing a 700,000-acre

restoration area that works to restore former clear cut forest areas and prioritize community wildfire protection, rather than extractive timber sales activity.

Hug a tree, don't cut a tree

Since the spate of wildfires that have torn through our region in the last six years, a lot of burden has been placed on trees. A white paper that the chapter's forest committee chair, Jeanne Wetzel Chinn, helped write lays out how PG&E has scapegoated trees as the



Trees are being cut down when they don't need to be, in the name of PG&E's attempt to curb wildfires. Its approach does not place the rightful blame on its aged infrastructure. Photo by Shoshana Hebshi.

culprits and accelerators of the infernos and therefore has been cutting them down beyond a reasonable measure. The utility's messaging avoids culpability in its aged infrastructure, instead pointing to the flammability of the vegetation that they claim “starts and spreads the fires.”

In a time when we are trying to store carbon in the soil, and trees are our No. 1 resource in doing so, cutting them down with abandon is not the best climate-friendly policy. Yet, local governments and the state have not prevented PG&E from its brazen disinformation campaign that has left trees through-

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out the state at the mercy of its poor methodology.

The paper concludes that PG&E is causing “extensive environmental damage to public and private lands” and calls on the state to take swift and bold action to adjust the framing and scope of PG&E’s misguided solutions.

“Decades of neglect by PG&E to modernize its distribution and transmission systems has made the system vulnerable to all sources of ignition,” said Wetzel Chinn. “These sources aren’t just tree branches or fallen trees, these sources include balloons, animals, wind, and vehicles. Almost 75 percent of the igniters are not related to vegetation. Modernizing the infrastructure protects us from all igniters, providing us with a safer and more reliable electrical system.”

Don’t Pass Gas

Finally, Redwood Chapter has been supportive of a Sonoma County organization seeking to ban new gas stations.

The Coalition Opposing New Gas Stations (CONGAS) is led by Sierra Club members Jenny Blaker and Woody Hastings and set out to oppose gas station proposals in Sonoma County in 2019. The group has grown to include members of the community who share this desire, seeing the discord between working against climate change and approving new gas stations.

Since CONGAS began its work, it has helped to shut down two proposed projects

in the county and is keeping a watchful eye on a handful of other proposals.

When the City of Petaluma unanimously imposed a ban on all new gas stations within city limits in February, CONGAS members were elated.

“There are many good reasons to oppose new gas stations including groundwater contamination, air quality concerns, public health, and more, but in the midst of a global climate crisis, we should not be literally pouring more fuel on the fire.”

Petaluma was the first municipality in the nation to ban new gas stations, and it serves as a example for similar actions elsewhere in the region, the state, and the nation.

Time’s A Wastin’

As we look forward to Earth Day 2021, 51 years following the inaugural event, let’s remember how far we’ve come and how much work is before us, urgently pressing us forward to a cleaner, healthier and more harmonious planet Earth.

Although most local festivals will be canceled again this year, Redwood Chapter invites you to step up your commitment and volunteer to be a part of our work through the Climate Protectors program or through local group or chapter initiatives.

Email us at: redwood.chapter@sierraclub.org to talk about how you can help.

‘30 X 30’ for Our Land and Water

by Victoria Brandon
Redwood Chapter Chair

Sierra Club California recently launched a statewide priority campaign that is so perfectly aligned with Redwood Chapter’s existing conservation goals that it could almost have been custom-designed just for us.

On Oct. 7, 2020 Gov. Gavin Newsom issued an Executive Order making California the first state in the nation to embrace a formal effort to permanently protect 30 percent of its land and water by 2030, a commitment that was recently confirmed by Biden administration’s establishment of a 30 X 30 goal for the nation as a whole.

In California, we’re a lot closer to getting there than any other state except Alaska, and robust progress in advancing protections here is essential to meet the larger national objective.

Of course, there’s a lot of work to do in order to achieve meaningful conservation and restoration of California’s natural spaces, especially since the effort also needs to prioritize equity and accessibility of our public lands.

Nonetheless, here in Redwood Chapter, our ongoing conservation campaigns—ranging from our longstanding commitment to the coast and San Francisco Bay to efforts to establish Wilderness and Wild and Scenic rivers to the restoration of breeding populations of salmon and steelhead in the Eel River to participation in the creation of national forest and national monument management plans (and lots more!)—already provide a blueprint for the kind of work that needs to be done.

So it’s not surprising that when the state organization sent out a survey to gauge volunteer interest in participating in the 30 X 30 campaign it got more responses from Redwood Chapter than any other of California’s 13 chapters, including those with more than three times our members!

VIEW FROM THE COAST

Farallones Sanctuary promotes nature-based adaptation to climate change to build coastal resilience

By Tom Roth

Chapter Conservation Chair

Last summer will probably be remembered for COVID-19, wildfires, police killings of black Americans, and the uneven keel of our ship of state. And if we didn't have plenty to choke on, climate change news continued to be evermore dire. A little known report, the Greater Farallones National Marine Sanctuary's "2020 Climate Change Impacts," was not a source of optimism.

The Greater Farallones National Marine Sanctuary (GFNMS) is a kind of oceanic national park made up of 3,295 square miles off the coast of five counties, including Sonoma and southern Mendocino. The sanctuary exists to protect our coastal waters, one of the planet's most biologically rich marine ecosystems, and does so by banning offshore oil exploration, drilling and pipelines, pollution discharges, and damage to the seabed.

GFNMS also invests in science and planning.

"Science is behind every decision the sanctuary makes to protect resources," says Dr. Wendy Kordesch, a geological oceanographer and a key member of GFNMS' climate team. "We closely monitor the health of wildlife populations and ecosystems in our waters and use the latest climate science to develop plans to protect them."

In 2010, the sanctuary released its "Climate Change Impacts Report," a document that has been emulated by all 13 National Marine Sanctuaries. The 2020 report, which relies on 72 scientific studies and reports, updates the 2010 document.

Both reports unsparingly look at a possible catastrophic future in the sanctuary.

According to the 2020 report, climate trends in the sanctuary in



A harbor seal forages through a kelp bed in the coastal waters. The kelp beds have nearly vanished along the California coast due to a chain of events that begins with a heat wave and ends with an explosion of purple sea urchins devouring the forests.

Photo by Florian Graner.

the last decade stayed the same, accelerated, or are already being realized. We are seeing the same rates as in 2010 for sea level rise, coastal erosion, nearshore water temperature, increases in extreme weather events, and climate impacts compounded by other human impacts. Impacts that accelerated faster than initially predicted include a decrease in spring runoff, rising sea surface temperature, and ocean acidification. Those now clearly observable are dryer dry years and wetter wet years, a northward shift in key species, and smaller and less nutritious phytoplankton.

If these trends continue, the beach and rocky inter-tidal habitats of stellar sea lions, elephant seals, and endangered western snowy plover (among others) will be drowned by rising seas. Inland we will see the destruction of salt water marshes—bird havens and important marine nurseries. Altered streamflow will affect the migration of salmonids. Warmer waters will lead to more frequent and intense toxic algae blooms. Acidic waters will eat away at shells and skeletons of mussels and

deep sea corals. Dungeness crab will have reduced larval survival, and other sea creatures will starve as their prey diminishes. And yes, we humans will lose our beaches, many coastal roads and structures, recreational and commercial seafood sources, and much peace.

The big picture solution to climate change is a zero emission economy and removing carbon from the atmosphere. But at this stage, climate impacts are unavoidable, and so sanctuary staff and volunteers realized the necessity of adaptation strategies.

"Resilience and determination in our thinking are essential at this critical juncture. Climate change is a juggernaut already in motion that we cannot stop entirely, but we can slow it to buy time," states Mary Jane Schramm, the sanctuary's media specialist.

After looking at its climate vulnerabilities the GFNMS Advisory Council began in 2014 a two-year process to produce a Climate Adaptation Plan (CAP). According to

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Schramm, the sanctuary, and its partners, has conducted ecosystem monitoring for four decades, focusing on ocean indicator species—primarily marine mammals and seabirds—to produce long-term baseline data that enables detection of changes and preparation for the impact of those changes.

Six major strategies were chosen (implement living shorelines, promote education, protect and restore habitat, limit human disturbances, address invasive species, invest in science needs) as well as 26 sub-strategies. The CAP provided neither detailed plans nor resources—and some strategies were in fact novel and would require further research. But what the CAP provided was a framework of potential actions and priorities to create climate resilience in the sanctuary.

One sub-strategy highlighted in the CAP is to “Restore subtidal kelp forests to attenuate waves and buffer from enhanced storm activity.” Kelp forests are habitat for abalone and red sea urchins, as well as numerous fish and marine mammals. The central-north coast has experienced an estimated 90 percent loss of kelp sea beds in the last decade due to a chain of events that begins with a multi-year marine heatwave in the north Pacific and endures with huge populations of purple urchins devouring kelp forests.

The Sonoma-Mendocino Bull Kelp Recovery Plan, a product of the sanctuary and the California Department of Fish and Wildlife and supported by the Greater Farallones Association and numerous stakeholders and scientists, was released in 2019 and envisions two main strategies: reduce urchin grazing and culturing and the propagation of bull kelp. Urchin removal has started in Mendocino County and may soon begin in Sonoma County while Moss Landing Marine Laboratories is working on techniques for culturing and outplanting bull kelp.

Another offshoot of the CAP framework released in 2019, the GFNMS’s Coastal Resilience Sediment Plan, builds on previous collaborative work by state and federal agencies



and NGOs. Increased erosion and reduced sediment renewal are caused by coastal development and impacts of climate change, such as sea level rise, bigger storms and increased wave height. The result is eroding cliffs, loss of beaches, sediment build-up in bays and estuaries, blockage of river mouths and damage to infrastructure. In the past, these problems have been addressed largely with “gray” solutions—the armoring of the shoreline with rip rap or sea walls. Gray stabilization unfortunately destroys habitat, shifts impacts elsewhere along the coast, and in many cases—Gleason Beach in Sonoma County, for example—falls apart under the unceasing pounding of the sea.

The GFNMS rejected gray solutions in the Sediment Plan and instead called for a living shoreline, using natural materials like rocks, sand and native plants to stabilize the coast.

“They are a ‘green’ alternative to ‘gray’ stabilization techniques (like sea walls) that are cheaper to construct, easier to maintain, more scientifically sound, and look like natural dunes or wetlands when they’re complete,” said GFNMS’s Kordesch.

Kordesch said, for example, Doran Beach in Sonoma County, a popular

park located on a spit jutting into Bodega Bay, is rapidly losing its sand due to climate impacts. Bodega Harbor is periodically dredged and rather than dumping its materials into the ocean, tested clean sediments can be used to replenish the beach.

Kordesch added that watershed restoration efforts can slow sediment accumulation to help prevent flooding of waterways, such as at the mouth of the Russian River. A strategy like restoring coastal wetlands, can do “double duty,” she said. “Living shorelines in wetland habitats can stabilize the shoreline and sequester carbon at the same time. Wetland plants capture carbon through photosynthesis and sequester it in sediment where it can stay for thousands of years.”

The GFNMS’ formula for climate change adaptation—science-based decision making; partnerships and financial burden-sharing with government, academia and stakeholders; public outreach and education; and place-based strategies—will be tested in the future. The big question is, will our political system provide the needed resources as we race time to protect our irreplaceable marine ecosystems?

Sweeping public lands bill headed to U.S. Senate

By Jeff Morris

Redwood Chapter Director

A national bill that would protect more than 250,000 acres in our region passed the House of Representatives in February and moved on to the U.S. Senate where it awaits review.

Rep. Jared Huffman's multi-faceted public lands legislation, Northwest California Wilderness, Recreation and Working Forests Act, has been passed in different iterations two other times and is now combined with other public lands conservation bills.

Regionwide, the bill would protect 259,216 acres as Wilderness and Potential Wilderness, designate 379 miles of rivers and streams as Wild and Scenic Rivers and establish and expand myriad recreational trails and opportunities.

Additionally, an innovative restoration area of more than 700,000 acres would be established within the South Fork Trinity and Upper Mad River watersheds that focuses on forest resilience, fire prevention and restoration focusing on projects and prescriptions developed by members of local environmental organizations and local community members.

Mendocino, Humboldt, Del Norte and Trinity counties, located in Redwood Chapter, are the key areas of the bill's focus, with Trinity County seeing the majority of the proposals.

Due to its inclusion in a "less conservation friendly" congressional district prior to 2012, Trinity County had not been a part of any successful federal public lands legislation since the passage of the California Wilderness Bill of 1984, which established the Trinity Alps Wilderness Area.

Knowing the Biden adminis-

tration would be taking office on Jan. 20, it appears congressional staff moved quickly to reintroduce and combine similar pieces of legislation to ensure their quick movement through the House for consideration in what is now a tenuous, but more favorable, atmosphere in the Senate, where the bill's 2020 senatorial champion, Kamala Harris, now presides in her new role as

the vice president of the United States and president of the Senate.

The process is looking positive with California's newly appointed Sen. Alex Padilla recently expressing his interest in introducing a supportive bill in the Senate, in addition to the Biden administration stating its potential support for the combined package.

Sierra Club supports Huffman's Northwest California Wilderness, Recreation and Working Forests Act.

If passed by the Senate and signed by President Biden, this collection of conservation measures will be a huge step forward to securing protection for landscapes, wildlife and our natural environment.

Visit www.MountainsandRivers.org for additional information.



More than 250,000 acres would be protected under the Northwest California Wilderness, Recreation and Working Forests Act put forth by our Rep. Jared Huffman. The bill passed the House in February and resides in the U.S. Senate for discussion. It would affect areas of Mendocino, Humboldt, Del Norte and Trinity counties.

CLIMATE CORNER

Help Us Work to Reverse Climate Feedback Loops

By Randy MacDonald
*Chair, Redwood Chapter
Climate Protectors Steering Committee*

Despite the fact that humanity's greenhouse gas emissions have declined about 7 percent since the COVID-19 pandemic began, our climate crisis continues to accelerate.

How can this be?

Unfortunately, "climate feedback loops" in the Earth system have the effect of reinforcing global warming by causing more heat to be generated than the feedback loops receive. There are four major feedback loops of particular concern for our climate, and they are detailed below.

Forests

We generally think of forests as part of the solution to our climate crisis, and that's true, to a point.

One quarter of all human carbon emissions are removed from the atmosphere by forests, but that percentage is decreasing as human and climate impacts upon forests reduce their ability to absorb CO₂.

Tropical forests are particularly at risk of becoming net carbon emitters within the next few decades.

Boreal forests in the far northern hemisphere are also becoming less effective carbon sinks, which makes temperate forests, such as the redwoods our Chapter is named after, all the more important for natural carbon sequestration.

Permafrost

The vast regions of icy ground stretching across the near-arctic portion of our planet hold incredible quantities of carbon in the form

of ancient plant and animal remains which have not thawed for millennia, until now.

Global warming is causing permafrost to melt in Canada, Siberia and Alaska, releasing increasing amounts of methane, a very potent greenhouse gas (GHG). As methane heats the atmosphere, more permafrost melts, releasing more methane, which leads to more warming.

This vicious cycle can only be arrested by reducing temperatures

This vicious cycle can only be arrested by reducing temperatures planet-wide through meaningful climate action that significantly reduces GHG emissions and safely sequesters carbon from the atmosphere.

planet-wide through meaningful climate action that significantly reduces GHG emissions and safely sequesters carbon from the atmosphere.

Atmosphere

The atmosphere itself has a huge influence on climate change. As air warms up, it tends to absorb more water than cooler air. Water vapor in the atmosphere can act as a blanket, trapping heat that would otherwise be released into outer space. The more our carbon emissions warm the atmosphere, the more this "water vapor blanket" feedback loop reinforces global warming.

This effect also impacts our weather. For example, the jet stream has become less contiguous as the atmosphere warms up, leading to more "stalled" weather systems as well as dramatic effects, such

as "polar vortex" freezes that impacted most of North America this winter.

Albedo

Though not a familiar word, "albedo" is a familiar concept. Albedo refers to the reflectivity of an object or substance.

Reflectivity is a very important factor in our climate crisis because the earth receives incredible amounts of energy from the sun's

radiation. Much of that radiation is reflected back into space by the tops of clouds and the brilliantly white areas of our planet which are covered in ice and snow.

However, icy regions are melting rapidly, revealing the soil and water the ice had covered, both of which absorb, rather than reflect, solar radiation. As those areas heat up, more ice and snow melts, leading to more heat absorption.

Learn more about climate feedback loops by visiting our Climate Protectors' Climate Science Online Library at <https://climateprotectors.net/learn/climate-science-library>, where you'll find five recent videos narrated by Richard Gere explaining this effect.

And while you're there, please join us. Our climate crisis isn't going to solve itself, become a Climate Protector today!

Trails, travel management in Berryessa Snow Mtn.



by **Victoria Brandon**
Redwood Chapter Chair

In collaboration with a diverse group of environmental groups coordinated by Tuleyome, Redwood Chapter has been participating in the Bureau of Land Management (BLM) ongoing trails and travel management process within the Berryessa Snow Mountain National Monument (BSMNM).

A well-designed, well-constructed, ecologically and culturally sensitive trail and maintenance system is critical to maximizing access to BSMNM and adjacent wild public areas in the region under local, state and federal designations.

Established in 2015 “to preserve the objects of scientific and historic interest on the lands of the Berryessa Snow Mountain area,” BSMNM is shaped by dynamic and dramatic geological forces and brimming with biodiversity. It is home to unique landscapes, climactic micro-regions and breathtaking views, as well as containing the headwaters of several creeks

and rivers, three federal wilderness areas and a Wild and Scenic River.

Public access and sustainable, appropriate multiple use of trails—hiking, mountain biking, OHV, equestrian—are central to its mandate.

Sustainability and appropriateness depends on a number of factors, starting with siting trails in suitable locations for the designated user experience. Sustainable trails also need to support designated uses with minimal impact to the area’s natural systems, wildlife and its historical and cultural resources, to follow natural contours while keeping water off and users on, and to require no more than routine maintenance.

Based on these considerations, the BLM planners were requested to:

- Coordinate trails and travel management planning with the pending BSMNM Management Plan, and to provide an estimated timeline;
- Inventory lands with wilderness characteristics in the affected areas before determining uses;
- Map and evaluate fuel breaks

in the area, many of which are informally used as trails though usually unsuited for that purpose;

- Explore new approaches to fire prevention and management, with a central focus on indigenous perspectives and methods;
- Systematically identify trails in need of maintenance, and locations for new trails that would enhance access to our public lands and increase awareness of their beauty, value and importance.

In sum, wise trail and travel management planning in the monument is critical to protecting its invaluable resources while ensuring access.

While it is encouraging to see BLM moving forward on this plan, it is critical that it be conducted in a coordinated, collaborative manner to prevent any adverse effects on the monument and its natural, scientific and historic objects of interest.

Another public workshop is tentatively planned later in the spring, perhaps as early as April. We’ll be there!

Movement to stop new gas stations heats up

By Woody Hastings

Sonoma Group

2021 is kicking off as a very active and eventful year in the efforts to stop the construction of new gas stations, and Redwood Chapter members are playing key roles.

In January, Sonoma County Sup. Lynda Hopkins said she wants to get the county-level ordinance done this year. She has been a champion of the issue since she expressed her support in an announcement at the 2019 "Rising Up for Climate Action" concert at Sonoma Mountain Village. Wildfires, Covid, the housing crisis and other pressing matters have slowed things down a bit, but it is still on the radar.

On Feb. 22, Petaluma garnered national media attention by becoming the first city in the United States, as far as we know at this point, to prohibit the permitting of new gas stations within its city limits.

On March 2, the City of American Canyon in Napa County voted unanimously to impose a 45-day urgency moratorium on processing new gas station permits as it wrestles with three proposals in

the small city.

On the same day Petaluma prohibited new gas stations, the City of Novato Planning Commission voted to approve a 28-dispenser mega gas station at Novato's existing Costco. On March 9, the full city council



Opponents of new gas stations in Sonoma County are urging policymakers to focus more on building charging stations as the population transitions to electric vehicles. Moving away from fossil fuels is one way to draw down greenhouse gas emissions that fuel climate change.

affirmed the planning commission with a 4-1 vote to approve the project.

A broad and diverse coalition has emerged to stay on the case to ensure that the ill-conceived station is never built.

Santa Rosa has placed the issue of a new gas station ordinance on its May 12 Climate Action Subcommittee agenda.

The Sebastopol Climate Action Committee is also working on bringing the issue to the Sebastopol City Council.

How do these efforts play into the vision of creating a fossil free future? Campaigners on the issue call on the well known adage "if you are already in a hole, stop digging." Similar to efforts to stop oil and gas extraction in the state on the supply side of the equation, ending expansion on the demand side is also a key first step.

Redwood Chapter members and others involved in the Coalition Opposing New Gas Stations assert that expansion of electric vehicle charging infrastructure, improved clean-emission public transit, and improved "active transportation," meaning bicycle and pedestrian amenities,

are the investments we as a society should be making.

For more info visit the Coalition Opposing New Gas Stations at:
www.con-gas.org
FB: <https://www.facebook.com/NoNewGasStations>
Twitter: @twit_congas
congas.contact@gmail.com
707-238-2298

Did You Miss Our Latest Expert Panels?

If you missed our live discussions of important topics with experts on zero waste and wildfires, you can still catch the recordings on our website.

<https://www.sierraclub.org/redwood/video-interviews-and-event-footage>

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Sierra Club

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BE A LEADER IN OUR OUTINGS PROGRAM

Redwood Chapter is Seeking an Outings Chair



Do you love bringing people outdoors and providing a framework to get more people outdoors?

Redwood Chapter is looking for an enthusiastic volunteer to oversee its Outings Program, which coordinates hikes and other outdoor activities throughout our region.

The Outings Chair provides leadership, direction and oversight to the program, working with outings leaders to make outdoor activities an integrated and vital element of chapter efforts. A new chair will also work to diversify

Outings offerings and outreach and utilize dynamic scheduling and planning tools.

To learn more about this important volunteer position, please reach out to Jeff.Morris@sierraclub.org

www.sierraclub.org/redwood

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