Madrone LEAVES

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Oceans, Whales, Elephants, and New Climate Law

by Susan Kirks

Economist Ralph Chami retired after 23 years of working for the International Monetary Fund to focus full-time on a new life mission: A strategy to shift consciousness and help save our Earth. He was a presenter in KGUA-FM's 3rd Annual Ocean Life Symposium in October 2021.

Bodega Head *Courtesy of Tom Reynolds*

Dr. Chami discussed a new paradigm through stories of Nature and practical application of financial principles, weaving the two areas into monetary systems and law, to be overseen and guided by Indigenous leadership. His talk, "The Value of Nature to our Health and Economic Well Being," gave new ways to address our Climate Emergency and live differently. "The world is focused on climate change risks, risks we all face. But, what maybe some do not understand is we are facing two risks at the same time." The second concurrent risk is Sir David Attenborough's mantra – **risks to Nature**. Economists would say these are risks to "natural capital." We focus on mitigating climate change impacts, which is necessary. We must also focus on risks in real time – risks to Nature, including demise of forests, loss of species, and severe impacts to our oceans. Both areas of risk are occurring simultaneously, and both need *equal* attention and action.

The risks are linked through human activity causing harm. We cannot focus on one risk or the other. We must focus on both, addressing how to reverse damage and actively build up and protect Nature. We have taken Nature for granted for far too long. "We live *inside* of Nature," Dr. Chami shared. "We can only grow if Nature grows. If Nature suffers, we are going to suffer." The old paradigm that somehow we are outside Nature equates to everything we have done to Nature boomeranging back to us.

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GENERAL MEETING

First United Methodist Church
1551 Montgomery Drive, Santa Rosa

We'll not meet in person in January 2022. Join us on January 19th at 7 p.m. for our virtual membership meeting. We'll gather to honor Dr. Martin Luther King, Jr, and enjoy a presentation from Lisa Owens Viani, Co-Founder and Director of Raptors Are the Solution (RATS).

Rat Poison Kills More Than Rats

Is rat poison our "new DDT"? Ms. Owens Viani will discuss impacts on wildlife caused by anticoagulant rodenticides in the food web. She will help us understand the effects of these poisons on birds of prey as well as on bobcats, mountain lions, foxes, and Pacific fishers, among many other animals, including domestic pets. AB 1788 banning the use of terrestrial second generation anticoagulants in California will be discussed. This new law went into effect Jan. 1, 2021. We will also learn about RATS' legal efforts to better regulate these poisons (and discuss recent necropsy results of Great Horned Owls who died not far from the Paula Lane open space land).

Swainson's Hawk
Courtesy of Ken Wilson

Zoom Meeting Link:
Copy and paste into web browser:
https://us02web.zoom.us/j/82017684892?pwd=YWFHdURZcURKWTQwc0xZcUsvREdPUT09
Meeting ID: 820 1768 4892 **Passcode:** 555528

Or join by phone: Dial 1-669-900-9128. Follow prompts.
Meeting ID: 820 1768 4892 **Passcode:** 555528

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And, one reason we were not brainstorming and considering a new paradigm even 5 or 6 years ago is because the price of carbon was $0 then. There was little demand for carbon sequestration.

Dr. Chami explained today's carbon price is $75/ton via the European Exchange system. *The difference is that climate action is upon us.* Our survival with our Planet's survival is in question. New science is revealing secrets of Nature, and new technology has emerged to support knowledge of our world that is all centered around Nature. We are realizing sustainability of our own existence very much depends on sustainability of Nature.

For the new paradigm, we must look to leadership of Indigenous Peoples. "We are part of Nature and Nature is our home. We cannot live without water, soil or oxygen, no matter what the prices are," Dr. Chami said, as he referred to the Lakota philosophy to *walk softly upon the Earth*.

According to the International Union for the Conservation of Nature (IUCN), Mother Nature can help absorb 37% of all that is demanded in terms of carbon sequestration. Earth-Tech, Mother Nature, has been around for 4 or 5 billion years, a technology tried and true. Dr. Chami said there are no surprises here. He raised the question of how, then, do we use the natural capital, helping Nature to basically recuperate, and then engage Nature to reduce risks to Mother Nature?

When we consider Earth-Tech and biodiversity, we see Nature saying to us, "I'm valuable." Creating the bridge to financial markets, speaking in a language financial professionals can understand, is part of the needed transformation. How can we rethink economics of our oceans, for example, and put a value on assets such as whales, seagrass, mangroves, trees and African Forest elephants – living entities that absorb and sequester carbon? One way is to look at how much carbon certain entities in Nature consume and sequester. Considering carbon in relation to increase in global temperature, we know reducing CO2 emissions and increasing carbon storage are two major actions to address greenhouse effects. Oceans are over 70% of our Earth's surface. Carbon content in oceans is 50 times that in the atmosphere and 20 times in soil.

With a new market of Natural assets, the assets themselves (whales, mangroves, African Forest elephants, etc.) would never be touched and would be required to be protected. The services provided by the assets would be paid for, and investment would go to protect assets and support communities who would help to take care of the assets. Equally important is the process surrounding the services. When ecosystem services of Nature are sold, for example, carbon offsets, two principles are to be ensured: (1) Money coming in will look after the assets in perpetuity. That is, money that comes in will pay to care for the elephants, whales, in perpetuity. The beings have the right to live long after their carbon capacity is exhausted. This assurance represents ethical and moral obligations toward living Nature. (2) Money coming in must assure care for local communities and Indigenous populations where the ecosystem services are being provided in perpetuity. People caring for the Natural capital will have more money and may spend more money, expanding a tax base and contributing to a government's fiscal revenues.

Thanks for remembering Madrone Audubon for End-of-Year Donations

Oceans and Whales

Whales have been providing a significant service to humanity for a long time, but whales have never been paid for this service. We have killed whales through whaling and ship strikes and caused severe harm through noise pollution (sonar and seismic testing). If whales cease to exist, however, our oceans die. Take Blue Whales for example.

Blue Whale Tail *Courtesy of Tom Reynolds*

Dr. Chami discussed whales with wonder and personal experience. The Blue Whale is the largest animal on Earth and lives in our oceans. A Blue Whale can be 90, 100, 120 feet long. The largest elephant on earth would completely disappear in a Blue Whale's mouth. *Whales capture enormous amounts of carbon in their bodies.* One whale's carbon capture can be equal to 1,500 trees. Dr. Chami described a scientific expedition he accompanied in 2010 to the Sea of Cortez, where he witnessed Blue Whales. "It feeds next to the boat, knows you are there, is aware of your presence and could easily with one flip throw

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the boat over and everyone into the ocean, but chooses not to. Once you see that, well, it was a journey that changed my life." He reflected he couldn't help but realize how much we are all missing from the full picture, the fullness of life, the incredible gift we have been given. Trained as a neoclassical economist, Dr. Chami began to think -- how could he help and how could he communicate to the economists and the financial sector in order to bridge the gap between the reality that whales are saving all of us and the "what's in it for me" crowd of humans? The answer: To assign a monetary value to the services of the whale. Whales should be paid for the value of their product. The living whale in its life cycle eats krill, a small shrimp-like creature that feeds on phytoplankton. The whale's excrement feeds phytoplankton, which in turn feeds krill upon which the whales feed. Phytoplankton need nitrogen, phosphorus and iron. Those three nutrients are found in the whale's excrement. When whales arrive at a location, they release fecal plumes at the ocean's surface, fertilizing phytoplankton and making phytoplankton more productive. The phytoplankton suck in more carbon dioxide. More phytoplankton will lead to more krill, and more krill will mean more food for whales. This cycle helps capture even more CO2 from the atmosphere. For phytoplankton, as part of this carbon cycle, phytoplankton sequester the carbon dioxide, which dissolves into the sea from the atmosphere via photosynthesis. The phytoplankton process is believed to be responsible for removal of about 50% of CO2 produced by burning of fossil fuels, a larger proportion than that consumed by the world's rainforests and all other terrestrial systems combined. As whales capture enormous amounts of carbon in their bodies, when a whale dies and sinks, anything 200 meters below the ocean's surface does not interact with the atmosphere, and so the whale has sequestered carbon and its body remains as a large carbon sink. Phytoplankton gives out more than 50% of oxygen we breathe and sucks in 30% of carbon dioxide produced by human activity. With 4/5th of our planet being water and 1/5th land, it is understandable that the United Nations describes our oceans as the lungs of the planet. The oceans and life in the oceans do something for humanity "just from doing their own thing," shared Dr. Chami.

Elephants

In an article in *Nature Journal* in 2019, the Forest elephants of Africa were described as land cousins of the whales. African Forest elephants move around the forest, trampling over small shoots and have a proclivity tor eating low fiber trees, allowing much bigger trees to grow bigger, wider and taller. The elephants defecate, fertilizing the entire forest. The

African Forest Elephants *Courtesy of African Conservation Foundation NGO*

elephants significantly increase forest sequestration of carbon. When those elephants cease to exist, the forest loses its ability to sequester carbon. Interacting flora and fauna do lead to sequestration.

Blue Carbon

Salt marshes, seagrass and mangroves, known as blue carbon, sequester carbon in roots. They are defenses against flooding and provide for greater fish stocks. Blue carbon represents Natural capital.

Earth-Tech, Economics and the Law

In his Symposium talk, Dr. Chami explained the opportunity to support the new paradigm via financial markets and codifying Nature's ecosystem services into law. He repeated that biodiversity is incredibly valuable and science tells us this. A living whale, a living elephant are valuable. Living Nature is valuable. Yet, the conundrum, when we are taught economics is that price comes from value. If something is valuable, it has to have a positive price. A whale captures carbon, increasing fish stocks, boosting the whale tourism industry, a multibillion industry – it should have a positive price on its services. Today, however, if a ship strikes a whale, the ship owner pays no penalty. In fact, in some countries, a dead whale is valued at $40,000, a living whale $0. If a whale is killed and chopped to pieces, the price can be $40,000. Elephants are dying due to poaching and encroachment. A killed elephant's tusks have a value placed on them. Trophy hunting to kill elephants can be priced at $50,000.

When we talk to people with the potential to give funds to preserve Nature, the first thing asked is how much is it going to cost? The cost-benefit ratio is ingrained in our concept of value and pricing. When approaching a policy maker or financial professional, the question is how much will it cost and what do I get in return for the cost of preserving whales, elephants, mangroves, seagrasses? The investor is looking at the cost in

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dollars and cents. If the answer given to that potential funder is you get ecosystem services, biodiversity – from science, which of course is true - Dr. Chami explained the investor is lost, because it's equivalent to talking about apples and oranges. If an investor has before her or him the opportunity to invest in ecosystem services and another offer to invest in a new marina that's being proposed, a familiar investment that will provide tax revenue, the investor may likely lean toward putting funds and support into the marina proposal. This reflects our existing paradigm.

According to Dr. Chami, delving deeply into the bridge to reach this new paradigm, we know conservationists are already converts. We need to bring into the discussion and action plan policy makers, financial markets, those with the ability to make decisions and codify services that will help save the Earth and in so doing address that second area of concurrent climate action Sir David Attenborough brings to our attention – Nature, where we live. Thus, we examine benefits in science and translate those benefits into dollars and cents. "We need everyone in the tent," said Dr. Chami. "With climate change, we cannot afford to leave anyone outside the tent. And we need to speak a language that people who aren't conservationists or philanthropists understand."

In a paper in 2019, Dr. Chami described the value of a whale in its lifetime in terms of carbon sequestration, contributing to fish stocks (fisheries), and whale tourism. Cash flows from one single whale over its lifetime equate to determining the value of services the whale provided. He determined this to be $2 million at a minimum. Compared to the $40,000 value of a dead whale, a $2 million value for a living whale over its lifetime is significant. In his Symposium talk, Dr. Chami gave an example of creating insurance requirements for ship owners and a value placed upon a living whale, with an insurance coverage motivation to avoid harming or striking a whale to avoid penalties that would be extremely high. The asset, the whale, would be protected and the living whale's ecosystem services would be valued and written into policies by the insurance industry.

Dr. Chami has explored the carbon benefits of African Forest elephants to humanity. Right now, we are trying to figure out how to sequester carbon, and Nature is way ahead of us. Dr. Chami estimates the value of carbon services alone of one African Forest elephant over its lifetime to be $1.75 million. By investing in ecosystem services provided by the African Forest elephant, that asset is protected, and the investment can be related to and include surrounding communities who help protect the elephant, lifting up social and economic wellbeing of the community. In terms of assigning the ecosystem service value of seagrass, a form of blue carbon, Dr. Chami estimates a value of over $1 trillion globally for countries where seagrass exists, to protect that asset, with carbon services able to be sold to those who need the services, and investment in communities that protect the seagrass areas and ensure no harm or damage to the asset. In sum, Dr. Chami stated that focusing on carbon sequestration alone, Nature can help us, sucking up large amounts of carbon and generating revenue for countries and localities where these assets exist.

The new paradigm, including translation of what is already evident to conservationists, involves defining a new class of assets, a new source of wealth. The science exists. Now, we need to establish the valuation to help financial professionals understand how to integrate Nature's value into financial markets and the global economy. This alone, however, is not enough. Policy is needed to effect the changes. We see species dying at a very fast rate, our oceans at risk, bureaucratic governments not moving quickly enough. We need policy action.

Climate Law

Policy action is establishing policies that policy makers (lawmakers, elected officials, global and national leaders) say are important – new policies that will add value to our economy. For example, per Dr. Chami, a policy is established that a whale is a national asset. If anyone does anything to harm a whale, there is a significant penalty for that (the ship strike/insurance example described above). Or, a body of water, with seagrass, salt marshes, mangroves, very important for climate change as described above, would be considered a national asset. Again, any harm would result in significant penalties. Human behavior around these national assets would be monitored. Dr. Chami shared when we set a legal framework and provide legal rights,

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New Members

Guerneville
Sue Rutherford

Hidden Valley Lake
Catherine Stone

Santa Rosa
Glenn Maxwell
Kathe Stevens
Pat and Steve Strand

Donations

In Memory Of
Tom Maxson
by Shirl Maxson

Christmas Bird Count – Madrone Audubon's West County 2021

by Dr. Stacy Li

Join our 55th annual Western Sonoma County Christmas Bird Count on Sunday, January 2, 2022. We request that you wear a mask (N95 recommended), be vaccinated for COVID, and bring hand sanitizer with you and use it frequently. (No shaking of hands and if you need to cough, cough into your elbow.)

As we go to press for December-January *Leaves,* the Omicron variant has not yet been discovered in the U.S. That may have changed as members receive and read the *Leaves*. We look forward to being outside in brisk, fresh air and participating in one of the most important National citizen science activities in our country, now more important than ever. We will not host our post-count dinner for this year, looking forward to possibly gathering together next year for reports and a nutritious dinner.

Thanks in advance to our wonderful group leaders! Contact Stacy Li, Deputy Coordinator-West Sonoma Christmas Bird Count (707) 527-2037 to join a team. Participants of past Christmas Bird Counts, contact your Area Leader, but call me if you want to see another area.

Jenner Bald Eagles *Courtesy of Tom Reynolds*

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monitoring, and provide value for the Natural assets we've discussed, we establish a legal framework. Then, financial markets, the other part of society attempting to figure out what is going on, will begin to engage.

If a new policy is codified in the law, the first action is the visible hand of government. For example, a mortgage-backed security exists because the government affirms that it does. Every financial instrument is minted in law. When minted in law, the policy includes priority (who owns it), durability (owned in time), universality (rights respected across time) and convertibility (can convert into legal tender of US). From the policy that becomes law, with these four parameters, many services can be created. To protect Nature, we need legal action, attaching monetary value, attaching the monetary value to cash flows. Then, markets become inclusive.

New Zealand has been in the forefront of this new paradigm. Personhood has been conferred upon rivers. In New Zealand, rivers have the same rights as human beings and citizens have responsibilities toward the rivers. Harm to a river, pollution or otherwise, comprises a criminal act and monetary fines are imposed. In Costa Rica, personhood has been conferred upon bees, as the importance of bees for pollination was understood. This action codified that bees have the right to exist and human beings have responsibilities toward bees.

If we want to create the new wealth of Nature, thus we need the law and we need policy action to allow us to do so. Once codified, assets become financial capital, a new class of assets. Ecosystem services can then be built around the assets. Dr. Chami clarified these are services around *living Nature*, not dead Nature. Insurance companies then enter the process to assure that assets survive and are protected. Multiple other businesses can arise to protect the Natural assets. As described above, this will have the effect of stabilizing communities on their land – sell the carbon service of mangroves, seagrass, carbon sequestered by elephants or whales, just like trees. Sell carbon services, not the asset. Such an investment then means local communities and Indigenous populations are supported.

For the "what's in it for me crowd," Dr. Chami said there is an immense amount of wealth to create, markets around living Nature. The supply side needs to know what exists and what values are created. Legal structures need to be created to protect living Nature and create penalties to enforce. Only with this process will living Nature become legal capital to move onto a balance sheet. *Sustainability of our own existence very much depends on sustainability of Nature*. With this understanding, Dr. Chami said we can build markets around Nature and value ecosystem services of Nature. Then, we will be able to consider prosperity that is shared and is sustainable. He emphasized that listening to Indigenous Peoples is more important than ever. He acknowledged he himself did not have these thoughts in form until about 4 years ago. "This is Ralph. You are held accountable when you see the light."

(Resources: 3rd Annual Ocean Life Symposium, KGUA-FM. Ralph Chami, Ph.D., Sixth Assessment Report – IPCC, 2021. Earth Observatory/NASA)

Other Area Christmas Bird Counts for 2021

Santa Rosa CBC – ***Sunday, December 19th*** - Redwood Region Ornithological Society (RROS) traditionally participates in this count, with existing teams. If you've participated in the past, please contact your team leader. If new, Coordinator Gene Hunn may be able to help you join a team. Contact Gene at enhunn323@comcast.net, 707-981-7301. Please share a little information about your experience and interests.

Sonoma Valley CBC – ***Wednesday, December 29th.*** To participate in the 17th annual count, contact coordinator Gene Hunn at enhunn232@comcast.net, 707-981-7301. This count is co-sponsored by Sonoma Ecology Center and RROS and covers Sonoma Valley and Petaluma (southeastern Sonoma County). Established in 2005 by Darren Peterie and Tom Rusert of Sonoma Nature, the count continues annually and contributes CBC data for Sonoma County.

From Gene Hunn, a reminder and introduction for potential new participants

"The center of the count circle is just west of Arnold Drive at Sperring Rd. We count within the standard 15-mile diameter circle, which includes the Sonoma Valley from north of Glenwood south to Wingo, extending east to the east slope of the Napa Ridge and west to include East Petaluma and the Shollenberger and Ellis Creek wetlands and south to Tolay Lake Regional Park. We routinely tally over 160 species on count day and count on the assistance of up to 120 volunteer observers. Many of you are veterans and have teams ready to go…The areas and sub-areas are as follows: 1) Sonoma – west of Highway 12, north of Temelec as far as Madrone -- organized by, south to north: Suzie Silverman, Cynthia Boyer, and Gina Roman; 2) Highlands – The Sonoma Valley east of Highway 12 from Vineberg north to Moon Mtn. Rd. -- organized by Jeff and Eva Valfer, with help from Gene Hunn, Karen Nagle, and Ian Morrison; 3) Schellville – inclusive of Schellville and vicinity -- organized by Malcolm Blanchard and Jeff and Eva Valfers; 4) Wingo/Donnell Ridge – south of Hwy. 12/121 and west of 121 to the edge of the circle, organized Richard Gibson (Donnell Ridge), Tom & Darren (east of 121 to Sonoma Creek), and Brian Bullick (east of Sonoma Creek to Ramal Road); 5) Petaluma Wetlands/Tolay – inclusive of Shollenberger, Ellis Creek, Tolay Lake Regional Park, and points between -- organized by: Peter Colasanti; 6) Adobe – inclusive of East Petaluma and vicinity -- organized by: Lisa Hug and Richard Merriss, with Ken Wilson and Becky Olsen at the Fairfield-Osborn Reserve and vicinity; 7) Glen Ellen – inclusive of the Sonoma Development Center, Sonoma Valley Regional Park, Glen Ellen, and vicinity -- organized by Joan MacDonald, Mark Newhouser, and Jeffrey Loe; 8) Trinity – inclusive of Cavedale and Trinity Roads, Quarry Hill, Bouverie Reserve, and vicinity -- organized by David Leland; and 9) Napa Ridge – inclusive of the Napa County slice of the count circle -- organized by: Murray Berner."

Christmas Bird Count for Kids

Napa Solano Audubon and Connolly Ranch, CBC4K, ***Saturday, December 11, 9 a.m.*** Contact Tammy Saunders, nsasedcoordinator@gmail.com, for information and to sign up.

Petaluma Wetlands Alliance-sponsored CBC4K at Shollenberger Park, Petaluma: ***Saturday, January 1***. For info and to sign up, contact Sheryl Nadeau at 33sheryln@gmail.com.

Ruby-crowned Kinglet at sap *Courtesy of Gordon Beebe*

Are you a National Audubon member?

Please consider joining our local chapter, Madrone Audubon.

(see membership form, back page)

Rough-legged Hawk (Buteo lagopus) - Our Well-Known Winter Hawk!

by Larry Broderick

Every Fall/Winter we look forward to the southerly movement of our Rough-legged Hawks who migrate out of the far North. They breed in the tundra and taiga habitats of North America and Eurasia. Our North American birds typically show up here (or the lower 48 states) as November begins and then increase in their numbers through November into December. They then stay "over-wintering" and head back north in March to breeding grounds in northern regions during April and May.

Many hawk watchers and hawk banders (researchers) look forward to the chance to count and/or band these incredibly beautiful Buteos (large soaring hawks). We as citizen scientists and birdwatchers are equally pleased when we happen upon one or more of these beautiful birds. At Lynch Canyon a couple years ago, we had six in one day!

This year, 2021, we first got reports of a couple in late October. Then, by the first couple weeks of November, we had roughly a dozen reports from Sonoma, Marin, Solano, and Mendocino Counties. As they over-winter in our regions, they can be seen along our coastal prairies or inland valleys, as well as marshes, inland prairies, and agricultural lands. The main prey items

Rough-legged Hawk *Courtesy of Don Bartling*

for the Roughies are smaller mammals for which this hawk has a bit smaller feet and talons for grasping and dispatching prey. That said, they can change prey base, depending upon what nature is serving up, even eating carrion if need be; yes, we've seen it.

Some key identifying factors for the Buteo are a good dark eye stripe against their light-colored head, on the ventral view dark carpal (wrist) blocks or "patches" on the leading edge of the wing, and feathered legs to their feet with an overall white

Rough-legged Hawk *Courtesy of Don Bartling*

tail, a single terminal bar for females, multiple bars for a male, and a smugly tail tip with the juveniles. Some overlap occurs in sexes so that some birds are not safely assigned. Those are just Light Morph ID traits. When we start to go down the road of intermediate and dark morph traits, it does become more involved, but often the tail traits remain. Overall, this Buteo's long wings (tip to tip) and thinner wings (leading edge to trialing edge) help to ID it against Red-tailed Hawks and Ferruginous Hawks, to which they are compared in our region at this time of year.

We are always excited to see them. We are attentive to eBird, GGRO and North Bay Birds for their movements and over-wintering distributions. A really great resource is the USGS Rough-legged Hawk Project:

https://www.usgs.gov/center-news/notes-field-rough-legged-hawk-project

You can always reach me. Larry Broderick. at northcoastraptor@gmail.com for Raptor questions, outings, presentations and identification help.

Helping Sonoma County's Birds and Wildlife into the Future
Madrone's Legacy Care Program

Please contact Madrone Audubon
707-241-5548

Bird Rescue of Sonoma County Update

by Ashton Kluttz

This year was unlike any other! *Baby Bird Season* began with a bang, starting two weeks early, and by the end of April our wards were packed with 70% more babies than usual. For weeks on end, we had hundreds of birds, most needing to be fed every 30 minutes! This would have been stressful even in a "typical" year. But, in a year still impacted by the pandemic and an absence of our usual volunteer force, the word "stressful" doesn't begin to cover it.

Today, though, we celebrate our successes! We successfully completed complicated procedures ranging from reattaching a tendon on a Cooper's Hawk's elbow to imping the smallest bird we have attempted yet — a Western Screech Owl! Imping replaces damaged feathers by securing healthy feathers into the damaged feather shafts of the patient. It's a procedure we specialize in, but had never before tried on any creature this small.

Residents of Sonoma had been monitoring the little Screech Owl and his family for a long time when they noticed he had a newly injured eye and called Bird Rescue. Unfortunately, while healing from eye and cere trauma, he broke his tail feathers, which needed to be replaced so we could get him back to his adoring fans. (full story - www.birdrescuecenter.org). We had new imping tools which, combined with our well-trained,

Baby Screech Owl with eye injury, *Courtesy of Susan Fitzgerald*

talented staff, gave this Western Screech Owl a second chance at life much sooner than if we had waited for a natural molt.

Simultaneously, we quietly continue work on our capital campaign. As construction costs soar, we still have roughly $3M

Rachel Bean & Barn Owl *Courtesy of BRC*

to raise. While we work to secure funding, we're also shoring up staff. We hired a phenomenal Education and Outreach Coordinator, Rachel Bean, who is creating programming to engage learners of all ages in a variety of ways.

We also conducted a site visit to our new home on Guerneville Road during the heavy rains in October. I'm pleased to share the land held up admirably despite the ferocity of the storms. We know we are creating something new and lasting to improve the lives of our native wild birds.

This year ends with a Challenge match to fund two projects—Operations (Daily Life-Saving Work!) and our Capital Campaign (New Facility!). We've enlisted the help of leaders within our community to fund matching gifts of $75K for Operations and $100K for our Capital Campaign for donations made starting November 15th through the middle of January, 2022. If you appreciate our work, love your native wild birds and are in the position to give a gift this holiday season, please consider one of these challenge matches, knowing your gift will be doubled dollar-for-dollar! Check our website for updates to the challenge campaigns: www.birdrescuecenter.org

Warmest wishes from Bird Rescue this holiday season.

Vibrant Life in Dead and Dying Trees

by Christine Cohen

Contrary to many landscaping practices necessitating "dead wood" removal, dying and dead trees provide vital habitat for a wide range of creatures. For starters, such trees provide an abundance of forage for birds. Insects and grubs are favorites as well as the sap seeping from the sapsucker's drilling. Many varieties of birds are drawn by foraging opportunities in these trees, while at the same time looking for suitable nesting sites. Nesting and forage necessarily go together. According to Gillian Martin of the Buena Vista Audubon Society, there are over 80 cavity dwelling birds in North America: 11 ducks, 22 woodpeckers, 40 songbirds, 10 owls and 2 falcons. Along with birds, many species of mammals need nesting cavities – mainly bats, squirrels, rodents, the American Martin, the Fisher, porcupines, and Black Bears. Amphibians and reptiles will also reside in tree cavities. The focus of this article will be on birds.

Acorn Woodpecker Courtesy of Craig Tooley

There are two major types of cavity users, primary and secondary. Woodpeckers, sapsuckers and flickers are primary excavators. They're the ones that drill into a tree through the hard bark and into the decayed heartwood, which is the central supporting pillar of the tree. Preferably the heartwood rot is contained and localized. From there, the nest is hollowed out with a hard outer surface intact and high above the ground. The drilling is demanding. Hairy woodpeckers need about 20 days for excavation. The secondary cavity user, on the other hand, looks for an existing cavity to build its nest. Such birds are bluebirds, smaller woodpeckers, ducks, swallows, the American Kestrel, wrens, chickadees, owls, Vaux's Swifts, Brown Creeper, and the Hooded Merganser. These birds are more likely to nest in dead trees as opposed to dying ones. Interestingly, the California Acorn Woodpecker will seek out dead tree cavities as well as nesting in live trees. Chestnut–backed Chickadees will go for rotting stumps close to the ground.

Tree variety plays a role in cavity nest choices. There is actually somewhat of a hierarchy of best tree cavities. Broadleaved, deciduous trees, such as maple, hickory, oak and cottonwood, most commonly isolate the decay-softened inner core by way of its hard outer shell. For the primary cavity excavators, such hard wood trees provide the better sites that are easier to drill into, yet are protected by a sturdy outer shell. Conifers are soft woods, but have the advantage of standing longer after death. These softwoods may become the choice of weak excavators such as smaller woodpeckers, nuthatches and chickadees.

Chestnut-backed Chickadee on a twig
Courtesy of Dennis Luz

Dead and dying trees provide many other opportunities in the lives of birds outside of actual nesting and successfully raising young. Finding a juicy grub or sipping from seeping sap, courtesy of the near-by sapsucker, provides vital sustenance. A dead snag, barren of leaves, is a good viewing station for many birds of prey. For birds such as swallows and Kingfishers, dead trees with ample perching opportunity provide rest and revitalization for the next possible snack. Barren trees allow for birds to sun themselves, dry out and warm up. A hard branch or stump can provide a surface like an anvil to crack open nuts or wipe and sharpen a beak, as well as stretch legs and wings! Those branches that fall to the ground may aid in retaining moisture on the ground and provide hideaway places for salamanders, frogs, lizards and many other small ground dwelling creatures. If branches break off and fall into a pond, those logs can be a resting place for ducks and other water birds.

A dying tree may take hundreds of years to die, while a dead tree can continue to stand for many years to come. Logs and branches piled together provide homes and protection for wildlife. These trees can continue providing a constant source of protection and renewal for our wildlife. It's something to think about as you consider options for the tree.

Finally, I would like to extend a special thanks to Mendocino Coast Audubon for hosting a Zoom meeting with Gillian Martin as speaker. Gillian presented a fascinating program on the importance of dead and dying trees in the environment, called The Wonderful Life of a Dying Tree. Gillian is a member of Buena Vista Audubon. Her mission is to help raise awareness of why we need to save those old trees and how they fulfill a vital and complex role in the lives of countless species.

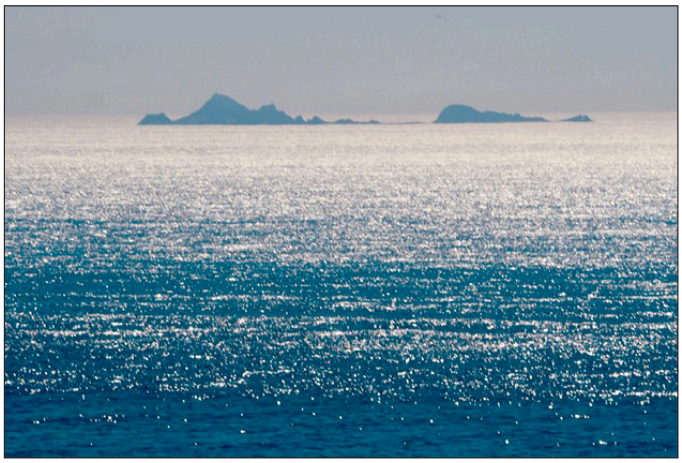
(Resources: The Wonderful Life of a Dying Tree, Gillian Martin, Buena Vista Audubon Society; Sustaining Cavity-Using Species: Patterns of Cavity Use and Implications to Forest Management, Hindawl Publishing Corp., ISRN Forestry, Vol 2013; The Cavity Conservation Initiative, Value of Dead Trees)

For planting and habitat consideration, see our Tree and Vegetation Planting Guide

https://madroneaudubon.org/pdf/Tree and Plant List.pdf

NEWS UPDATE

Farallon Islands – On December 16, the California Coastal Commission will re-review a US Fish and Wildlife Service Proposal to utilize poisoned bait containing Brodifacoum, a 2nd generation anticoagulant, to attempt to eradicate the mouse population on the South Farallon Islands. Second generation anticoagulant rodenticides were banned for terrestrial use in California in 2021. Brodifacoum is highly lethal with a long half-life of up to 9 months. Ingestion of the poison results in bleeding to death. Madrone Audubon participates in a coalition of multiple organizations opposing this proposal.



Farallon Islands *Courtesy of Tom Reynolds*

We submitted comments to the Commission, recommending careful research and planning for a multifaceted, low to no risk alternative to address the mouse population, the presence of overwintering Burrowing Owls, and the protection of the Ashy Storm-Petrel as well as other species on the Islands. The alternative includes use and monitoring of fertility control bait for mice to reduce and eliminate the mouse population. The alternative recommends the careful capture and relocation of over-wintering owls by qualified individuals and organizations engaged in a program for Burrowing Owls in the South Bay. Our recommended approach does not carry risks of infiltration of poison into the food chain or large numbers of poisoned and dead non-target species. The US Fish and Wildlife proposal continues to carry too much risk, and the Environmental Impact Statement is inadequate. Moreover, in the Climate Emergency, unpredictable patterns of migrating species as well as unknown factors are relevant for any such proposal. The Farallon Islands are also said to be a resting place for Spirits of the Dead, part of a complex mortuarial complex and process of California Indigenous people. Proponents of the proposal have stated to follow history and science. Those opposed to this proposal have done just that – examined the full experience of poison applications on other islands, the dangers of Brodifacoum use, and the whole place of the Farallon Islands in our region. We urge the Coastal Commissioners to do the same.

If you support Madrone Audubon's position and are opposed to the US Fish and Wildlife Service proposal, please make your voice heard – Send an email to the Coastal Commissioners by Dec. 10. Subject Line: Agenda Item 11b – Farallon Islands – Dec. 16. Send your comment to: EORFC@coastal.ca.gov. We anticipate the Commission will receive many comments. The proponents are currently engaged in a broad campaign to obtain more comments in favor of their proposal, stating it is the only option to save the Ashy Storm-Petrel. This view and their proposal are limited in perspective with accompanying large financial contractual benefits, should this proposal be approved. One organization published an article, describing the failure of the US Fish and Wildlife Service proposal as disgraceful if not approved. The reality is, with high levels of risk, the inadequate Environmental Impact Statement, unknowns in our Climate Emergency, and the important Indigenous history of the Farallon Islands, the responsible and contemporary approach to reducing and eliminating the mouse population, without poisoning and killing thousands of non-target species as well as risking infiltration of the food chain, is exactly what the coalition opposing the US Fish and Wildlife proposal has recommended.

Paula Lane Open Space Land – Badgers Displaced

This news item prompts us to consider our Lead article for December-January *Leaves.* Conservation leaders such as Sir David Attenborough and Dr. Jane Goodall frequently speak these days about the incredible natural world and our relationship to Nature. Habitat protection and support to help wildlife survive are more important than ever. Educational opportunities for young people to connect to land, open space, and observe wonders of Nature, participate in restoration and enhancement, saving wildlife lives in the process, are integral to whole human development. These experiences of action and stress management also support our young people who are living through the Climate Emergency they did not create.

The open space land on Paula Lane in West Petaluma has always been intended for enjoyment of the Nature Preserve project, created by Paula Lane Action Network and almost fully implemented in Spring 2019. In 2016, Madrone Audubon began to sponsor a Phenology Project, part of the National Phenology Project, at this special land with volunteers from Petaluma, Sebastopol, Santa Rosa and Occidental. The Paula Lane land is often known as the Badger sanctuary, as American

Continued on page 11

NEWS UPDATE

Continued from page 10

Badger has been an inhabitant of the 11.22 acres situated in an important wildlife corridor for over 100 years. In fact, the property is a natal territory, where an adult female badger creates her burrow complex, gives birth and raises her cubs on an annual basis. The Paula Lane open space land is one of only two identified natal territories in South Sonoma County.

Paula Lane Habitat Damage *Courtesy of PLAN*

With over 100 avian species and multiple other wild creatures, including other mothers of wildlife – Black-tailed Deer, Gray Fox, Opossum, Skunk, and more, the Paula Lane Nature Preserve should be a gift to both the environment, the educational and the greater communities.

Unfortunately, in June 2021, City of Petaluma contractors extensively graded and then installed a large raised roadway (described as an "ADA access trail") in habitat, along the entire frontage of Paula Lane. This caused significant damage to the habitat. The Conservation Easement for this open space land, placed and held in perpetuity by the Sonoma Co. Ag and Open Space District, prioritizes Natural Resources as the #1 protected conservation value of the property. The City's action, regardless of how the grading and road installation have attempted to be justified, caused serious harm to Natural Resources. Habitat was destroyed, prey base was removed, and the badgers were displaced – on June 16, the day construction began. Of note, Naturalist Susan Kirks and wildlife biologist Kim Fitts had explained to District staff in 2018 that no trails could be placed in habitat, as that would result in displacement of badgers from their habitat. The District staff expressed understanding and agreed. Many missteps occurred, leading to the current situation. Moreover, the area where the roadway now exists, has resulted in destruction of the open space aesthetic, the #2 priority for protection by the Conservation Easement. Visitors who love to come and sit on a redwood bench just outside the fence, looking over the land, quietly breathing in the open space energy and viewing wildlife, now see a big raised brown roadway right in front of them. In addition, the now destroyed habitat for many years (since 2013) has been the primary foraging and hunting area for badgers, raptors and owls. Up to June 16, a juvenile badger was practicing digging skills in that very area, to capture prey and learn to survive. That badger was forced to depart the land on June 16, under perceived threat and absence of safety in its own home.

Madrone Audubon supports a pathway for a property title transfer from the City of Petaluma to a qualified entity, to partner with conservationists so the project, the Paula Lane Nature Preserve, can be completed, with access, management, volunteering and education as originally planned. In this way, the destruction could be reversed, habitat restored, and the City, busy with many important initiatives and other activities, relieved of responsibility, lowering the risk for further damage. With habitat restoration, because the badgers are historically attached to their home range and this land, there is certainty among qualified biologists and Naturalist Susan Kirks that the badgers and other wildlife would perceive safety and be able to return to their home.

In November, Paula Lane Action Network's attorney submitted correspondence with two expert biological opinions (Kim Fitts and Dr. Shawn Smallwood) to the Open Space District, to support District staff in having accurate information. A request for accountability was made.

Juvenile Badger *Courtesy of Tom Reynolds*

If our Madrone members would like more information or to offer support, contact Madrone's President, Susan Kirks, susankirks@sbcglobal.net, 707-241-5548.

Madrone Audubon Society
Post Office Box 1911
Santa Rosa, California 95402

December - January 2022

Madrone *Leaves* is published bimonthly from October through May, plus one issue each in June and September.

RECYCLED PAPER

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MADRONE LEAVES

Madrone Audubon Society meets on the third Monday of each month, except in June, July, August, and December. Meetings start at 7:00 PM at First United Methodist Church, 1551 Montgomery Dr., Santa Rosa. All membership meetings and walks are open to the public. Information: e-mail - info@madroneaudubon.org.

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Please complete this form if you wish to join Madrone Audubon or renew your Madrone membership

Please note: We are a chapter of National Audubon, but membership in and donations to Madrone Audubon are separate and support our local chapter. Membership and donations are tax deductible.

☐ New member ☐ Renewal

☐ Senior $15 ☐ Basic Member $25 ☐ Family $30

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Detach this panel and mail to: **Madrone Audubon Society,**
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Visit us on the Web at: http://www.madroneaudubon.org

Our Board and Conservation Committee meetings continue to be held virtually. For Board meeting information, please contact President Susan Kirks, 707-241-5548, susankirks@sbcglobal.net. For Conservation Committee meetings and information, please contact Diane Hichwa, 707-785-1922, dhichwa@earthlink.net. Also, visit our website, www.madroneaudubon.org for updates

Outings

We continue to observe health and safety protocols. Participants must be vaccinated. Masks are required for Saturday outings and Outing Leaders for Thursdays and Saturdays will manage their outings for each group. Sign-ups ahead of each outing continue to be required.

December 2021

Saturday, December 4 • **Shollenberger Park, Petaluma,** via Ellis Creek Wastewater Treatment Facility parking area.

Leader: Larry Broderick. Over-wintering Birds of Prey walk and general birding outing. From Highway 101 in Petaluma, go East on 116 (Lakeville Highway), and right on South McDowell Blvd. (Starbucks is on the corner). Continue on South McDowell to Cypress Dr., then right on Cypress Dr. Go to the end of the road, through the gate and to the parking area. Meet in the parking lot, near the bathroom. Start time 9:30 a.m. We'll walk until 12:30 or 1 p.m. Our walk will take us from the Ellis Creek facility over to Shollenberger Park, where we'll focus on Raptor Identification and beginning, novice birding. Call Larry Broderick at 707-791-0335 or email northcoastraptor@gmail.com to sign up and for more info.

Ladybug *Courtesy of Brian Webb*

Thursday, December 9 • **Crane Creek Regional Park, Rohnert Park**

Leader: Janet Bosshard. Parking permit required. We'll look for Oak forest and grassland birds. Take Petaluma Hill Road to Pressley Road. We'll meet in the parking lot, near the bathroom. Wear warm layers and have some waterproof gear with you. Heavy rains cancel. **To reserve a space, please call Janet Bosshard, (707) 526-5883. Starting time will be given when you sign up. Please, arrive on time. We will wait 10 minutes to begin the walk. Use this number only on the day of the walk, if you are lost or cannot attend: (707) 480-3432.

Saturday, December 11 • **Habitat - Santa Rosa Water's Laguna Wastewater Treatment Facility, Sebastopol**

Leader: Linda Fraley. Take Highway 116 to Llano Road; turn onto Llano Road. The address is 4300. Entrance is on the right. Meet in the parking area. We'll enjoy a leisurely walk in the amazing habitat area created on the property. This site has been a release site for rehabilitated birds. We'll share a 2-hour outing. Starting time will be given when you sign up. Heavy rain cancels. Call Linda Fraley at 559-779-5211 to sign up and for more details.

**There will be no outing on Thursday, December 23. *Happy Holidays!*

January 2022

Sunday, January 2 • **West County 55th Annual Christmas Bird Count.** See article, page 5.

Saturday, January 8 • **Dickson/Baylands [aka Sears Point Wetlands] wetland education walk and Birds of Prey tour.**

Leader: Larry Broderick. At the stoplight and intersection of SR 37 and Lakeville Highway/ Reclamation Road, turn onto Reclamation Road, go approximately 1/4 mile south to the parking lot on your left. We'll meet at Sears Point Trail head on Reclamation Road at 9:30 a.m. Follow signs from the parking lot to the Trail head. We'll walk and tour the area until 12:30 to 1 p.m., depending on what we see. We'll walk Dickson trail, Elliot trail and possibly the Baylands trail. We'll discuss the wetlands restoration project in detail and the overall importance of wetlands as we look for raptors, other birds and wildlife. Focus on Raptor Identification and beginning, novice birding. Call Larry Broderick at 707-791-0335 or email northcoastraptor@gmail.com to sign up and for more info.

Belted Kingfisher *Courtesy of Dennis Luz*

Thursday, January 13, 2022 • **Ellis Creek ponds, Petaluma.**

Leader: Janet Bosshard. We'll search the ponds for water birds, the tules for the bittern, and the skies for some raptors. From Highway 101 in Petaluma, go East on 116 (Lakeville Highway), and right on South McDowell Blvd., where Starbuck's is on the corner. Continue on South McDowell to Cypress Dr., then right on Cypress Dr. Go to the end of the road and through the gate. We'll meet in the parking lot, near the bathroom. Wear warm layers and have some waterproof gear with you. Heavy rains cancel. **To reserve a space, please call Janet Bosshard, 526-5883

Thursday, January 27, 2022 • **Spring Lake Regional Park, Santa Rosa.**

Leader: Janet Bosshard. Parking permit is required. Channel Drive entrance; meet in the large parking lot on the right, across from the swimming lagoon. ** To reserve a space, please, call Janet Bosshard (707) 526-5883. Please, arrive on time. We'll wait 10 minutes to begin the walk. Use this number only on the day of the walk, if you are lost or cannot attend: (707) 480-3432.

Observations

September - October 2021 • Dan Nelson • 479-2918 • birdsurf64@sbcglobal.net

Red-necked Grebe	9/1	Drake's Beach	D Edelstein
Blue-winged Teal (2)	11/3	Hudemann Slough wetlands	MB
Ferruginous Hawk	9/30	Bay Hill Rd.	DN
Broad-winged Hawk (dk morph)	9/22	Jenner Headlands overlook	DB, et al
Broad-winged Hawk (imm.)	9/30	Bay Hill Rd.	DN, TB
Broad-winged Hawk (4-5)	10/3	Marin Headlands	KW, BO, DN
Swainson's Hawk	10/1	Napa/Sonoma W.M.A. – Ringstrom Unit	MB
Swainson's Hawk (2)	10/3	Marin Headlands	KW, BO, DN
White-faced Ibis (1 imm.)	10/29	Delta Pond	BW
Yellow-crowned Night Heron	Oct.	Continuing N. of Bay Model; Sausalito, Marin Co.	M.Ob
Great Blue Heron	10/28	Paula Ln. Open Space, Petaluma	SS
Least Bittern (1)	9/29	Ellis Creek Water Recycling Facility	LH
Sharp-tailed Sandpiper (1)	10/16	Limantour Estuary	D Wimpfheimer, et al
Stilt Sandpiper (1)	9/11	Limantour Estuary	D Wimpfheimer, et al
Red Knot (3)	9/18	Spud Point, Bodega Bay	DN, et al
Ruff	8/28	Doran entrance pond	TB, PC
Red-naped Sapsucker	10/29	Pocket Canyon, Forestville	J Snead
Costa's Hummingbird (fem.)	10/29	Queens Lane, Petaluma (photos)	A Wight
Purple Martin (6)	9/22	Owl Canyon airspace	DN
Olive-sided Flycatcher	9/4-5	Owl Canyon	DN, MB, et al
Tropical Kingbird	10/5	Flying N; just E of Owl Canyon, then landed.	DN, TB
Tropical Kingbird	10/15	Spud Point area	JS
Eastern Wood Pewee	9/17	Pt. Reyes Lighthouse trees	LK, BA, et al
Nashville Warbler	10/15-16	Diekmann's Store, Bodega Bay	DN, JS
Magnolia Warbler	10/7	Owl Canyon entrance (photos)	DN, TB, LH, et al
Magnolia Warbler	10/8	Campbell Cove; same bird from Owl Canyon	DN
Blackburnian Warbler	10/7-9	Owl Canyon entrance, in pines (photos)	DN
Hermit Warbler (2)	10/6	Bodega Dunes Campground	DN
Chestnut-sided Warbler	10/3	Occidental/ Coleman Valley Rd. OAEC	BD
Chestnut-sided Warbler	10/13	Stony Pt. Rd. Christian Fellowship	WD
Blackpoll Warbler	10/10	Jenner "C" Store	CC, et al
Palm Warbler	10/9	Petaluma, near end of Caulfield, just SW of airport	AW
Palm Warbler	11/4	Bay Flat Rd. near BBML residences	LH
MacGillivray's Warbler (late)	11/6	Wikiup yard	KM
American Redstart	9/6-7	Campbell Cove, Bodega Bay	DN, et al
Dusky Warbler	10/4-8	N. of Harbor Drive, Corte Madera Marsh	A Merritt et al
Baltimore Oriole (ad. male, ph'd)	9/23-24	Bodega Bay, seen at Diekmann's Store	SLR, DN, et al
Rock Wren	10/6	Pinnacle Gulch trail	LH
Blue-gray Gnatcatcher	9/27	Bay Flat Rd. just S. of BBML residences	DN
Black-throated Sparrow	9/11	Napa residence; 1st Napa County record	DeH, DaH
Clay-colored Sparrow	10/9-10	Campbell Cove	DN, GH et al
Green-tailed Towhee	9/17-19	Barnett Valley Rd. residence	TL, JJ, LH
Lawrence's Goldfinch (1-2)	10/8	Campbell Cove	DN
Snow Bunting	10/26	Limantour Beach/Estuary	LN

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