NEWS FROM MARIN CONSERVATION LEAGUE

March—April 2018

Grant Davis to speak at MCL Annual Dinner

Marin Conservation League is pleased to announce that Grant Davis, General Manager of the Sonoma County Water Agency (SCWA), will be the keynote speaker at our Annual Dinner on April 6. With the exception of a recent five-month hiatus in Sacramento to serve as Director of the California Department of Water Resources, Davis has held the position of general manager since 2010. He joined the county's water agency in 2007 as the assistant general manager. Davis stated recently that he was gratified to return to his Sonoma County home territory at a time when restoring the county's watersheds that were impacted by recent wildfires is a major concern.

As general manager of the water agency, Davis works with 280 employees and is responsible for the agency's core functions of providing naturally filtered water from the Russian River to more than 600,000 residents in parts of Sonoma and Marin Counties, wastewater management for 60,000 customers, maintaining nearly 100 miles of streams and detention basins, and fulfilling a Biological Opinion by enhancing habitat for three federally listed fish species in the Russian River. For a decade, Davis has led the water

Photo courtesy of SCWA

Continued on page 8

Marin shoreline vulnerability assessment-next steps in planning for a "new normal"

Jeff Foster, Sound Visions Media

Bothin Marsh is at the center of an area that is highly vulnerable to sea-level rise.

Future rising sea levels and storm surges could flood between 5,000 and 8,000 acres of Marin bay shoreline and lowlands, affecting 4,500 homes, businesses, and institutions and the lives of more than 200,000 residents, plus commuters. This was a critical "take-away" from a report released by Marin County last June – "Marin Shoreline Sea Level Rise Vulnerability Assessment" ('BayWAVE'). The report confirmed what has long been acknowledged: that Marin County, under various sea level rise scenarios, is vulnerable to severe flooding from rising tides. Resulting financial losses could exceed 60 billion dollars worth of assets by the end of the century. (See also MCL Newsletter May-June 2016). The report also laid a technical foundation for understanding what could become the "new normal" for county, city, and town areas fronting San Pablo, Richardson, and San Francisco Bays. What are the county's next steps?

At a recent meeting of MCL's Climate Action Working Group, Chris Choo, Principal Planner and Project Manager with the County Department of Public Works (DPW), reported on the BayWAVE team's activities since the publication of the report. These divide roughly into policy and planning for the long term; and participating in or advising pilot projects

Continued on page 10

In This Issue—

President's message—page 2
Nature Note: English Ivy—page 2
Editorial on e-bikes—page 3
Renewable energy use in Marin—page 5
Events—pages 8 & 9
Election notice—page 12

A Message from the President— With Appreciation

Tim Wu, in The Attention Merchants, quotes American philosopher William James' observation, from over a century ago, " . . . our life experience will equal what we have paid attention to, whether by choice or default."

This comes to mind as we enter an increasingly active and purposeful time for MCL. Considerable work and study is being carried out by an expanding collective leadership of board and committee members who care deeply about an array of environmental issues affecting Marin. Several newsletter articles herein provide detail.

With an eye toward building on these efforts, MCL's members will have an opportunity to vote at the upcoming Annual Dinner and Meeting on a slate with new board leaders and the addition of five accomplished new board members, two who contributed to this newsletter.

We will also express our appreciation to board members whose terms are expiring but who have contributed greatly to MCL. **Heather Furmidge** shared her organizational expertise. She has been an esteemed advisor in reorganizing MCL's office structure and board administration. **Ralph Mihan** shared his wisdom and experience with the National Parks Service during the planning of MCL's "Ranching in the Park" workshops. **Judy Teichman**, in collaboration with MCL's Agricultural Land Use chairs, has strengthened MCL's relationship with Marin's ranching community and spurred our diverse board in tracking the progress of the Marin Carbon Project. As current chair of MCL's Nominating Committee, Judy will present this year's slate at the Dinner.

One of the highlights of the Annual Dinner is presentation of MCL's Environment Awards. It's MCL's opportunity to honor those who are putting into practice efforts to "preserve and protect". The accomplishments of this year's awardees are as inspiring as they are deserving of praise and recognition.

Of special note: This year's recipient of MCL's Peter Behr Lifetime Achievement Award is MCL's own, past president and longtime Parks and Open Space chair, **Nona Dennis**. Through her professional and volunteer work over the past 50+ years, Nona has become a trusted and well-respected environmental leader and educator. Two projects representative of Nona's many MCL achievements include: her creation, in celebration of MCL's 75th anniversary, of nineteen Walks into Conservation History, and her continuing work as researcher, writer and editor of MCL's bimonthly newsletter. By design, Nona eloquently draws attention to history and context. Nona's work contributes to what Yale historian Timothy Snyder describes, "History allows us to see patterns and make judgments. . . To understand one moment is to see the possibility of being the co-creator of another. History permits us to be responsible: not for everything, but for something." It's with considerable respect that we look forward to honoring you, Nona.

As I close on a rewarding third term as president, this president's message will be my last. I look forward to continued work with my fellow MCL board members, while also turning more of my attention toward those near and dear.

With appreciation, signing out.

Kate Powers

Nature Note

English Ivy: Invader of Open Space

by Roger D. Harris

"Late at night while you're sleeping poison ivy comes a' creeping"
The Coasters, 1979

English ivy sounds innocent enough. It conjures up images of ivy-covered cottages, Ivy League colleges, and English gardens. In reality it is one of the most aggressive, non-native plants to escape home gardens and take over natural wildlands. Even in a home garden, as any Marin gardener with ivy can attest, it needs to be continually hacked back or it will "come a' creeping" and could eventually engulf your house. Healthy plants can grow 30 feet in a year. When English ivy encounters a vertical surface – a wall or a tree – it will clamber straight up by aerial rootlets that can wreak havoc on painted surfaces. The vine can overtop trees, which then become susceptible to wind-throw due to the increased weight of the ivy.

English ivy has other noxious qualities. It is not closely related to poison ivy or to poison oak, but the juice of English ivy also can cause dermatitis to sensitive individuals, and the fruits and leaves are toxic to livestock when eaten in large quantities. The Sunset Western Garden Book advises ivy can be a haven for slugs and snails and can also harbor rodents. English ivy also serves as a reservoir for bacterial leaf scorch (*Xylella fastidiosa*), a plant pathogen that is harmful to native trees such as oaks. If English ivy has any positive quality, it is relatively fire resistant.

California Invasive Plant Council (Cal-IPC) cautions that once English ivy gets into natural areas, the ivy can alter natural plant communities to form "ivy deserts" composed of vigorous ground cover and vines "where nothing else seems able to compete." It inhibits regeneration of understory plants, including wildflowers and new trees and shrubs by smothering them out and blocking sunlight.

English ivy can also jeopardize the

Continued on page 7

Editorial

Restrict electric bicycles from Marin's open space and natural lands

Electric bicycles (e-bikes) are in the local news, and they are appearing on Marin's public pathways like the Tiburon Historical Trail and the Mill Valley-Sausalito Multiuse Path. They are rented to tourists and used by some bike commuters. Although not readily identifiable, electric mountain bikes (eMTBs) are also showing up on the trails and fire roads of Marin's public lands and open spaces. Basically, the addition of a small motor, a lithium-ion battery, and an electric controller allows the rider to shift between pedaling and power. An e-bike enables its rider to go faster, farther, and with less effort than a conventional bike. What's not to like?

It's hard to fault an e-bike ridden by a commuter to San Francisco, or a householder reducing her carbon footprint by running errands on an e-bike. These have become accepted means of transportation. But are motorized eMTBs for recreational use appropriate on the off-road trails and fire roads of Marin's natural lands? Marin Conservation League thinks not!

Legal background and definitions

The modern electric bicycle as we generally know it arose in the 1980s in Japan as a way to make cycling easier for the elderly (a clue to their popularity among the over-50 set!). By 2001, Japan had sold over 900,000 units. The idea of outfitting a bicyle with power caught on in Europe, where a "Vespa culture" was already well established, and grew rapidly. Although the idea has been slower to catch on in the U.S., over the past five years sales in this country have picked up, and e-bikes are no longer a novelty. The good news is that e-bikes can combine exercise with power and thereby promote healthy, environmentally preferable transportation by getting more people out of cars, including an aging demographic. The not-so-good news, in MCL's view, has been the transition of e-bikes to off-road mountain bikes (eMTBs) – from pavement to public open space – where advancing technology threatens to intensify recreational pressures on natural lands.

Are e-bikes "motorized vehicles" or simply "bicycles" with a "motor assist"? The answer varies. In an attempt at consistency, the bicycle industry classifies electric bicycles as follows: Class 1: Pedal assist with a top assisted speed of 20 MPH (one has to pedal to operate); Class 2: Throttle assist with a top assisted speed of 20 MPH (pedaling is not always necessary to operate); and Class 3: Pedal assist with top assisted speed of 28 MPH (pedaling required). All three are rated at 750W or less.

At the federal level, electric bicycles are not considered motor vehicles by the US Department of Transportation or National Highway Traffic Safety Administration, which looks to the Consumer Product Safety Commission (CPSC) to regulate "low-speed two- or three-wheeled vehicles with fully operable pedals and an electric motor of less than 750 watts, that cuts off at a maximum speed of 20 miles per hour." Such vehicles are exempt from classification as motor vehicles. Regulation by the CPSC, however, is limited to manufacture and first sale of the product. Operation of e-bikes on federal lands is regulated by the land management agencies, and otherwise their use is governed by state and local laws.

The US Forest Service, BLM, and National Parks all classify eMTBs as motor vehicles and therefore limit their use to facilities designated for motorized use – not trails. Some discretion remains, in that administrative units or ranger districts, under a travel management planning process, can propose specific exceptions to the rule, but only after a public process and environmental analysis.

State approaches present a confusing array of laws across the country. In California, A.B. 1096, which took effect on January 1, 2016, clarified that electric bikes are regulated under the California Vehicle Code according to the three-level classification of e-bikes developed by the industry, for use on Class I, II, III, and IV bicycle pathways. However, A.B. 1096 does not regulate e-MTBs on natural surface roads and trails on parklands and other open space lands. Rather, these lands, including California State Park (CSP) units, are managed outside the vehicle code, leaving the land managers "on their own" to determine how to regulate both e-bikes and eMTBs.

Continued on page 4

Editorial continued

eMTBs on natural surface roads and trails in the Bay Area and Marin

Most Bay Area open space land managers currently define eMTBs as "motorized" and regulate them as such; that is, they do not permit them on roads and trails, including those that are otherwise open to conventional mountain bikes. However, since Class 1 and 3 eMTBs require pedaling to activate the motor, they fall into a gray area of technology, and regulations covering them on Bay Area public lands are in flux. Class 3 is generally prohibited .

In Marin, the majority of open spaces, parks, and watersheds are managed by four agencies. Both Golden Gate National Recreation Area and Point Reyes National Seashore treat all e-bikes as motor vehicles and allow them only on facilities where other motorized vehicles are allowed. California State Parks (CSP) continues to study e-bikes (including eMTBs) as new technology and is yet to develop a state-wide ruling. For now, CSP's default rule is that "all trails are closed to electric bikes unless opened by Superintendent's Order, based on CVC 21207.5 and CCR 4360." Some CSP districts prohibit them (e.g. Angeles District), and others may be opening trails and fire roads here and there. MCL has requested the Bay Area District and Marin Sector covering Marin's six park units to prohibit eMTBs, consistent with other public land managers in Marin.

Both Marin Municipal Water District and Marin County Open Space District (MCOSD) regulate eMTBs as "motorized" and therefore do not permit them on unpaved roads or trails. However, when the MCOSD recently attempted to amend the definition of "Motor Vehicles" in the district's code to include "electric bicycles," opposition came from a cohort of older mountain bikers who tout the benefits of eMTBS in surmounting the problems of declining stamina or aging knees.

There is an important caveat to all regulations that purport to restrict access for eMTBs. Class 1 eMTBs operated by qualified (disabled) persons have been approved as other power driven mobility devices (OPDMDs) under the federal Americans Disability Act (ADA). To comply with applicable provisions of the Act, management agencies must ensure access, but they may specify the conditions and limitations under which an eMTB rider is allowed access. Aging, per se, does not qualify as a disability. Marin County Parks' Inclusive Access Plan specifies locations and safety conditions, such as speed, trail surface, etc., under which OPDMDs can operate. Some jurisdictions (e.g., Angeles District, California State Parks) specify that a request for access must be obtained in writing. Enforcing ADA accessibility rules for an eMTB operated as an OPDMD is problematic.

Why eMTBs should be restricted

MCL believes that permitting eMTBs on public lands would intensify recreational use on already heavily used open space and parklands. Millions of people of all ages visit Marin's public natural lands every year. All recreational visitors take their toll on resources – trails, plant communities, and wildlife habitats. The extent of damage is a function of user volume and density of trails. Expanding the mountain bike user group to include eMTBs would exacerbate the physical wear and tear already evident on resources and trails that are frequented by large numbers of visitors, including mountain bikers. It would further threaten the safety and well-being of slower-moving visitors on foot and horseback. It would also significantly increase demand for trail mileage. A recent study found that overall speed and therefore distance covered per hour by an eMTB is roughly 50 percent greater than by a conventional MTB. eMTBs are difficult to detect, and rules governing them are difficult to enforce. Marin's land management agencies already have limited resources for enforcing rules. Recreational visitors typically travel from one jurisdiction to another without realizing the difference. There should be common regulations restricting e-MTBs across all agencies' lands, to ensure consistency.

The future of eMTBs

The bike industry itself, with its consistent sales pitch featuring speed and technical agility, may be the eMTB proponent's worst enemy. Although a significant cohort of e-MTB riders are older and more conservative in their riding habits, a spokesperson for the industry acknowledges that these bikes will be used in "sporty" (i.e., fast, technical) ways too. An eMTB allows the rider to go much further and higher than with a regular MTB. E-MTBs are in early stages of what could become a renaissance for the mountain bike.

A wise conventional mountain biker rider notes in his blog: "There is no denying the potential for trail conflicts that the technology brings along . . . Being responsible is all good and well, but given how fun the bike is to ride, it's hard to imagine that everybody is going to abide by the law and stay off forbidden trails." How this motor assist technology will impact the sport as a whole is too early to tell. MCL's concern is the potential for the advancing technology to degrade the public resources that we share and are obligated to steward, and to overwhelm our experience of the natural world itself.

Nona Dennis
Editor

Special Reports on Climate Action

Renewable energy use in Marin-Part I

by Bob Miller, Sarah Loughran, Doug Wilson

MCE's progress in increasing renewable energy

Renewable energy, free of greenhouse gas (GHG) emissions, is a prerequisite for limiting GHG emissions sufficiently to avoid catastrophic climate change. Among other impacts, more renewable energy could drastically reduce GHG emissions from the electricity and transportation sectors, cut disease-causing particulate emissions, and protect the environment from damaging extraction techniques such as fracking and off-shore drilling. With all of this at stake, what's being done to maximize the production and use of renewable energy and can it possibly be done faster? What role is Marin playing in this GHG reduction imperative?

MCE is adding contracts with PV solar developers and developing its own 10.5 megawatt facility in Richmond. *Photo courtesy of MCE*

MCE and the CCA Revolution

MCE—formerly Marin Clean Energy—is Marin's community choice aggregator (CCA) helping to accelerate Marin's and California's renewable energy use. Enabled by 2002 legislation, CCAs are publicly-run electricity firms that purchase power on behalf of customers in their area and typically work with an investor owned utility that remains responsible for transmitting and distributing the electricity (in MCE's case, Pacific Gas & Electric [PG&E]).

MCE has grown rapidly from serving several thousand customers in Marin when it was founded in 2010 to nearly 500,000 customers in Marin, Napa, Solano and Contra Costa Counties by mid-2018. As the first, most mature, and leading CCA in California, MCE is a chief protagonist in a massive shift of electricity customers from California's three investor owned utilities to CCAs that focus on increasing renewable energy use and local control.

MCE's success demonstrated the CCA "proof of concept" and paved the way for growth of other CCAs starting with Sonoma Clean Power in 2014. Fourteen CCAs now operate in California, with eight more in the planning stages. The California Public Utilities Commission (CPUC) Chair recently estimated that customers served by CCAs, or other third parties such as large corporations purchasing their own energy, would account for 80% of electricity customers by 2024. Given California's leadership in U.S. renewable energy policy and development, MCE's leadership has national implications.

The emergence of MCE and other CCAs was enabled by rapid technological change that made renewable energy much cheaper and more cost competitive with natural gas. Political decisions made years ago in California to promote renewable energy kick-started market forces, as renewable energy-friendly regulations and programs fostered innovation, lowered costs, and boosted demand. Rapid change continues and now is more market driven: economies of scale and implementation and operational experience lower costs, which increases demand, scale, and learning in a virtuous cycle. California also implemented a greenhouse gas "cap-and-trade" system that put a price (albeit still low) on carbon emissions aimed at discouraging fossil fuel energy.

MCE Goals and Progress

What are MCE's goals, and how is it progressing toward meeting them?

Reliability. Providing electricity on demand isn't as much a goal as it is an imperative established by State and federal regulations and consumer expectations. It heavily influences an electricity provider's use of renewable energy and ability to reduce GHGs, since electricity demand must be met 24/7, regardless of the weather.

Reduce greenhouse gases. MCE aims to purchase as much renewable energy as feasible. MCE's 2016 resource mix contained 56% renewable energy, consisting mostly of wind (35%) and photovoltaic (PV) solar (9%), followed by small hydro and landfill gas/biogas. MCE used GHG-free energy from large hydro projects for another 13% of its energy

Continued on page 6

MCE *from page 5*

needs, but the State's Renewable Portfolio Standard (RPS) does not count such energy as "renewable", as pre-existing large hydro does not add new renewable energy production capacity. MCE's 2025 goal is to be 100% GHG-free, with 80% renewable energy content.

In 2016, MCE had far higher renewable energy content than did PG&E (56% versus 33%), but only slightly lower GHG emissions, due to several reasons, including PG&E's use of nuclear power (24% of the total). MCE has increasingly added to the supply of renewable energy through signing long-term contracts with PV solar project developers and developing its own 10.5 megawatt solar facility in Richmond.

Maintain competitive rates for energy. This is a market imperative as customers will switch electricity providers to lower their bills. MCE maintains competitive rates despite its customers paying increasing amounts for power that PG&E purchased years ago at higher rates and does not use because of CCA and other departing customers. Having successfully increased its financial reserves over time, MCE can now contract for long-term, lower cost energy.

Control energy policy locally. MCE's Board of Directors consists of an elected representative from each community obtaining power through MCE. The Board determines renewable energy content, approves energy contracts, and sets customer rates. The Board also determines specific product offerings, for example, customers have the option of purchasing 100% renewable energy ("Deep Green") or 100% locally sourced renewable energy ("Local Sol").

While MCE complies with multiple State reporting requirements, local board control substitutes for some state-level regulatory oversight. Under the old "command-and-control" electricity sector, the three investor-owned utilities dominated and the California Public Utilities Commission (CPUC) heavily regulated all aspects of electricity production, purchase, transmission, and distribution in the name of ensuring reliability. The rapidity of CCA growth has alarmed the CPUC, forcing MCE and other CCAs to fend off on-going legislative and regulatory efforts to curtail local control.

Create jobs, foster economic development. MCE's Board has preferentially treated developing local energy projects and creating local jobs. As a result, some "new build" renewable energy projects are sited within MCE's service area, creating local, often unionized jobs, even if project costs are higher than elsewhere.

Why not 100% renewable energy now?

This question has been asked by many individuals concerned about climate change. In fact, a debate has raged in the academic literature over the larger issue of feasible pathways and timetables towards an increasingly fossil-fuel free economy, not just in the electricity sector.

Increasing renewable energy's share of an energy portfolio faces many challenges—for MCE and other electric utilities. In particular, ensuring reliability while using intermittent solar and wind requires new energy solutions for times when "the sun doesn't shine and the wind doesn't blow". Needed are developments such as cheaper and better batteries than exist today, more learning-by-doing about how to handle intermittency, better software to optimize renewable energy resources, and more sophisticated and pervasive demand response efforts (ability to curtail demand during peak periods). A much more controversial solution is western grid regionalization: while some argue that it could enable import/export and use of more and cheaper clean energy from/to a wider, diverse geographic area, others counter that it could lead to the import of coal energy and the unraveling of California's aggressive renewable energy and climate protection laws and policies.

Other challenges to a high share of renewable energy include the time it takes to develop new solar and wind projects, multiple MCE objectives that can compete with each other for limited resources, and MCE's struggle to obtain equitable funding for demand response and other initiatives from the CPUC.

Successfully addressing these challenges and doing more to transition away from fossil fuels--such as accelerating electric vehicle adoption, electrifying air and water heating systems, improving energy efficiency, etc.--is crucial to reducing GHGs and slowing climate change. Future MCL Newsletters will explore these topics. MCL Climate Action Working Group (CAWG) members discuss these and other climate change-related issues at CAWG's regular meeting on the 3rd Friday of each month, 9:00 -11:00 am, at the MCL offices. Please join the discussion.

MCL endorses Proposition 68

SB 5 (De Leon), passed by the Legislature in 2017, places a parks and water bond on the June 2018 statewide ballot as Proposition 68. Known as the "California Drought, Water, Parks, Climate, Coastal Protection and Outdoor Access for All Act of 2018," the $4 billion bond measure will provide funding in three main areas: state and local park improvements ($1.283 billion), water ($1.19 billion), and coastal, climate resiliency and environmental projects ($1.547 billion). If Prop. 68 is approved, more than $60 million in allocations will benefit the Bay Region and Marin. Along with communities, open space agencies, conservancies and land trusts, parks departments, water districts, and others across the region, MCL urges voter support.

English ivy *from page 2*

long-term persistence of native forests by obstructing their regeneration. According to Cal-IPC, English ivy may also "replace species used by native wildlife. Its leaf litter adds nitrogen to the soil, which may disadvantage native species that compete best under lower nutrient levels." In sum, Invasives.org warns, "English ivy is an aggressive invader that threatens nearly all forested habitat types in the northwestern U.S. English ivy cover is rapidly reaching catastrophic levels."

English ivy takes over Marin open space

Innocent-looking ivy is widely cultivated in Marin as a garden ornamental. English Ivy (***Hedera helix***) is closely related to two other invasive and similar looking non-natives: Algerian Ivy (*H. canariensis*) and Persian Ivy (***H. colchica***). All three are in the ginseng family, Araliaceae. Marin Flora reports that English ivy has escaped gardens and become naturalized in open space adjacent to many of our municipalities, including around Sausalito, Belvedere, Mill Valley, Ross, Ignacio, Olema, and Inverness. Even designated wilderness areas in Point Reyes National Seashore, such as along the Sky Trail, have become heavily infested with ivy that continues to spread.

The juvenile form of ivy reproduces vegetatively by rapid clonal development. The mature form of English Ivy develops under favorable conditions of light and nutrients, producing inconspicuous greenish flowers and black berries. Birds eat and disperse the berries (which are toxic to humans) to germinate in distant locations. English ivy is tolerant of a wide range of conditions: sun, shade, and even drought. Once established, it is very difficult to get rid of because it forms extensive root masses that choke out competing plants. If not kept in check, English ivy will eventually cover the entire ground surface.

Can English ivy be controlled?

Controlling English ivy by grazing is not an effective method as goats and sheep preferentially browse native plants to the somewhat toxic ivy. The animals will eat the ivy leaves but not the stems, which quickly resprout. Likewise, mowing and cutting is not recommended due to the ability of the plant to rapidly regenerate from plant fragments. If herbicides are used, they should be applied by a licensed professional during dry and sunny periods in late winter. Ivy at that time is still growing, when most native plants are dormant. In combination with mechanical methods, herbicide can be effectively applied directly to cut stems.

The key to control is persistence. An estimated 300 labor hours are needed to clear and maintain an acre of ivy infestation. Ivy in trees should be targeted first to prevent further flowering and seed set. Thoroughly uproot and dispose of all the ivy. Every piece, whether cut, uprooted, or treated with herbicide, needs to be removed, as ivy readily regenerates from roots, stems and fragments. Be prepared to return time and again to follow up!

Roger Harris

English ivy will clamber up any vertical surface such as this old growth Douglas fir.

Mt. Tam in Winter

From lichen laden oaks to redwoods,
the path›s rivulets point the way.
Tan oak leaves shine even under dull sky.

I will not turn back until I reach the ridge,
lungs filled with sea air, ravines full with mist.
Branches are pearled in morning›s light.

Old buckeyes stand sturdy as bones.
Ferns lie open under weighted wet.
Fungi, red and rust, force through the duff.

I will not turn back until I reach that quiet height
with wind and sparrow song.
And look, a hawk.

Richard Cruwys Brown*

*Richard Brown, M.D. is Chair of the Marin Poet Laureate Program and MCL member

Annual Dinner *from page 1*

agency in carrying out nationally praised sustainability water initiatives. He implemented the agency's "Carbon Free Water by 2015" initiative by procuring 100% of its electricity through renewable and carbon free resources, thus achieving a carbon neutral electricity supply to power the agency's system. He has played a major role in carrying out the Habitat Enhancement Project in Dry Creek, which is expected to be fully constructed by 2020.

Prior to joining the water agency, Davis was Executive Director of The Bay Institute, a nonprofit formed in 1981 to protect the San Francisco Bay-Delta Estuary Watershed and improve water management in California. He also worked for Congresswoman Lynn Woolsey and was an aide to State Senator Milton Marks. He has served on several nonprofit boards, including MCL's. Davis received his BA in political science from the University of California, Berkeley.

At the Annual Dinner, Grant Davis will share insights drawn from his unique combination of local and regional experience in managing water supply, flooding, and ecosystems, together with his long-standing knowledge of statewide water issues and relationships.

2018 Environmental Achievement Awardees

Peter Behr Lifetime Achievement Award
Nona Dennis

Marin Green Award for Environmental Leadership
Tamalpais Lands Collaborative (One Tam)

Ted Wellman Water Award
Leslie Ferguson & Gail Seymour

John M. McPhail, Jr. Green Business Award
Redwood Landfill

MCL Volunteer Award
Ken Drexler

MCL Awards

MCL will also be presenting its annual Awards for Environmental Achievement at the dinner. The John M. McPhail, Jr. Green Business Award will be given to **Redwood Landfill**; **Tamalpais Land Collaborative (One Tam)** will receive the Marin Green Award for Environmental Leadership; **Leslie Ferguson & Gail Seymour** (Regional Water Quality Control Board and California Fish & Wildlife, respectively) will be given the Ted Wellman Water Award; **Ken Drexler** will be honored with the MCL Volunteer Award; and the Peter Behr Lifetime Achievement Award will be given to **Nona Dennis**. MCL members who attend the dinner will elect Directors and Officers for the upcoming term (see election notice on Page 12).

Invitations were mailed to MCL members the last week of February. Online reservations will open in early March at https://mclannualdinner18.eventbrite.com.

Walk into Conservation History: Hamilton Wetlands
Saturday, March 24, 9:30am-12:30pm

MCL returns to Novato's Hamilton Wetland Restoration for another Walk into Conservation History. Once a tidal marsh of San Pablo Bay, Hamilton Airfield witnessed more than fifty years of continuous aviation activity since its dedication in 1935. Now, it is one of the largest wetlands restoration projects in the country. Since MCL last visited the site in 2011, the outer levee has been breached, the tides have entered, and marsh vegetation and bird life are flourishing. Learn from MCL leaders and local experts about the Hamilton Wetlands Restoration Project. Walk along the levee and see water birds where planes once took flight. Hear stories from the WWII and post-war years, and about the politics over several decades that shaped the future residential community and the wetland restoration.

Directions: From the north: Exit 101 at Nave/ Bel Marin Keys, take right onto overpass, immediate right on Nave Drive, left on Hamilton Parkway, right on Palm Dr. one block to main parking lot opposite old movie theater. From the south: Take Nave exit from 101, proceed on frontage road (Nave Drive) and turn right (east) on Main Gate Road. Proceed for a mile onto Palm Drive and meet in the main parking lot opposite the old movie theater.

Wear layers and comfortable shoes and bring snacks and your binocs! Heavy rain cancels.

This easy, family-friendly 2-mile loop is free and open to the public. Call 415-485-6257 or register online at https://wh18ahamiltonwetlands.eventbrite.com

Events

Photos by Nona Dennis

Supervisor Damon Connolly reports progress on actions in the county's Climate Action Plan to MCL's Climate Action Working Group

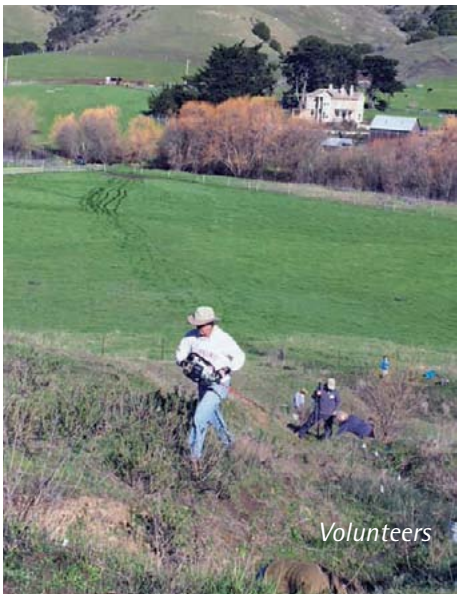
MCL's Agriculture/Land Use Committee quarterly meetings bring MCL, ranchers, public agencies, and other West Marin interests together at the Marin Farm Bureau in Point Reyes Station

Enhancing riparian habitat is a volunteer effort

On a recent beautiful Sunday in late January, the Marin Conservation League (MCL) joined forces with Trout Unlimited (TU) to improve riparian habitat in Chileno Creek. Twenty-five hearty souls converged on Sally and Mike Gale's 600-acre Chileno Valley Ranch to plant some 250 willow sprigs in tributaries to Chileno Creek, one of many efforts over the past 20 years to restore habitat along this creek and its tributaries.

Chileno Creek is a tributary to Walker Creek, which in turn discharges into northern Tomales Bay and the Pacific Ocean. The creek drains a watershed of approximately 20 square miles, ranging in elevation from 1,381 feet in the headwater areas to about 72 feet where the creek enters Walker Creek. It contains a 220-acre natural lake, Laguna Lake, several miles upstream of the ranch work site. The watershed is dominated by grassy rangeland, and most of the area is in privately held dairy or beef ranches.

Chileno Creek and Walker Creek once provided excellent spawning habitat for coho and steelhead trout. Many factors have contributed to the decline in fish habitat, notably the construction of Soulajule Dam and Reservoir in the 1970s, which blocked rearing habitat in Arroyo Sausal. Other contributing factors are sediment and high temperature levels in summer. Sally and Mike Gale inherited their ranch in 1993, and since 1996 they have worked continuously to improve riparian habitat in Chileno Creek for wildlife, in the process reducing sediment production and providing shade for fish habitat. Large areas in the riparian zone had been trampled by cattle. The Gales fenced them off and began to plant native vegetation like willow to stabilize the creek banks and establish a tree canopy. Other ranchers in the watershed followed suit. The Gales continue to work to control upslope erosion. The willow planting on January 28 was aimed primarily at reducing erosion in several steep, eroded gullies that discharge storm flows into Chileno Creek. Willow sprigs were also planted directly in the creek bank on a neighboring ranch.



Volunteers

The cohort of volunteers on January 28 prepared holes and placed the willow sprigs firmly in the winter-moist ground. The sprigs – measuring about 12 inches long by one to two inches in diameter – will grow rapidly into several varieties of willow trees, holding the soil and lessening further erosion. Willow also acts as a "nurse plant," providing cover for oaks and other riparian species to germinate and grow. Altogether, the plantings will enhance habitat for birds and mammals as well as for downstream salmonids.

Trout Unlimited volunteers returned on February 10 to repair barbed-wire fencing around the newly-planted gullies to keep the cows from the new plants. To carry the plantings through their first dry summer, before next year's rains, MCL and TU volunteers will return in May to place containers of a gel (polymer) near each planting, which will allow slow release of water. The date for volunteers to assist in placing the gel will be announced in the TU and MCL Newsletters.

BayWAVE *from page 1*

along the bay shoreline that are testing a variety of nature-based strategies to make Marin resilient to rising sea levels.

Adaptation planning moves ahead

The County's first action was to promote broad public awareness through media and public meetings featuring the "Game of Floods." Originally conceived as an exercise for a community meeting in 2014, the award-winning game engages people in deliberating possible solutions for protecting their communities from flooding under various sea level rise scenarios. Solutions could include nature-based or traditional engineering solutions as well as changes to land use. The game has been upgraded to become a boxed board game. Choo reported that five sets of Game of Floods will be provided to each of the three North Bay Counties for loan to schools and other interested groups as an educational resource.

The BayWAVE team's job now is to draw on the extensive data gathered in the vulnerability assessment and serve as a resource to the county and towns and cities as they consider future land use policy and anticipate long term capital needs. Their challenge resides not so much in planning for new development in vulnerable areas as in figuring out how to adapt areas that are already largely built-up. Future policy could include uniform building elevations and maximum height limits, or options for managed retreat. As towns and cities do their own long term planning – for example, San Rafael and Sausalito are in early stages of updating their general plans – the assessment will provide useful data. In all cases, planning for Marin's adaptation to sea level rise must be collaborative, crossing jurisdictional boundaries and engaging the county and all cities and towns, as well as other public agencies, special districts, property owners, utilities, and the larger community in developing solutions.

Projects to test adaptive strategies

The vulnerability report promised to follow-up with an "adaptation tool-kit" – a compendium of adaptation strategies, such as horizontal vegetated levees, enhanced tidal wetlands, bank stabilization, and others, to buffer communities from the effects of rising bay levels and storm surges while achieving other benefits. Restoration science is not new to the San Francisco Bay region or Marin; one of the earliest projects to restore diked historic baylands to tidal marsh was the "Muzzi" property in 1976, part of the Corte Madera Ecological Reserve. Now, however, restoration techniques are refocusing on the need to buffer both wetlands and developed uplands from expected flooding – that is, to buildup and stabilize the near shore while retaining important ecological benefits. Numerous projects to test the effectiveness of such strategies are planned or in process on the bay shoreline. Marin County Flood Control and Water Conservation District senior engineer Roger Leventhal, a BayWAVE team member, is playing a lead or supporting role in many of them.

The tidal marsh at Blackie's Pasture, Tiburon, is a test site to create and sustain high tide refuge habitat as sea level rises. Nona Dennis

The first such project was the restoration of the 17-acre man-made Aramburu Island, off Strawberry Peninsula in Richardson Bay. Fine sand, woody debris, and rocks were positioned in 2011-12 to stabilize the rapidly eroding shore, and over subsequent years more than 40,000 native plants have been planted. The results have been monitored to determine whether such treatments to enhance wildlife habitat might also buffer the nearby community from sea level rise.

Four current projects are being funded by the Marin Community Foundation (MCF) in a first round of grants totaling $750,000 from its Advancing Nature-based Adaptation Solution program, administered by the State Coastal Conservancy. One project will test shoreline treatments at two sites to sustain high tide refuge habitat during accelerated sea level rise. At Blackie's Pasture in Tiburon, a research team, based at SF State's Estuary and Ocean Science Center in Tiburon, plans to install eucalyptus branches along the Richardson Bay shoreline to create a "pickleweed arbor" as refuge for birds and mammals during high tides. Coarse materials such as sand and gravel are being placed, along with marsh plantings, to repel tidal erosion of the shoreline. Similar treatments will be tested on the eroding shoreline at a Corte Madera Ecological Reserve site.

A second MCF grant addresses continuing erosion and loss of habitat for the endangered Ridgway's rail and migratory shorebirds at the 20-acre Tiscornia Marsh, owned by Marin Audubon Society, in the San Rafael Canal area. The project is also designed to create a nature-based buffer against sea level rise and tidal flooding of the vulnerable Canal community.

Under a third MCF grant, Point Blue Conservation Science is working with the San Francisco Estuary Institute and the County to develop a framework and criteria

Continued on page 11

BayWAVE *from page 10*

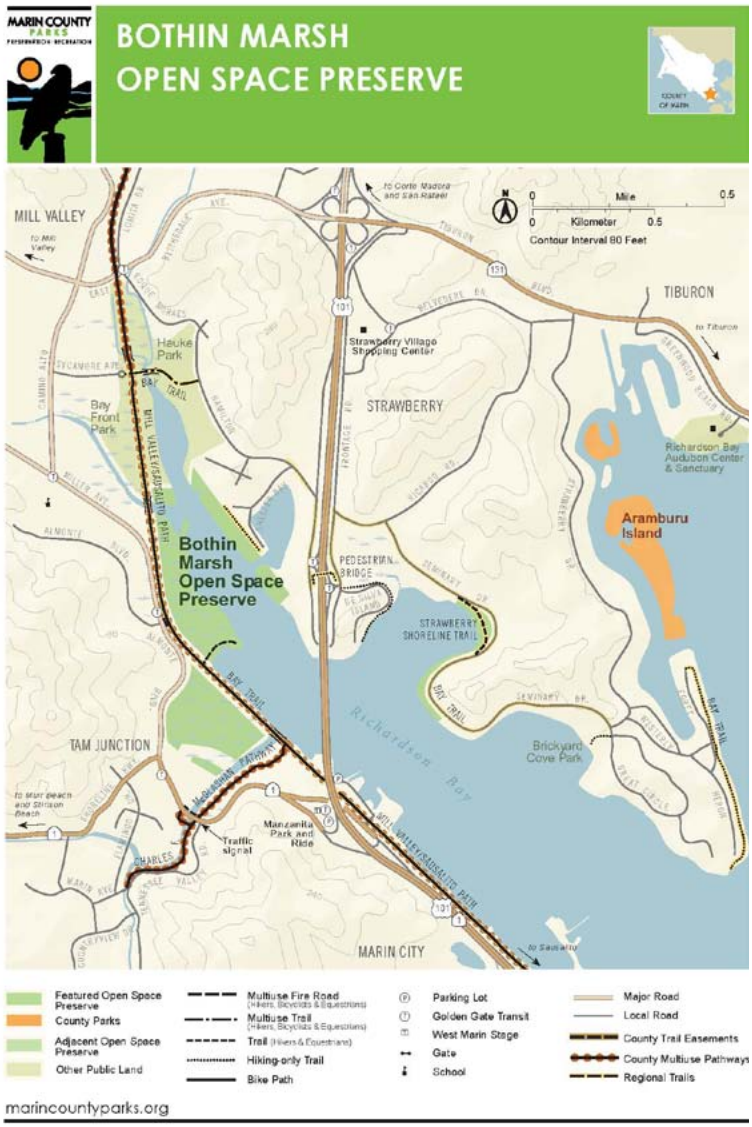
for identifying and prioritizing innovative nature-based ("green") adaptation strategies, alone or in combination, that can provide maximum benefits to the public and ecosystem, including coastal protection. Using the County's BayWAVE project as a test case, the team plans to study the applicability of this framework around the entire bay.

In a fourth MCF-funded project, the Smithsonian Environmental Research Center will give Marin County teachers, students, youth leaders and other community members the opportunity to work with professional researchers at 10 sites in Richardson Bay to study the challenges that face native oyster restoration and similar "living shoreline" projects.

Other projects and funding sources

Last year the Rockefeller Foundation launched a year-long collaborative "Resilient by Design" challenge to develop innovative solutions to strengthen the Bay Area's resilience to sea level rise, severe storms, flooding and earthquakes. Ten teams were formed, and two were awarded grants for projects in the North Bay and Marin County. "Team Bionic" is working with San Rafael and the Canal Area community to connect the East San Rafael waterfront to the neighborhoods and provide other amenities, while also protecting the area from flooding due to sea level rise. "Team Common Ground" is working with four North Bay counties, including Marin, to link their physical, ecological, cultural, political and infrastructural features to form a "San Pablo Bay identity" and to design strategies to make the area, including Hwy 37, more resilient to rising bay waters. The design concepts for both projects are expected in May.

CalTrans is setting aside $20 million from the Gas Tax Fund (Senate Bill 1) for three rounds of projects to support local efforts to plan more sustainable communities, reduce transportation-related greenhouse gasses, and adapt to the effects of climate change. One such project in the North Bay is a $130,000 study of flooding issues on Highway 37. Anticipating a new round of awards, Marin County and the Transportation Authority of Marin have submitted a $400,000+/- grant application for a study of flooding at Highway 1 and 101 (Marin City and Manzanita area) and ways to halt it. The study would dovetail with Marin County Parks' planning study of Bothin Marsh, near Tam Junction, which is in its early stages. If funds are awarded, the CalTrans-supported study could commence by the end of 2018.



The first shoreline projects to be funded by the San Francisco Bay Restoration Authority's Measure AA region-wide parcel ta) will be announced on April 6. They include ten in the North Bay. Among these are projects at Spinnaker Point in San Rafael, Deer Island in Novato, a USGS study of subtidal habitats in Marin, Solano, and Alameda Counties, and a Point Blue - STRAW (Students and Teachers Restoring a Watershed) study of bay-upland transition zones.

Marin and the Bay region

Choo emphasized that Marin's work is part of regional efforts to address sea level rise. Beginning with the San Francisco Bay Conservation and Development Commission's (BCDC) "Adapting to Rising Tides" (ART) initiative in 2010, many other projects are progressing around the bay, and Marin agency staff and electeds officials are collaborating with other counties. She noted that BCDC recognizes the need to maintain momentum as these and similar projects go forward and is rethinking its mission and reevaluating its permit process. Having regulated filling the Bay since the mid 1960s, the Commission is now considering how it can work as a partner and facilitate rather than encumber the region-wide imperative to cope with rising bay waters.

MARIN CONSERVATION LEAGUE BOARD OF DIRECTORS

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Board of Directors meetings are held at 7:00 PM on the 3rd Tuesday of the month at the MCL office and are open to the public.

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mcl@marinconservationleague.org

Issue Committee Meeting Schedule (subject to change—check website)

Land Use and Transportation:
1st Wed. of the month, 9:00 AM—11:00 AM

Parks and Open Space:
2nd Thurs. of the month, 3:00—5:00 PM

Invasive Plant Subcommittee of POS:
3rd Wed. of the month, 3:00—5:00 PM

Climate Action Working Group: 3rd Fri. of the month, 9:00 AM—11:00 AM

Agricultural Land Use: meets quarterly; Water and Watersheds, North Marin Unit: Check website for times and locations

Marin Conservation League was founded in 1934 to preserve, protect and enhance Marin County's natural assets. MCL is a non-profit 501(c)3 organization. All contributions and memberships are tax-deductible to the extent allowed by law.

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MARIN CONSERVATION LEAGUE ANNUAL MEETING & ELECTION, APRIL 6, 2018

Proposed Slate of Officers and Directors for 2018—2019

The Marin Conservation League's Nominating Committee, chaired by Judy Teichman, has nominated the following persons for election as MCL Officers and Directors at the 2018 Annual Meeting and Election. All MCL members who attend the meeting are eligible to vote.

NOMINATED FOR ELECTION AS OFFICERS FOR 2018-2019

President—Linda Novy, Fairfax
First Vice President—Susan Stompe, Novato
Second Vice President—Doug Wilson, Mill Valley
Secretary—Bob Miller, San Rafael
Treasurer—Ken Drexler, Fairfax

NOMINATED FOR ELECTION AS NEW DIRECTORS:

Term ending April 2020
Jeff Stump, Pt. Reyes Station

Term ending April 2021
Nancy Benjamin, Tiburon
Roger Harris, Corte Madera
Larry Kennings, Mill Valley
Sarah Loughlin, San Rafael

NOMINATED FOR RE-ELECTION TO THE MCL BOARD:

Term ending April 2019
Pat Nelson, San Rafael

Term ending April 2021
Kate Powers, San Rafael
Pam Reaves, San Rafael

THE FOLLOWING DIRECTORS WILL CONTINUE TO SERVE EXISTING TERMS:

Term ending April 2019
Sally Gale, Petaluma
David Lewis, Novato
Arlin Weinberger, San Rafael
Greg Zitney, Novato

Term ending April 2020
Nona Dennis, Mill Valley
Larry Minikes, San Rafael
Vicki Nichols, Sausalito
Susan Stompe, Novato
Ann Thomas, Corte Madera