NEWS FROM MARIN CONSERVATION LEAGUE

September—October 2017

Climate action: another layer and another player

By Pat Nelson

Those who follow Marin Conservation League's committee meetings or read this Newsletter are familiar with local efforts to combat climate change. We've applauded Marin's leadership role in enacting Climate Action Plans at the county and town and city levels. We have testified at Board of Supervisors or council meetings in support of plans that are designed to meet and exceed state goals for greenhouse gas reduction. We've also grasped the significance of impending sea level rise on Marin's bay and ocean shorelines, and we continue to endorse pioneering efforts to sequester carbon in West Marin agriculture. We've also collaborated with other non-profits to have a more-than-local effect.

We might be less informed, however, about Bay Area regional planning efforts to curb climate change. At the July meeting of MCL's Climate Action Working Group, Abby Young filled that knowledge gap in a presentation on the role of the Bay Area Air Quality Management District (BAAQMD, or Air District) in climate protection. Young is a Marin resident who has worked for the BAAQMD for ten years and manages the Air District's Climate Protection Program. In this capacity, she is responsible for developing the Air District's Regional Climate Protection Strategy and coordinating its greenhouse gas-related work. Before coming to the BAAQMD, she worked with local governments on reducing greenhouse gas emissions.

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Many creeks run through it

Photo courtesy of Marin Resource Conservation District

Urban Streams Coordinator, Sarah Phillips, provides invaluable education and assistance on watershed stewardship to the community.

By Nona Dennis

When Sarah Phillips, Marin County's Urban Streams Coordinator (USC), spoke to MCL members and other interested attendees at a meeting in late June, she was doing what she has done countless times since September 2014, when she joined Marin Resource Conservation District staff under a cooperative arrangement with the County. She gave an engaging and deeply informed mini-lecture on the impact of urbanization on Marin's watersheds, streams, water quality, and habitat, and what we can do about it – how we can protect and restore the network of waterways across the county that are the life blood of Marin's biological diversity and also the source of hazards like flooding. With similar energy and expertise, Phillips has engaged hundreds of homeowners, students, agency personnel and others in their creeks and watersheds, transforming their initial curiosity into knowledgeable stewardship.

As an insight into the demands of her job, California Department of Fish and Wildlife, last year, wrote: ". . Sarah has provided technical assistance to several hundred streamside residents regarding streambank stabilization, watershed stewardship, removal of invasive plants, native plant restoration, navigating the permit process, and finding grant funding opportunities. . .She also worked tirelessly to coordinate communications

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A Message from the President

Several articles in this Newsletter, and much of MCL's work, focus on preserving habitat and biodiversity and protecting the capacity of natural communities to thrive and adapt, both locally and regionally. Marin's lucky to be rich with a history of visionaries and local residents who, together, have loved, preserved and defended its natural communities when threatened by development. We continue to learn from their experience.

Humans have become such a dominant species, however, that it's hard to separate human impacts from natural communities. While Marin's population has not grown much, it has changed over time. Whether we are long-time Marinites or newcomers, we influence natural communities in many ways: as policy makers, public land managers, homeowners, ranchers, recreational users – bicyclists, equestrians, hikers and runners, dog walkers, scientists and students, and conservationists.

As local and global environmental challenges multiply, it's imperative that we affirm the interconnectedness of Marin's natural and human communities, deliberating rights of use that support both people and all species. The more we experience, learn and function together as a whole, the more attuned we become to the natural communities around us and the need to take responsibility for their long term care.

MCL will host two Business and Environment Breakfasts this Fall. September's Breakfast will focus on habitat fragmentation and the critical need for wildlife corridors. At November's Breakfast, Michael Wall, Natural Resources Defense Council's co-director of litigation, will share how NRDC is responding to threats and rollbacks to federal environmental policy and regulation.

MCL is supporting two important measures on November's ballot: renewal of Novato's Urban Growth Boundary, and a Novato Zone 1 Flood Control parcel tax. Strong environmental policy takes political will, both from the voting public and elected leaders.

MCL invites you to renew your membership for 2018 *and* looks forward to seeing you at our upcoming events!

Kate Powers

Novato's Urban Growth Boundary up for renewal

By Susan Stompe

Greg Zitney

Urban Growth Boundaries protect open space from development and sprawl.

"Urban Growth Boundary" (UGB) is not a common term in Marin, but as a planning tool to contain development – that is, prevent urban sprawl – it has been applied in many communities in the Bay Area. An Urban Growth Boundary is a line like a city limit line around a developed community, beyond which urban services and densities are discouraged or prohibited with some exceptions. Novato is the only community in Marin to have a UGB. Novato adopted its UGB in 1997 for a 20-year term to help control the expansion of urbanization into surrounding farmlands and open spaces. It worked! These lands continue to form a scenic backdrop to the city.

Novato's city limits are coterminous with the UGB except for four deviations. Most communities have Spheres of Influence (SOI) and Urban Service Areas. These designations imply that the city will incorporate adjacent new developing areas within a period of time. When Novato adopted the UGB, the city abandoned the Urban Service Area, since the UGB would prohibit annexation for 20 years (with some exceptions). Novato still has a SOI, but it applies only to specific existing developed areas that have no community plan, or where new development would greatly impact Novato. These areas include a small part of the St. Vincent's property that juts

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Mt. Tam's Wild Side

Last October, 400 attendees gathered over two days in a "Science Summit" to confer on the ecological health of Mt. Tamalpais, convened by Tamalpais Lands Collaborative (One Tam). One year later, on October 26, 2017 a follow-up symposium – Mt. Tam's Wild Side – will update some of the important findings of that earlier meeting and present the results of new research. This year's focus will be on the wildlife on the mountain.

MCL

In preparation for last year's symposium, dozens of local and regional scientists, land managers, and other experts, shared their ecological knowledge of the mountain, identified gaps in that knowledge, considered the stressors that threaten Mt. Tam's ongoing health, and selected useful indicators for measuring and monitoring changes on the mountain over time. A noteworthy outcome of the 2016 proceedings was a comprehensive baseline report, *Measuring the Health of a Mountain*, which identified wildlife species that serve as useful "indicators" of ecosystem health of Mt. Tam, such as northern spotted owls, coho salmon, American badger, osprey, and Western pond turtle. The 2017 symposium will include updates on the status of some of these species.

California Dept. of Fish & Wildlife

Pallid Bats (Antrouzous pallidus) are included in One Tam's area of focus of mammal species.

The report also identified significant gaps in information on bats, invertebrates, in particular pollinators such as native bee species, and on seeps and springs on Mt. Tam. The past year has seen important new research on all three of these topics. Bats have a significant presence on Mt. Tam, but little was known about what species were present or about their activity and general health. Working in concert with the USGS, investigators are half-way into a three-year study that includes establishing acoustic stations from the tip of Point Reyes Peninsula to the Golden Gate to monitor activity using sonic techniques, and mist-netting to tag individuals and ascertain health. In 2018, radiotelemetry will be added to the suite of technical studies. Information gathered will complement bat studies on other Marin open space lands by agencies in the One Tam partnership.

A graduate student is working with One Tam investigators to inventory native bees, determine their association with plant communities, especially rare plants, and fill major gaps in baseline knowledge about this group of invertebrates. It is likely that Mt. Tam could host more than 6,000 species of invertebrates. An inventory of seeps and springs, mainly on MMWD and State Park lands, is being conducted by a graduate student for an M.S. thesis, using satellite imagery.

The 2017 symposium will also update progress in interpreting data from the Wildlife Picture Index Project (WPI), which has collected and catalogued wildlife images over three years from cameras situated across four jurisdictions that share management of the One Tam land area. A panel of experts, including the project's principal investigator and agency scientist from Conservation International, will consider the significance of preliminary WPI findings in light of global as well as regional (i.e., San Francisco Bay Region) and local Marin County conservation goals.

The symposium is scheduled for 10:00 - 3:30 p.m. at the Marin Art and Garden Center in Ross. Registration for the symposium is $25 for One Tam members and students, and $35 for non-members. Lunch will be included, and scholarships are available. Registration opened in mid-August, and a capacity crowd of approximately 200 people is expected.

Tam Talk

The symposium will be followed by the annual public meeting of the One Tam Executive Committee – the so-called "Tam Talk" – from 4:30 – 6 p.m. at the same location. This will be the third year in which One Tam will offer the opportunity for interactive public discussion with the heads of the agencies that compose One Tam – the National Park Service, California State Parks, Marin Municipal Water District, Marin County Parks, and Golden Gate National Parks Conservancy. The meeting will cover what has been accomplished on Mt. Tam in the past year, and what is planned for the coming year.

Creeks *from page 1*

throughout the county between agencies and landowners engaged in stream management and restoration activities. Perhaps, even more impressive than her expertise and work ethic is her gift for collaboration."

"Collaboration" is a key to Phillips' success. Almost 3,500 parcels lie within what the Marin Countywide Plan defines as Stream Conservation Areas (SCAs), areas bordering streams that need protection to safeguard the health of the stream. Almost a third of these areas are in San Geronimo Valley, where populations of the endangered coho salmon are just hanging on. Most of these parcels are in private ownership. Therefore, if attempts to conduct work to protect streams and their banks and riparian corridors are to be effective, they must involve direct person to person contacts and building overall community trust and cooperation. Collaboration is essential to build bridges among and between the many watershed stakeholders, and this is what Phillips has been doing on the job.

A coho salmon swims upstream in West Marin.

Declining salmonid populations are a concern in Marin County and the California Coast. Improved stream habitat conditions may help them thrive.

©Peg Hunter, Flickr Creative Commons

Marin's streams and creeks

Marin has over 3,000 miles of natural creeks. Some of them, such as Lagunitas Creek, are perennial, flowing year round. Others, like the headwaters of San Anselmo Creek, flow intermittently, disappearing from view during the five or so dry months of the year. And many more miles of ephemeral creeks come to life for only three or four days, during and following a rainstorm, when they discharge both nutrients and sediments to the streams below.

While some of Marin's creeks remain relatively natural, others have undergone many changes over the past 200 years, beginning with extensive cattle ranching and logging that denuded the hillsides, then diking, damming and realigning streams to create farmland, protect built-up areas against flooding, and develop water supply. Railroads and roads were constructed, often blocking drainages. New residents to Marin County were attracted to the practical and aesthetic appeal of building their homes on creeks, and soon whole communities developed along their banks. Today, thousands of residents live either on or near creeks, and with that comes responsibilities as well as pleasure. It also explains why restoration is such an important part of Phillips' job; human actions and developments have taken their toll on the conditions needed for a thriving stream.

The County has recognized the value of its streams and creeks for more than 40 years with protective policies in successive countywide plans, currently in the 2007 Plan. This attention has been prompted, in part, by concerns over the alarming decline along the California Coast in populations of salmonids, particularly the endangered coho salmon. While streams and creeks support many other values, like wildlife habitat and clean water, the disappearing salmonids play a prominent role in the 2007 Plan's implementation programs intended to improve their habitat conditions. A crucial implementation action was to be adoption of a county-wide stream conservation area ordinance to regulate new development or redevelopment of stream-side properties. After extensive public engagement, County staff developed a draft ordinance in 2013, but due to pending litigation against the 2007 Countywide Plan, the County was able to adopt only an interim ordinance applicable to approximately 1,100 parcels in Geronimo Valley.

New stream "go-between"

With the county-wide ordinance on hold, the County created a new position – Urban Streams Coordinator (USC) – to provide support and assistance to the homeowners or businesses that reside along Marin County's creeks. Phillips dove into her work with energy and versatility of a "one-person band." She has convened educational workshops on topics such as rainwater harvesting, invasive species removal, native plant propagation, and soil bioengineering; made myriad presentations

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Creeks *from page 4*

and conducted watershed tours, pointing out the values of riparian corridors as food and shelter for diverse wildlife species and routes for wildlife migration, canopy cover for water temperature control, roughness and complexity for fish refuge, nutrient transport, mixing, and cycling, and vegetative filtration to remove water pollutants (Note that she does not include neatness as a desirable stream condition!). She has made more than a hundred site visits and by collaborating with local, state and federal regulatory agencies, guided property owners through the challenging permitting process for repair or restoration actions along their creeks.

As part of her job, Phillips works with County departments, such as Marin County Stormwater Pollution Prevention Program (MCSTOPPP), Marin Watershed Program, Community Development Agency, the Department of Public Works, in addition to watershed "Friends" and neighborhood organizations. All of this Phillips has done in three years, along the way explaining how regulations are designed to protect the attributes of a healthy stream and watershed and why they are important, and facilitating communication among all parties in matters pertaining to creeks. Her motto, adapted from the three Es of Sustainability, is: **Engage – Educate – Empower!**

Critical stream issues today

As Sarah Phillips looks ahead, she recognizes pressing issues in Marin watersheds. New invasive species are a constant threat. The worst of them currently is the Japanese knotweed, which is beginning to show up in some West Marin creeks (see page 11). Sediment is a chronic threat to Marin fish-bearing streams, originating from dirt roads, bank failures and other exposed soils. Federal funding to assist local property owners with their restoration projects is threatened by cutbacks. On the whole, however, Phillips believes that residents and businesses need to care more about their creeks. In the next few years, the County will continue in its efforts to adopt a much-needed stream ordinance that implements long-standing policy. With or without the ordinance, the Urban Streams Coordinator will continue to promote citizen stewardship by connecting people with their streams!

State parks and water bond measures for 2018 ballot

As this Newsletter goes to press, two parks and water infrastructure bond measures for the 2018 ballot are awaiting further action by the California legislature. AB18 was narrowly approved by two-thirds vote of the Assembly and now faces the Senate, where it will also need two-thirds approval. The measure would authorize $3.1 billion in bonds for state and local parks and recreational areas. The bill's author, Assemblyman Eduardo Garcia, has stated that, among other benefits, the bill would aim to improve access to parks and open spaces in disadvantaged communities. A similar bill by Garcia died in the Senate at the end of the previous legislative session.

On the Senate side, a majority approved Senate Leader Kevin de Leon's proposed SB 5, a similar $3.5 billion bond measure, which, according to de Leon, would make badly needed investments in California's water infrastructure, parks, recreation facilities, and protection of the state's natural resources. The next hurdle for SB5 is the Assembly, where a two-thirds majority will be needed.

The two bills are supported by Marin's respective legislators Senator Mike McGuire and Assembly Member Marc Levine. Both bills are continuing to receive public input. MCL signed on to a letter requesting that urban stream restoration programs be included in both measures. MCL will track the bills' progress.

Tom Boss

We all deserve safe trails! Whether you're on foot, hooves, or wheels, slow and say "hello" when you pass fellow travelers.

slow & say hello!
safetrailsmarin.org

Upcoming Events

Wildlife-where's the disconnect?

On September 15, from 7:30 to 9:30 a.m. at McInnis Park Clubhouse, MCL will host a Business and Environment Breakfast forum – "Wildlife Corridors: What are they and why are they important?" The forum will feature a panel of three experts who will consider the fate of wildlife in an increasingly fragmented environment. They will compare the kinds of networks and diverse corridors that are necessary if we are to reconnect wildlife and their habitats.

©Miguel Ordenana

P22 finds his way from the Santa Monica Mountains to Hollywood.

Why are wildlife corridors important?

Circulating in the recent annals of conservation biology is the chronicle of a young mountain lion, dubbed "P22" by National Park Service researchers, who managed to cross or circumvent eight lanes of traffic on the I-405 and 101 freeways to reach Griffith Park (Hollywood), 20 miles east of his birthplace in the Santa Monica Mountains. P22 was ear-tagged and GPS-collared, and his wanderings have been tracked for five years. He has been featured on a National Geographic cover, on TV shows, in a documentary film, and celebrated as a hero by Los Angelinos, in spite of a koala found dead in the Los Angeles Zoo, his presumed prey. P22 Mountain Lion of Hollywood has his own Facebook page!

P22's journey took place in 2012. As of 2017, the lion is surviving on a diet made up 90 percent of deer. But he lives without a mate. Whether P22's survival can be considered a "success" leads to larger questions: Can a mountain lion continue to exist in an eight-square-mile urban park with millions of human visitors a year? And what about the other big cats that have encountered similar barriers but with less success? Most male cats need almost 20 times P22's confined territory.

Although the panel may not talk about P22, they will certainly talk about how to create wildlife corridors like the one that National Wildlife Federation, inspired by P22's story, hopes will someday connect Griffith Park to the Santa Monica Mountains.

Fragmentation leads to species extinction

If disappearing habitats around the world is the principal cause of species extinction, then loss of connection between habitats is its corollary. Fragmented landscapes, even when they include large protected areas, eventually lead to species extinction. Famed biologist E.O. Wilson has written: "(to save 85 percent of the earth's remaining biodiversity) conservationists must strategically design their conservation plans to reduce habitat fragmentation and emphasize landscape connectivity between large, wild, protected areas." Core habitat reserves, like wildlife refuges or national parks, are important, but to ensure the territories needed to support breeding, raising young, dispersal from birth territory, food, and other basic life cycle requirements and to insure genetic diversity of wildlife, we must connect them by creating and protecting networks of continuous habitats and corridors at all scales. Wildlands Network is working across North America to re-establish vast wildways so wide-ranging animals like cougars, wolves, and wolverines can travel safely through the landscape. The same kind of vision can be translated to regional or subregional scales, or even more site specific applications on the ground to create parcel-level connections for wildlife movement – nested scales of connectivity that meet the varying needs of different animal species.

One such regional effort is the Sonoma County Pepperwood Foundation's "Mayacamas to Berryessa" landscape connectivity initiative (M2B). Funded by the California Landscape Conservancy Cooperative, the project is to build a multi-jurisdictional network that includes federal, state and local land trust land managers across Sonoma-Napa-Lake County boundaries, applying practical tools to connect landscapes that support the goals of climate adaptation, watershed health, and biodiversity. Other efforts include the California/Pacific Coast corridor concept, again bringing together multiple jurisdictions-federal, state, local trusts, and private land-owners, working together to form a landscape connectivity network.

Among other questions the panel will consider: How can the Wildlife Observer Network and Wildlife Picture Index projects,

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Wildlife *from page 6*

such as the WPI project currently coordinated by One Tam in Marin County, support these connectivity efforts by measuring wildlife occupancy across the Bay Area? Can we serve the entire Bay Area via a WPI network? And how can local action be spurred, such as in opportunities to apply wildlife-friendly approaches to connecting habitats at the urban-wildland interface, or to restore habitats in our own backyards?

John Davis cofounded Wildlands Network 25 years ago. His current priorities include advocating for carnivore recovery and critical wildlife corridors through outreach and ultra-trekking. Lisa Micheli has been the Executive Director of the Pepperwood Foundation in Sonoma County since its founding in 2009. She also currently co-chairs the Terrestrial Biodiversity Climate Change Collaborative (TBC3), a Gordon and Betty Moore Foundation Bay Area climate adaptation research initiative. Bill Merkle has been the Wildlife Ecologist for the Golden Gate National Recreation Area for the 14 years, where he leads wildlife programs, including wildlife research, project and report review, and threatened and endangered species management.

Virginia Department of Transportation

MCL Business-Environment Breakfast

Wildlife Corridors: What are They and Why are They Important?

Friday, Sept. 15
7:30am - 9:30am

Register at:
mclwildlifecorridors.eventbrite.com
or call 415-485-6257

Continue the conversation with Wildlands Network's film screening of

Born to Rewild

Friday, Sept. 15
7:00pm

Lark Theater
$7.50 in advance, $10 at the door.

To purchase tickets, email
DevSupport@wildlandsnetwork.org

Coastal Cleanup 2017

"Get rid of trash, not wildlife"

Marin residents will find plenty of opportunities to pitch in to clean up Marin's ocean beaches, bay shoreline, and inland waterways on Saturday, September 21, from 9:00 to noon.

California Coastal Cleanup Day was first organized by the California Coastal Commission in 1985, emulating Oregon's first statewide beach cleanup event – "Plague of Plastics" in 1984. Close to 2,500 Californians joined in the initial Cleanup, and less than ten years later the workforce had grown to 50,405 volunteers. The Ocean Conservancy became the coordinating agency for the International Coastal Cleanup, which now engages millions of volunteers in cleanup around the world. The reach of Coastal Cleanup Day has also spread inland, based on the understanding that most of the marine debris we find on our beaches actually starts as urban trash or street litter.

In 2016, 59,000 volunteers in California picked up more than 710,000 pounds of trash, including some recyclables, statewide. In Marin 1,000 volunteers collected more than 16,000 lbs. of trash.

For all 47 sites in Marin see www.spn.usace.army.mil/Missions/Recreation/Bay-Model-Visitor-Center/California-Coastal-Cleanup. MCL will again lead three cleanup sites in Novato and one in Sausalito at the Bay Model.

Volunteers are invited to join in a barbecue at the Bay Model in Sausalito from 12 – 2:00 p.m. Call MCL 415-485-6257 for MCL-sponsored cleanup site locations, or US Army Corps of Engineers Bay Model Joanne Jarvis (415) 289-3027.

A plan for Roy's Redwoods

No one can explain why the small stand of old-growth redwood trees that forms the core of Roy's Redwoods Open Space Preserve in San Geronimo Valley was left behind in the 19th century rush to log all of Marin and the Bay Area. But there it is, one the few remaining stands of old-growth redwood forest in the county – "Muir Woods" without the tourists and traffic!

The 293-acre open space preserve was one of the first purchases made after Marin County voters passed the parcel tax measure that established the Marin County Open Space District in 1973. At the urging of residents led by Jean Berensmeier, the former Roy Brothers ranch became the first county preserve in San Geronimo Valley in 1978. Since then only limited improvements have been made: a trail through the meadow to reach the grove; a 2.3-mile loop trail that circles the preserve; and the Dave HansenTrail on the upper ridge. With the exception of recent rehabilitation of the loop trail, little has been done to "improve" the grove. The valley floor is strewn with downed trees and branches, and a network of unplanned trails invites meandering. As a result, soils are compacted and plant regeneration is poor. The waters of Larson Creek, tributary to San Geronimo Creek's spawning waters for coho salmon, have become an erratic system of ephemeral creeks in that watershed. Even with only moderate visitation, the present conditions will not ensure the long-term health of the redwoods.

Kate Powers

Roy's Redwoods-Marin's hidden jewel.

That is likely to change in the coming years. With roughly $50,000 in planning funds from Measure A and in collaboration with Tamalpais Lands Collaborative (One Tam), the Marin County Open Space District is engaging the interested public in planning for the future well-being of the forest. The process was kicked-off last March with a Bioblitz that brought experts and volunteers together in the preserve for a morning of identifying and documenting every living species in the preserve. Three public workshops were planned. To learn how the preserve is used and draw out ideas of what improvements might look like, the second of the workshops was held on August 2. It was an opportunity to meander in the preserve and share impressions and experiences as a group, and then convene at Lagunitas School to consider possible options. A third workshop scheduled for later this year will begin to define alternatives and their feasibility.

Roy's Redwoods is not an ordinary preserve

It is apparent that Roy's Redwoods is not an ordinary preserve; it has a special identify in the minds and hearts of those who visit it. For kids, it is a place for adventure and ramble, with its clusters – "fairy-rings" – of giant trees and downed logs; for others it is a sanctuary for quiet reflection – a retreat with little apparent need for "improvement." At the same time, its continued ecological health demands scientifically sound treatment. Whatever is planned eventually to restore the health of the forest and stream, the forest needs to retain the informal and almost random character we associate with a "wild place" that is just steps away from civilization.

Climate from page 1

Spare the Air and Cool the Climate

Young is reaching out to local groups to help implement the Air District's vision for meeting climate and social equity challenges: a plan called "Spare the Air and Cool the Climate." This is the district's 2017 update to its 2010 plan, a blueprint for clean air and climate protection in the Bay Area. The updated plan focuses on strategies to address both climate change and regional health inequities. Young noted that equal access to clean air is a fundamental right that still eludes many communities in the Bay Area.

Regional background

The Bay Area Air Quality Management District was established in 1955 to monitor and regulate air pollution from stationary sources in the nine Bay Area Counties. The Air District's mandate is to implement the federal Clean Air Act, which recognizes that most air quality problems transcend local boundaries. The Clean Air Act authorized EPA to set national air quality standards for six conventional pollutants. Each state is responsible for creating an implementation plan to meet these standards. EPA's authority to regulate greenhouse gases was recognized in a U.S. Supreme Court case in 2011, an authority that has been under attack by some regulated industries and politicians.

The Air District's 2017 update is a multi-pollutant plan. The plan's dual objectives are to reduce air pollutants in communities that host more than their fair share of polluting facilities and to reduce GHGs toward long-range state targets: 40% below 1990 levels by 2030, and 80% below 1990 levels by 2050. Young noted that since the same fossil-fuel combustion processes that produce air pollutants also produce GHGs, regulation of pollutants therefore indirectly reduces GHGs.

The plan envisions a future Bay Area with a thriving economy, equitable access to healthy air, and a healthy, secure environment. (The Bay Area is the 21st-largest economy in the world. It is also a major global contributor to climate change and a leader whose example is followed.) The plan's key objectives are to reduce "super-GHGs" (gases used for refrigeration and air conditioning), reduce fossil-fuel combustion, increase efficiency and reduce demand for fossil fuels, and to shift the regional energy system to renewables. The Air District proposes to achieve these objectives by using its permitting and rulemaking authority, working with local governments, using grants and incentives, implementing partnerships, and utilizing results of research and science.

Impacts of recent Cap and Trade legislation

Recent state legislation significantly impacts the Air District's agenda. AB 398, which was passed in July, reauthorizes and extends Cap and Trade through 2030. Under Cap and Trade, an upper limit is set on the amount of pollutants a given business may emit, but allows the business to buy additional rights to emit from other polluters that have not used their full allowance. This system is intended to place the burden of reducing emissions on businesses that can do so most efficiently. In a deal designed to get the necessary two-thirds vote, however, AB 398 eliminated the Air District's authority to set new limits on GHGs from the area's refineries. In so doing, it failed to account for the social justice impacts that occur when high-emitting facilities are allowed to continue polluting their low-income or minority neighborhoods by buying credits.

To address the concerns in air districts around the state that have been long burdened by dirty air, Assembly Bill 617 was introduced as a companion to AB 398, requiring oil refineries and other plants in heavily polluted areas to retrofit their existing equipment with cleaner technology and to reduce local emissions by the end of 2023.

In sum, under AB 398, the Air District cannot regulate any "capped" sources for CO_2, including moving forward with its recently adopted refinery rule 12-16, which would have required refiners to identify causes and mitigate emissions increases above a baseline, or with plans to restrict GHG emissions from other capped sources. The Air District is still able to regulate capped sources for methane, fluorinated gases, and non-GHG pollutants. It can continue to regulate non-capped sources of GHGs, and non-GHG pollutants, and regulate non-capped sources for all GHGs, including CO_2. It can still take "many, many" non-regulatory actions, such as awarding grants and incentives, working with local governments, continuing education and outreach, and conducting research.

Other climate strategies

Among other district strategies, Young outlined an ambitious $4.5 million grant program to fund Clean Air Plan

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Photo courtesy of BAAQMD

In 2015, Air District added GHGs to its decades-long monitoring program for air pollutants and toxic compounds around the Bay Area.

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implementation. The Air District will focus on community-level GHG reduction by meeting with local governments, community organizations, and other funders to identify needs and opportunities. Potential areas of collaboration with cities and groups in Marin include vehicle programs, low-carbon buildings, and the development and implementation of model ordinances. The Air District has developed a toolkit and a model solar ordinance for new construction.

The Air District also plans to launch a Technology Implementation Office to serve as a catalyst for local innovation. A number of promising initiatives that could move forward under that office's umbrella. Young noted zero emission vehicles, smart/connected technologies, zero emission energy generation, and efficiency technologies. Carbon farming, actively championed in Marin, is also an important technological frontier. The Air District plans to host a technology forum in the last quarter of 2017.

Abby Young's powerpoint presentation is available on the MCL website.

UGB *from page 2*

into the southern Hamilton neighborhood; an area near Bel Marin Keys Industrial Park; the west end of Center Road and Wild Horse Valley; and the Rush Creek neighborhood.

Novato also includes four major unincorporated neighborhoods that continue to champion their independence from the city – Black Point, Green Point, Bel Marin Keys and Indian Valley communities. They lie outside both the UGB and the Sphere of Influence and will continue to be governed by their own community plans within the county's jurisdiction.

UGB on the November 2017 ballot

In November, Novato voters will have an opportunity to renew the UGB. The Novato City Council recently voted unanimously to put the measure on the ballot. Having a measure approved by the voters prevents the City Council from changing the boundary without community support. Only a few changes to the boundary have been allowed by the City Council since 1997, for health, safety and welfare reasons.

The new ballot measure to renew the UGB, if approved by the voters, differs slightly from the original measure. The term will be for 25 years instead of 20. Exceptions for new development outside the boundary requiring urban services (such as sewers) will include some deed restrictions. For example, if the City received a request by a property owner whose undeveloped property is outside the UGB but within 400ft. of a sewer line, the city could grant an exception if the property owner signed a deed restriction barring development of more than one house and an accessory unit.

Valuable agricultural lands around the periphery of Novato can be protected much better with the UGB, which the county has pledged to support. The community separators (or green spaces) between Novato and San Rafael and between Novato and the Sonoma County line will also be preserved. At the same time, plenty of land within the corporate limits of Novato remains available for all categories of housing, commercial, industrial and offices uses. Bob Brown, Novato Community Development Director, confirms that appropriately zoned lands within the city are sufficient to meet the next round of affordable housing requirements.

The Marin Conservation League endorses this measure. The North Marin Unit of MCL has been a long time champion of the Novato UGB.

MCL joins suit against Marin County Open Space District

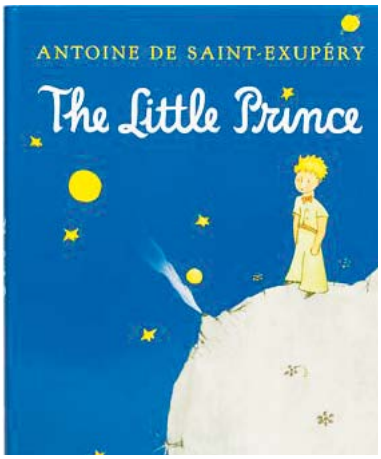
At Newsletter press time, MCL had recently joined Marin Audubon Society (MAS) and the California Native Plant Society (CNPS), Marin Chapter, in a lawsuit that charges the Marin County Open Space District (MCOSD) with failing to comply with requirements of the California Environmental Quality Act before approving the Hunt Camp Trail Improvement project in Giacomini Open Space Preserve. The project is one of numerous projects being implemented by the MCOSD under the Road and Trail Management Plan. The petition, filed on August 10, contends that the MCOSD failed to prepare the appropriate Initial Study and either a Negative Declaration or an EIR that analyzes the impacts of recreational use promoted by improving the trail to the endangered Northern Spotted Owl, nine rare plant species, and other sensitive natural resources.

The proposed project lies almost entirely within the Legacy Zone of the preserve, a vegetation zone that MCOSD defines as supporting "unique or irreplaceable remnants of natural biological diversity" and describes as serving as a "sanctuary for natural resources that otherwise could be permanently lost from Marin, California, and the world." MCL, MAS, and CNPS believe that the District should observe its well-founded policies by affording maximum protection for its most sensitive lands.

Nature Note: Japanese knotweed, a new invader

by Kate Powers

In the popular 1943 French novella, The Little Prince, formidable baobab trees appear small and harmless while they're young, yet pose a great danger and threaten destruction to the prince's tiny planet, through their roots, if left neglected. Is it possible the invasive ornamental, Japanese knotweed, could become the baobab of Marin watersheds? The answer, unfortunately, is yes.



Japanese knotweed, *Fallopia japonica*, is a perennial herb with shoots strong enough to push through small cracks in asphalt and concrete. The shoots become long hollow stems similar to bamboo. Knotweed emerges early in spring, grows vigorously (up to 12 feet high in one year) and creates dense colonies. It has large, heart-shaped leaves and typically produces tiny white flowers on racemes between August and October.

While it can survive in many soil types, and in wide ranges of pH and salinity, knotweed thrives best in sunny spots along riparian areas, forest edges, and in other disturbed moist soils although, interestingly, not necessarily in undisturbed forests. It reproduces through fast-growing rhizomes and spreads quickly. Even small fragments of knotweed rhizomes vigorously develop into new plants. Colonies of knotweed occur along roadsides where rhizome fragments are carried by vehicles or along riparian areas where fragments are transported by water.

Japanese knotweed: one of the world's worst invasive species

Knotweed is native to Asia. In Japan it grows widely and is foraged for food and medicinal uses. It was carried to Holland in the late 19th century, became established in other parts of Europe, and now is considered by the World Conservation Union to be the world's worst invasive species. In the US it has spread into the Northeast as well as the northern Midwest. It's also rapidly becoming widespread in the wetlands, marshes, and riparian forests of the Pacific Northwest.

After its discovery in Marin in 2011, local National Park Service and County staff began mapping its locations in their "Early Detection/Rapid Response" programs. To date it's been spotted along San Geronimo Creek near Two Bird Cafe, and in several locations along Lagunitas Creek in Samuel P. Taylor Park.

Marin's knotweed populations have the potential to spread widely and to significantly diminish the value of local riparian habitat for fish and wildlife by impeding water flow, clogging small tributaries, and inhibiting fish passage. With its large foliage, knotweed shades and out-competes native vegetation, replacing native leaf litter important to stream ecosystems. Knotweed leaf litter has a higher carbon ratio than native plants and provides less nutritional value for aquatic insects than litter from natives like alder or willow. Knotweed can also create or increase erosion, and has the potential to become a flood hazard.

Because of its large rhizomes, which can extend 23 feet across and almost 10 feet deep, removing knotweed by excavation is extremely difficult. Knotweed vigorously resprouts from its roots after being cut. For effective eradication, rhizomes must be completely removed or killed by an appropriate herbicide and/or the contaminated soil sterilized. Safe disposal of all plant parts is critical to long term success. Composting with other plant material is not an option.

Clackamas River Basin Council

Japanese knotweed can be devastating to both the natural and built environment.

Marin land managers are responding rapidly to early detection of Japanese knotweed. However, this menacing species requires rapid response on a community-wide basis, starting at the top of an affected watershed and moving downstream. This will require a coordinated effort between public agencies and private landowners and must include long term monitoring.

The Little Prince pulled young Baobab shoots - a morning routine for his planet. So too must Japanese knotweed in Marin garner meticulous attention, lest it spiral out of control and lead to watershed devastation.

If you think you detect Japanese knotweed in your watershed, don't pull! Instead contact Sarah Phillips, Marin's Urban Stream Coordinator at the Marin Resource Conservation District: sarah@marinrcd.org

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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

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Editor: Nona Dennis
Design and Production: Kirsten Nolan
Printed in San Rafael on recycled paper.
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NEWS FROM MARIN CONSERVATION LEAGUE

Non-Profit Organization
U.S. POSTAGE PAID
Permit No. 151
San Rafael, CA

September—October 2017

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