

## Restoring coho habitat—one project at a time

by Nona Dennis

Environmental news in Marin media has been dominated recently by the precipitous decline of the endangered coho salmon and the need for the County to better protect salmonid habitat within the Lagunitas Creek watershed. The main focus has been on the tributary San Geronimo Creek, which provides some of the best remaining spawning and rearing habitat for coho salmon in California and is under particular stress.

*Sediment from dirt roads is the most significant cause of stream habitat degradation*

Over decades, the rural communities of Woodacre, San Geronimo, Forest Knolls, and Lagunitas have gradually developed along and surrounding the Creek and its smaller tributaries, contributing along with many other factors to serious decline of the fishery. Willis Evans, now deceased Marin resident, fisheries biologist and activist once said: "Every road and every driveway means flood runoff is greater in winter, and sustained flows in summer

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## Southern Marin Pilot Study

# Planning for sea level rise



Dru Parker

*A Golden Gate Transit bus negotiates the flooded Manzanita parking lot in Tam Valley during the December 2013 King Tide event.*

*Much of the parking lot was closed for nearly a week to prevent commuters' vehicles from flooding during the six-to-seven foot tides.*

by Nona Dennis

Few question that the San Francisco Bay shoreline is vulnerable to rising sea levels anticipated in this century. In spring of 2012, Will Travis, recently retired as Executive Director of San Francisco Bay Conservation and Development Commission (BCDC), outlined for an MCL audience the efforts made by the Commission over a half a dozen years to bring sea level rise into the consciousness of local jurisdictions and industry surrounding the Bay. Although it was a hard sell, BCDC was able to introduce climate change into Bay Plan policies and initiate some efforts toward local action in the region.

The scenarios for sea level rise BCDC put forward for purposes of regional planning are roughly a 16-inch rise at mid-century and a 55-inch rise by 2100, subject, however, to wide variation. Recent research now suggests that we also plan for abrupt changes within the climate system itself, as conditions cross thresholds in both natural and human systems and reach tipping points at which gradual climate changes become rapid.

*What is Marin doing to plan for sea level rise?*

A question frequently asked is: "What is

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## A Message from the President



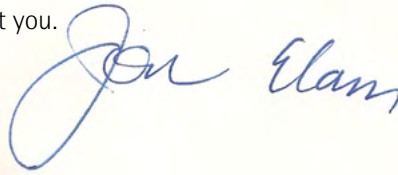
Welcome to our first Newsletter of the New Year, and a Happy New Year! This is my first "Message" as the new President of MCL. It is a remarkable honor to serve as

President of MCL, and I will give it my best to keep you, our members and supporters, in the forefront of our thoughts and actions. I look forward to meeting you at our events; please join in the fun and work, and you will meet some very interesting people.

In news updates, the MCL Board of Directors ended 2013 by adopting a budget for the coming year that continues to show a healthy projection for revenues and expenses, in spite of a changing picture for non-profit organizations' building of new memberships. We are led by our able Operations Manager Dru Parker, assisted by Shannon Doherty. They are always available to keep in touch with our members and to answer your questions, or refer questions on environmental issues to appropriate members of the Board. We work out of our office at 175 Redwood Drive (Suite 135) in North San Rafael, where we also host, in addition to Board meetings, committee meetings and meetings with collaborators as well as presentations on current environmental topics and social events

like the popular Picnic-on-the-Patio and Holiday Party.

MCL always has many activities in play! Recently we supported the City of Novato's proposal to create a Mello-Roos Tax district to enable acquisition of a privately-owned meadow in Pacheco Valle, a long-sought addition to open space. We supported the County's Interim Stream Conservation Area Ordinance and associated Work Program before the Board of Supervisors. We continue to track the proposed development of Easton Pt. on a highly constrained Martha Co. site on Tiburon Point, which has an almost 40-year history. From the contentious Redwood Land fill and GROSS Field's proposed runway extension in North Marin, to preparing for the effects of future sea level rise on the urbanized shoreline of Richardson Bay, to supporting watershed restoration on County Open Space lands to enhance coho salmon habitat in San Geronimo Creek—the list could go on—MCL members are leading the fight. If you're not part of the action please join in, at a minimum by renewing your membership for 2014 and increasing your donations. Thanks for your support and please let's keep in touch! We are doing important work that could not be done without you.



## Marin Loses Three Advocates for the Environment in 2013

In 2013, Marin lost three people who served the environment in different ways. We have already written about **Karen Nygren's** contributions to education and the environment (MCL November-December *Newsletter*).

Fairfax resident **Nancy Helmers** also was a model of community activism and volunteer public service. She was a long time member of the Marin Conservation League, the Sierra Club and It's Time for a Park at MT&CC, and a graduate of Marin Environmental Forum. She was former Supervisor Hal Brown's appointee from District 2 to the Marin County Parks, Open Space & Cultural Services Commission where she served from 1994 to 2004. This was in addition to her professional career as a chemist at UCSF Medical Center from 1969 until retirement in 1996. In recent years, Nancy's home high atop Manor Hill in Fairfax afforded a commanding view of her beloved Mt. Tamalpais and was her sanctuary until her death on November 21, 2013.

Serving the environment in a totally different capacity, Point Reyes National Seashore "Trail Foreman" **Bill Michaels** also passed away in November, shortly after retiring in March, 2013, after 31 years of service with the Seashore. He left a legacy of some 140 miles of maintained trails for future generations to enjoy. Bill started as a seasonal employee in 1982 and soon became full-time. During his career he established the Youth Conservation Corps trails program and Adopt-A-Trail program. He supervised over 270 YCC participants and many seasonal aides, and he inspired thousands of volunteers to assist at the Seashore over the years.

*The Pacheco Valle Meadow, currently zoned light industrial/commercial, is under contract to Marin Open Space Trust. Final purchase requires Pacheco Valle resident approval at the April polls.*



Dru Parker



## Status Updates

### Martha Company ("Easton Pt."), Tiburon

In a move that surprised many observers, the Board of Supervisors voted on October 22 to reject certification of the Final EIR for this controversial project on **Tiburon Ridge**, citing the need to address continuing deficiencies in environmental review. (See also MCL [September–October Newsletter](#).)

As recorded in minutes of that meeting, Supervisor Kate Sears, whose District 3 includes the project site, requested that staff and consultants expand the discussion of traffic impacts during school peak hours to better understand traffic circulation conditions on Tiburon Boulevard; reexamine assumptions behind the number of construction truck trips related to future home construction and review the number of truck trips for carrying out cut material during project construction; further clarify traffic impacts on the Hill Haven neighborhood if the construction access road were eliminated under alternative #2; further analyze post-construction emergency vehicle access and emergency evacuation routes; further analyze the adequacy of water pressure and fire flow associated with water tank construction at three possible base elevations; and clarify how the construction road will be widened and the impacts of that widening.

These and other issues, such as the absence of an alternative that examines smaller lots and residences, and the failure to adequately mitigate impacts to spring water that supports habitat for the endangered California red-legged frog (pictured, below left) on property below the site, continue to make this project unsupportable.



[Tony P. Iwano / Flickr Creative Commons](#)

*Gnoss Field lies at just three feet above mean sea level.*



*Dru Parker*

In December, the Board approved contract funds for additional analysis, and will conduct a public hearing on the amended Final Environmental Impact Report (FEIR) on February 25, 2014. —Nona Dennis

### Gnoss Field Runway Extension, Novato

Environmental review for Gnoss Field runway extension is finally nearing conclusion with the release of the Final EIR last November. The planning process began in 1997 when an Airport Master Plan was adopted by the county along with a Program EIR. Some changes were made to the airport facilities after that, but no other EIRs were done until it was decided to extend the runway 1100 feet for operational reasons. The Federal Aviation Administration (FAA) determined that a federal environmental document (EIS) would also be needed. The work on these documents began in 2008. The Draft EIR and EIS came out in 2011. (See MCL January–February *Newsletter*.) Many issues identified by agencies, organizations and individuals in the Draft EIR have been responded to in the recent Final EIR.

Extending the runway 1100 feet will create a 4400 foot runway, which was adopted in the Countywide General Plan in 2007. It was determined that a 4400 foot runway is needed because the "critical aircraft" of the fleet of airplanes based at Gnoss Field is a Cessna 525, which cannot operate efficiently on a 3300-foot runway. On

warm days the Cessna 525 cannot take off with a full load of either passengers or fuel from Gnoss Field. That necessitates landing at another airport to load additional fuel or passengers. The nearby airports with runways longer than 3300 feet are Sonoma County Airport and Napa Airport.

The DEIR reviewed three alternatives: Alternative A, the No Project; Alternative B, 1100 feet added to the northwest end of the existing runway (Preferred alternative); and Alternative D, adding 240 feet to the southeast end of the runway plus 860 feet to the northwest. The United States Environmental Protection Agency (EPA) recommended analysis of runway shorter than 4400 feet.

*A site for mitigating filling of the wetlands should be close to the airport.*

Since the extension would require filling wetlands on the low-lying airport site, MCL wrote to encourage that the filling of wetlands be mitigated close to the airport and not in other counties miles away from the area of impact, as recommended in the EIR. MCL also requested that the potential changes in the composition of aircraft fleet be discussed and associated impacts analyzed.

Other issues raised by MCL included the need to consider the impact of sea level rise on the extension, as well as impacts on water quality in nearby Petaluma River Marsh and Black John Slough, and noise impacts

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## Events

### Holiday party

More than eighty MCL members and their guests attended the annual holiday party on December 13<sup>th</sup> and contributed a barrel of food to the Marin Food Bank. Many thanks to [Nicasio Valley Cheese Co.](#) for its generous donation and to all the MCL directors and staff for the food, decorations and general congeniality. See

*Clockwise from right: Carole Mills, Chris Rogers; Joe Cillo, Mary Buttaro; Mary Wendt; Doug Lee, Don Dickenson; Kiki LaPorta, Raphael Durr. For more pictures, visit our [Facebook](#) page.*



photos by Jana Haehl



Leslie Sophia Lindell

### Walk Into (Conservation) History Cypress Grove, Marshall Saturday, March 1, 2014, 9:30 am–1:00 pm

MCL continues its series of **Walks into the Conservation History of Marin County** at the lovely [Cypress Grove Research Center](#) of Audubon Canyon Ranch on Tomales Bay. Donated to ACR by Clifford Conly, the once-private residence and cypress grove now serve as the science research center for the complex of ACR properties. Nearby is the marsh that was dedicated to MCL co-founder Caroline Livermore on her death in 1968.

We will hear the history of acquisition and conserving of ACR properties and enjoy late winter birds on Tomales Bay shoreline with **Dr. John Kelly**, Director of Conservation Science for ACR.

**Details:** Drive 9 miles north on State Highway One from Pt. Reyes Station to Marshall. The entry gate to Cypress Grove is ½ mile north of Marshall and marked with "20545" address and the ACR green-and-white egret logo. Enter gate and continue on road, taking left-hand fork to parking area, and gather there.

We will do a leisurely one mile loop trail, and gather for brown bag lunch and talk in the Conly Center. Heavy rain cancels. Wear layers and bring your lunch, camera and binocs!

Please register for this FREE walk at [marinconservationleague.org/events](http://marinconservationleague.org/events) or call 415-485-6257.



# Good news for juvenile coho salmon

By Ann Thomas

A record number of young coho and steelhead observed in the Lagunitas Creek watershed this fall was good news about ongoing efforts to rebuild Marin's salmon population, which is substantially below historic levels. The survey of salmonid juveniles, conducted annually by Marin Municipal Water District fisheries staff, this year estimated that there were almost 37,000 coho and 65,000 steelhead juveniles in Lagunitas and San Geronimo Creeks, and Devil's Gulch. The coho estimate is one of the highest documented since the water district began these counts in 1993. The steelhead estimate was well above average.

Separate surveys by National Park Service fisheries staff estimated about 13,000 young coho in Olema Creek, raising the total estimated number of coho juveniles to about 50,000 for the entire Lagunitas Creek watershed.

"Almost everywhere we looked we saw coho fry," said MMWD Aquatic Ecologist Eric Ettlinger who worked with MMWD Fishery Program Manager Greg Andrew to conduct the survey.

*"Almost everywhere we looked we saw coho fry."*

MMWD's fisheries activities on Lagunitas Creek began in the mid-1970s when the district sought state approval to raise Peters Dam, which forms Kent Lake; the lake holds a major part of the district water supply. As part of the permitting process, the State Water Resources Control Board required steps to address impacts downstream on coho salmon, steelhead trout, and California freshwater shrimp. In 1997 this process resulted in the Lagunitas Creek Sediment and Riparian Management Plan, a governing document which requires the water district to maintain minimum stream flows to support Coho and steelhead, implement habitat enhancement projects, and track population trends.



*Juvenile coho salmon*

*John R. McMillan, NOAA Fisheries*

Most land along mainstem Lagunitas Creek is publicly owned by landowners including MMWD, California State Parks, and the National Parks Service (NPS). The water district partners with other public agencies, local non-profit groups, and private landowners, to improve fishery resources in the watershed.

The water district staff survey juvenile salmonids annually at almost 20 sites, along the mainstem of Lagunitas Creek, in Devil's Gulch, and in San Geronimo Creek. This year's juvenile survey also counted 142 coho in Walker Creek, the northern neighbor to Lagunitas Creek, where the California Department of Fish and Wildlife has been attempting to reintroduce coho salmon for more than a decade. The fisheries staff members do fall and winter surveys of adult salmon as well, and also monitor freshwater shrimp, as required by the management plan.

The juveniles observed this fall are the offspring of last winter's spawning adults, fish that had returned to the watershed in 2012 from the ocean. These youngsters will spend months growing larger and stronger from nutrients in the creeks, and in the Tomales Bay estuary, then head out to the open ocean waters in the spring. It is not known to what extent the

young coho migrate from the watershed into the estuary during this period, an aspect of their life cycle currently being studied by water district biologists.

Spawning salmonids lay thousands of eggs and district staff estimated that the 2013 juvenile survey represents about seven percent survival from last winter's spawning. Although it is not possible to extrapolate from juvenile numbers to how many will make it into the ocean or return as adults, the 2013 survey numbers should be cause for moderate celebration.

MCL has a seat on the Lagunitas Creek Technical Advisory Committee, which advises the water district's board of directors on Plan implementation but which has also become a forum for discussion of other issues pertaining to the Lagunitas Creek watershed.

*Ann Thomas is MCL's representative to the Lagunitas Creek Technical Advisory Committee.*



# Managing Rangeland in California and Marin

by Judy Teichman

Range management planning begins with a goal. That was the underlying message at a meeting of the California-Pacific Section of the Society for Range Management held at the Point Reyes National Seashore's "Red Barn" on November 26, 2013. Along with range managers from around the State, the audience included ranchers from the Seashore as well as Seashore staff. It was an appropriate locale for such a meeting, given that grazing livestock represents 90 percent of Marin County's agricultural acreage, and that grazing operations at the Seashore play a significant role in Marin's agricultural economy.

## *Grazing livestock represents 90% of Marin County's agricultural acreage*

Speakers during the day revealed that cattle grazing operations around the state confront formidable economic obstacles to remain viable. At the same time, a "working (grazed) landscape" can fulfill multiple goals, including benefits like ecosystem services, food production, preservation of view sheds and heritage values, fire fuel load reduction, wildlife habitat and the potential for carbon sequestration (See MCL November-December Newsletter). Managing for these benefits on public, in contrast to private, lands presents particular opportunities and challenges. Following are some of the highlights of the day.

## *Economic Challenges*

In talking on the economics of beef cattle ranching, Shasta County Farm Advisor Larry Forero presented the startling reality that real estate values in California, not just Marin County, are so high that land cannot be purchased based on its grazing value alone. He described operations devoted to livestock grazing as a triangle consisting of feed/forage, animals and finances. Anything that affects one side of the triangle affects all sides of the triangle. For example, recent

skyrocketing costs of hay means that to stay alive financially the rancher has either to generate more income from the beef sold or reduce the size of the herd. Cattle sold early in the year, before the grass dries up and feed costs are down, weigh less and therefore bring less income.

To survive in California's economy livestock operations have to differentiate their product in the market place, reduce their production costs or, when possible, graze on public lands where the ecological and social benefits of their operation can be taken into account in setting the lease rate. Niche markets are another way to overcome economic hurdles, for example, organic or locally raised grass-fed beef and direct sales to consumers, which is how Marin rancher and MCL Board member Sally Gale and her husband, Mike Gale, have marketed their beef and other livestock.

## *Multiple Benefits of Working Rangeland*

U.C. Berkeley Professor Lynn Huntsinger refers to ranches as "social ecological systems." She emphasized that rangeland planning must begin at a broad landscape level, but that at the ranch level of planning it's the interaction of the people with the ecosystem that produces tangible benefits. Ranchers like to produce things and are proud of what they produce. Cultural

## *Ranches are "social-ecological" systems*

heritage, living near "natural beauty," and stewardship of the land are important values. So are autonomy and the ability to innovate. Many ranchers, she said, object to having ranches referred to as "open space"; it implies that land is not 'working,' is not 'used,' is not really being cared for.

At the *pasture level* of management, ecosystem "engineering" can benefit



Amelia Ryan, National Park Service

*Top: the endangered Sonoma Spineflower (Chorizanthe valida), a member of the buckwheat family; Bottom: the endangered/threatened California Tiger Salamander (Ambystoma californiense)*



Robert Fletcher, Ohlone Preserve Conservation Bank

wildlife species. Using the endangered tiger salamander as an example, Huntsinger noted that ranchers in San Francisco East Bay space water sources for cattle about a mile apart. Turns out that this is about the distance a tiger salamander travels when it moves from pool to pool. This beautiful amphibian ordinarily thrives in unique—and now extremely rare—habitats like vernal pools and similar water bodies in grasslands. Because of financial incentives to provide habitat for tiger salamanders, one East Bay rancher said, "Tiger salamanders are the

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## Rangeland *from [page 6](#)*

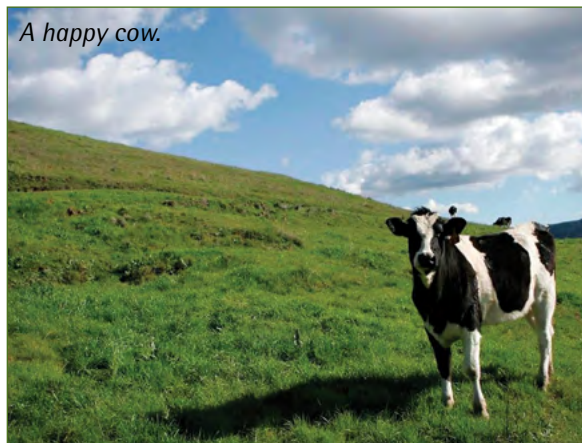
most lucrative livestock I've ever raised!"

Point Blue Ecologist Ryan DiGaudio used "A Bird's Eye View of Grasslands and Shrublands on the California Coast" to describe rangeland management and habitat succession. (Point Blue is the former PRBO Conservation Science.) DiGaudio monitored changes in the bird population over three decades that correspond with succession from grasslands to shrubs to forest.

To illustrate the importance of grazing for grassland birds, he compared grazed grasslands at the 1,200 acre Jenner Headlands Preserve, which has been continuously grazed for over 100 years and supports four species of nesting grassland birds, to the grasslands of comparable size at Sonoma State Coast Park, which have not been grazed in the last 20 years and have significantly more thatch buildup and shrub cover and less bare ground than Jenner Headlands, conditions that exclude certain grassland bird species. The State Park has just one nesting species.

Cattle grazing can also benefit some types of native plants, particularly annual broad-leaved herbaceous plants, as MCL Board members heard on their visit to the West Marin Carbon Project site September (MCL [November-December Newsletter](#)). Seashore Wetland Ecologist and Botanist Amelia Ryan reported that ranched grassland ecosystems on the Seashore are particularly diverse, with 44 known rare plant species. For example, the endangered Sonoma Spineflower and Sonoma *Alopecurus* both benefit from grazing. The hypothesis is that cattle grazing eliminates competition for soil nutrients and light.

The Spineflower occurs on one remaining three-acre site in the Seashore. In 1988, small plots in the population were experimentally fenced out to exclude cattle. A similar experiment was conducted with the Sonoma *Alopecurus*, which cattle find very palatable. In both instances, populations declined after cattle were removed to protect them. Because the causal relationship between these plants and grazing is not precisely established, Ryan is conducting a study to better understand how cattle affect these species, and, therefore, understand how to manage rangeland optimally for the species.



*A happy cow.*

*Paige Green, courtesy Marin Agricultural Land Trust*

### *Managing Rangeland on Public Lands*

According to Sonoma County Farm Advisor Stephanie Larson, a number of benefits can accrue from grazing leases on public land.

#### *Interaction of ranchers with the ecosystem produces benefits*

She refers to these as "presence, stewardship and infrastructure maintenance." Having a rancher present on the land, for example, reduces the likelihood of illegal marijuana "grows." As stewards, ranchers can optimize specific natural features of the land in managing both the ranch and the pastures. Maintaining ranch roads for access is an example of an infrastructure benefit. Larson said several East Bay public land agencies take such conservation services into account in setting their rental rates. Leasing public lands for grazing also presents challenges. As an example, Santa Clara County Livestock and

Natural Resource Advisor Sheila Barry told of an agency removing cattle from an area adjacent to a housing development in response to community complaints, only to have other neighbors complain later that without the cattle the fire fuel load was a danger. Barry also tested public interest in allowing cattle to graze on public land by posting photographs of cattle on public lands on the web. Only 5 percent of the responses expressed fear, and 2 percent were actually negative. For the majority of responders, the "happy cow" ads obtained a positive response!

The day concluded with a panel discussion: "Thinking About Elk." Seashore Wildlife Biologist David Press gave a brief background on the elk herds at the Seashore and identified specific steps being taken to reduce the impact of one of the herds on ranches in the pastoral zone. He said that a two-year planning effort will be announced early in 2014. UC Berkeley Professor Dale McCullough recounted his 1960s recommendation to reintroduce the once-native elk to the Seashore. His UC Berkeley colleague Jamie Bartolome reviewed how land management in the pastoral zone over many years has reflected often-changing management goals, beginning with the Miwoks' regularly burning of the vegetation, to today's multiple demands in managing public lands. Farm Advisor Larson noted that the growing elk herd is having an economic impact on some ranchers now and

could threaten their future economic viability while the Seashore conducts a two-year planning and environmental review process. The panel left this issue unresolved.

The meeting closed with hearty thanks to Seashore Superintendent Cicely Muldoon and Range Manager Devii Rao for hosting the event. For a County whose extensive rangelands dominate the landscape of West and Northwest Marin, it was an apt and informative meeting.



*photo courtesy John A. Dell'Oso, PRNS*

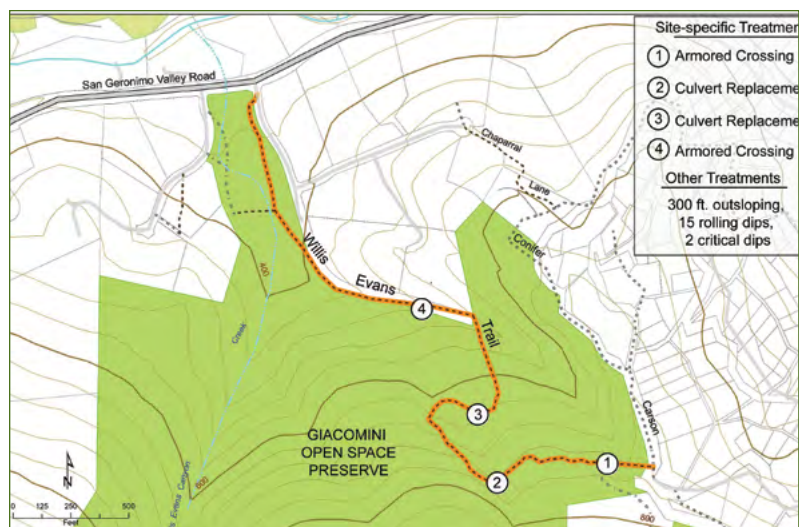
*Authorities pack up a huge pile of illegal marijuana grow debris that was airlifted out of national parklands.*

## Coho habitat *from page 1*

and fall don't occur as they once did." The recent Interim Stream Conservation Area Ordinance passed by the Board of Supervisors in late October and temporarily in limbo due to legal challenge, was intended to codify stream protections in the San Geronimo Creek and other watersheds throughout the County (see page 11).

In the meantime, little has been said in the media about other ongoing actions in the watershed to improve salmonid habitat. While many conditions affect the viability of the coho, excess sediment has been found to be the single most important cause of stream habitat degradation, and dirt roads present the most significant causes of erosion and sources of fine sediments. The entire Lagunitas Creek watershed, including San Geronimo Valley, is crisscrossed by unpaved fire roads, ranch roads, former logging roads; all are sources of chronic, and on occasion catastrophic, delivery of sediment into San Geronimo Creek. Yet while individual restoration projects to correct this problem continue largely "under the radar," each project adds incrementally to the cumulative improvement of the stream habitat for coho.

To better understand restoration techniques and their intended reduction of sediment for the benefit of stream habitats and water quality, a group of MCL members recently toured one such project—a road and trail restoration project on the Marin County Open Space District's Giacomini Open Space Preserve. They were led by MCOSD Natural Resource Specialist Matt Sagues, who has been heavily involved in this and similar



Map courtesy Marin County Parks

*The area of the Willis Evans Trail restoration project in the Giacomini Open Space Preserve*

projects for the District.

The 1,476-acre Giacomini OSP occupies twenty-five percent of the San Geronimo Creek watershed, which puts substantial responsibility on the District's shoulders to improve habitat. To this end, MCOSD embarked on a multi-year effort to correct and improve the condition of fire roads and trails on the Preserve. In 2007, the District conducted a road and trail assessment to identify current and potential erosion problems in the San Geronimo Creek watershed. They found 112 sites that threatened both water quality and salmonid habitat. Since 2008, the District has received funding from the California Department of Fish and Wildlife's Fisheries Restoration Grant Program to implement three phases of road and trail projects covering 84 of the original 112 sites. These projects are just one part of a larger comprehensive and collaborative effort being made by MCOSD and the Marin County Department of Public Works Fish Passage Program, along with

local entities such as SPAWN and MMWD, to restore Lagunitas watershed and tributaries in the San Geronimo Valley by reducing sediment delivery from unpaved roads.

MCOSD initiated a project in 2011 to convert a heavily eroded old logging road in forested Bates Canyon, inherited in the acquisition of the land, to a multi-use trail. The trail that resulted was renamed to honor Willis Evans, who devoted his professional career and personal life working to preserve coastal stream and restore degraded fisheries. The basic goal of the Willis Evans project has been to use established sediment reduction techniques to hydrologically disconnect the failing unpaved road from streams, and thereby reduce erosion and return discharge of water and sediments to more natural background rates. They did this initially by bringing in a bulldozer, excavator, and roller to physically reshape the road, transforming sections of insloped road (which tends to concentrate erosive flows in roadside ditches) to an outslowed pitch (which disperses the flow more naturally across the contour of the hillslope).

They also introduced so-called "rolling dips" to intercept and direct downslope drainage. Undersized and/or blocked culverts were either replaced with culverts designed to handle flows from 100-year storms, or with armored (rock) crossings which mimic natural stream crossings. Much of the woody vegetation cut during excavation was placed on down slopes, to minimize erosion of newly bared slopes, pending revegetation,



*Natural Resource Specialist Matt Sagues shows an area where cut woody vegetation has been placed on the downslope to minimize erosion.*

Ann Thomas

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## Coho habitat *from [page 9](#)*



*Dru Parker*

*"Rolling dips" intercept and redirect downslope drainage.*

and to further disperse drainage. Silt fences were installed for temporary entrapment of sediment.

*The project is slowly returning to a more natural look as it recovers*

These measures appear initially to be brutal, baring earth and temporarily removing all herbaceous vegetation such as ferns, grasses, and other woodland plants. Prior to grading, some of this vegetation was salvaged for replanting. The project is now about two years old, and with the help of transplanted as well as natural revegetation, is slowly returning to a more natural look as it recovers.

The plan was carried out under the guidance of California Department of Fish and Wildlife, and will be monitored by Department biologists annually for five years during recovery. Additional replanting has been carried out with the help of SPAWN. According to Matt, District sediment reduction projects since 2008 in the Valley have prevented 9,000 cubic yards of chronic sediment from delivery to San Geronimo Creek. This was the intended goal; one at a time, projects such as this can yield a significant cumulative benefit to coho habitat.

## Sea level rise *from [page 1](#)*

Marin County doing to *plan* for sea level rise besides just talking about it?" Are vulnerable jurisdictions collaborating to consider coordinated solutions? There is now some movement forward. Last year, 3rd District Supervisor Kate Sears convened a Steering Committee made up of a diverse group of a dozen citizens to begin an on-the-ground assessment of what we can expect as sea levels rise around Richardson Bay in this century: Sea Level Rise Pilot Study: Southern Marin. The committee seeks to discover what assets are at risk, and what kinds of solutions are technically, socially, and politically feasible.

Even now, periodic "King Tide" events, such as witnessed New Year's Eve, are notorious for flooding Highway One exits from Hwy 101 and closing down the Manzanita parking lot, an important Southern Marin transportation connection point. Similarly at risk are Marin City, The Redwoods senior housing facility, established post-WWII residential neighborhoods of Tamalpais Valley, and the Southern Marin Sewerage Agency treatment facilities. These areas in Southern Marin adjacent to Richardson Bay are particularly susceptible to flooding because the Bay is very shallow and supports the tidal wetlands of Bothin Marsh. It is also surrounded by steep watersheds that drain into the floodplain and the Bay, contributing to an already bad flooding situation.

### *Technical Problems and Adaptive Strategies*

With this complex of "problem" conditions, Richardson Bay is in many respects an ideal location for Supervisor Sears' pilot study. The adaptive capacity of Richardson Bay is relatively low, due in part to the highly urbanized developed shoreline, and in part, to low sediment input to the bay. Roger Leventhal, Marin County Public Works engineer who has been studying sea level rise in Richardson Bay, states that sediment is almost more important than sea level in determining the capacity of an area to adapt to sea level rise. Richardson Bay watershed yields low levels

of sediment. The surrounding developed land use makes structural solutions like massive levee realignment or engineered sea wall politically and socially challenging, while the low suspended sediment levels make nature-based flood protection strategies like marsh and horizontal levees technically challenging.

Point Blue Conservation Science (formerly PRBO Conservation Science) has studied various benefits of natural systems such as horizontal levees for flood control and also described the natural sediment process. The concept of engineered sediment placement may become a future pilot project at Bothin Marsh. Dredge material has been placed on Montezuma and Sonoma Baylands to recreate vegetated tidal marsh; and the Aramburu Island Beach Demonstration Project built in Richardson Bay in 2011-2012 with funds from the 2007 Cosco-Busan Oil Spill, will test materials like wood micro-groins, oyster shell hash, gravels and sand that are used to build up the wetland or create horizontal levees.

### *Citizens Steering Committee Studies the Issues*

A main goal of the Southern Marin Shoreline Study is to provide the engineering foundation for adaptation planning for sea level rise, such as physical options and constraints, cost ranges, anticipated impacts, permit issues, and so on. But Leventhal makes the point that while engineering can support future strategies and policies, community planning, education and engagement are crucial. That is where the Southern Marin Shoreline Study Steering Committee fits in. The 12 member group spanning ages from high school to a senior resident of The Redwoods retirement community includes experienced environmental advocates, small business owners, a harbor manager, a third generation Marin County family, students and others. The group meets about once a month. In the six meetings to date it has accomplished its first main task: working as teams, the members have identified assets like transportation, housing, and businesses and their vulnerabilities and

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## Sea level rise *from page 9*

capacity to accommodate changes—i.e., their resiliency. The County's Community Development Agency has transformed the collected information into map overlays. The Committee has also been assisted by BCDC representatives, who are working on a similar study in the East Bay.

The next tasks involve developing a vision of the desired outcomes from diverse perspectives, and identifying, evaluating and prioritizing potential mitigation and adaptation strategies. Finally, the group will tackle the important task of making its findings available to the public in an effective way through use of social media and other forms of communication. Vicki Nichols, Sausalito Planning Commissioner, MCL Board officer, and Study Committee member, is enthusiastic about the process. She said: "We want to engage the public for support, input and shared solutions." The Committee also hopes its work will be a model that can be used in other jurisdictions and neighboring areas in the county.

*"Together, our actions  
will make a difference!"*

At MCL's recent Leaders Circle luncheon, Supervisor Sears reported on the Southern Marin Shoreline Study and on other projects underway around San Francisco Bay that address the range of climate issues—heat, sea level rise, extreme storms, water/energy shortages, price increases and ocean acidification—and their effect on ecosystems, human health, infrastructure, and the Bay Area economy. She concluded by saying: "Together our actions will make a difference!"



Supervisor Kate Sears

## Status updates *from page 3*

and operational safety. Most of these issues were addressed adequately in the Final EIR. The Final EIS has yet to be released, so final approvals are pending. —Susan Stompe

### Muir Woods Traffic and Parking

The National Park Service has taken a step towards resolving one of the main community concerns around its proposals to address the ongoing headache of traffic,

National Park Service



*Up to 475 cars can  
end up parking  
illegally on Frank  
Valley Road leading  
to Muir Woods  
National Monument,  
causing safety and  
water quality issues.*

congestion, and parking problems at Muir Woods National Monument. At a December 9 standing-room only meeting held by Supervisors Steve Kinsey and Kate Sears at Tamalpais Valley Elementary School, Kinsey opened the meeting by announcing that the Park Service had dropped the most controversial element of the project—the construction of a 180-car ancillary parking lot on Dias Ridge, off Panoramic Highway. This plan had been of grave concern to the surrounding communities who suffer the burden of constant traffic headed for Muir Woods and other Park attractions.

The purpose of the December 9 meeting was to hear from Tam Valley, Muir Beach, Panoramic, and other local community members and answer questions primarily about the County's role in regulating traffic and parking on Frank Valley Road. The County was considering a Memorandum of Understanding with the Park Service that would allow for sharing of responsibilities

for maintenance and regulation of traffic and parking on the road to Muir Woods. The language of the MOU was not revealed, but the Board of Supervisors is scheduled to review and possibly approve it on January 7, 2014. Supervisors were also expected to comment formally on other aspects of NPS plans at that time.

Muir Woods attracts almost a million visitors each year, and unprecedented crowds of visitors searching for parking in the limited lots create congestion. Up to 475 cars can end up parking illegally on the unimproved shoulder of the road. Conditions for both visitors and local traffic are patently unsafe,

and pollutants compromise water quality in the adjacent Redwood Creek

Beyond the removal of the parking lot on Panoramic, the two projects proposed by NPS for further study have not changed and continue to draw fire: 1) an automobile (parking) advance reservation system would be designed to spread visitor use away from weekends and peak hours but could actually increase total annual visitors by 46 percent, thereby extending traffic over longer periods in the day and week; and 2) a combination of site improvements at and near Muir Woods entry, could include regulation of unsafe parking along Frank Valley Road. Many critics say the current shuttle system, operating from Manzanita, could be expanded to include more distant points of visitor origin, such as in San Francisco's Presidio or Fisherman's Wharf. Details will be presented at another public meeting to be scheduled by NPS early in 2014.

*Continued on page 11*



## Status Updates *from [page 10](#)*

Critics continue to single out the most significant question confronting park planners—the need for an independent survey to determine optimum visitor capacity for Muir Woods and to put a cap on visitors on a daily, weekly and annual basis. The conclusion of MCL and many others is that a realistic cap is needed to ensure the long term health of Muir Woods as well as a positive visitor experience. NPS planning appears to be targeting attendance at 4,000 persons per day. Most critics believe that visitor numbers should be reduced rather than increased from the present.

These issues were debated previously over a period of two years (2003–2005), and there has been no noticeable shift in public opinions in the interim. At the next meeting, various options will have been consolidated into distinct alternatives to be the subject of an Environmental Assessment.

In the meantime, the Kinsey-Sears meeting did defuse tensions, but did not resolve the basic questions of County jurisdiction over Frank Valley Road or limiting the Monument's visitor capacity.

Public comment can be submitted to the National Park Service by January 11,

with copies to Assemblymember Marc Levine and Congressman Jared Huffman. Further information can be found at: [parkplanning.nps.gov/muwo\\_parking](http://parkplanning.nps.gov/muwo_parking), [parkplanning.nps.gov/muwo\\_access](http://parkplanning.nps.gov/muwo_access), and [mounttamtaskforce.com](http://mounttamtaskforce.com). —Nona Dennis

## Stream Conservation Area Interim Ordinance

What exactly did the Board of Supervisors approve at its overflow hearing on October 29, 2013? It approved an Interim Stream Conservation Area Ordinance that would apply to the entire unincorporated county except in the Coastal Zone. The Board also approved studies to support development of a permanent Ordinance within roughly two years.

The ordinance itself will not proceed, however, due to litigation filed on November 18, 2013 by the Salmon Protection and Watershed Network (SPAWN) and the Center for Biological Diversity. But, in adopting the Interim SCA Ordinance the Board of Supervisors complied with a court order, so the injunction on building permits in San Geronimo valley has been lifted.

As approved by the Board, County staff

will undertake a work program to include a focused review of current science, policies, and recommended management practices for ephemeral streams. This work is not affected by the lawsuit and is scheduled to begin in 2014.

In the meantime, pending resolution of the lawsuit, many have asked what protections are in place. The County's Development Code currently includes protections for streams and riparian habitat, such as permit requirements for alterations to stream beds and banks; drainage setbacks (generally 20 feet from the top of stream bank) in which structures are not permitted; compliance with Countywide Plan Policies intended to protect the hydraulic function, habitat value, and water quality of streams for any discretionary permit; Design Review requirements for development of any vacant lot adjacent to an anadromous (fish-bearing) stream; and preservation of native protected and heritage trees. For more information, see [co.marin.ca.us/sca](http://co.marin.ca.us/sca). —Nona Dennis

## Carneros Ranch Dredge Disposal Project

The plan for Port Sonoma to receive dredge materials from around the Bay over a period of 20 years and deposit them on historic, diked marshland and thus raise the elevation of 528-acre Carneros Ranch) on Highway 37, appears to be dead.

The project came to MCL's attention in early 2012, having somehow escaped environmental review by Sonoma County Board of Supervisors. (See MCL [January-February Newsletter](#).) Working with other organizations in Sonoma County, MCL was successful in gaining assurance that the applicant would fund preparation of an EIR.

An informal source reports that the applicant would like to sell Port Sonoma and that he is exploring a new project that would bring dredge material to the mouth of the Petaluma River for distribution to other fill sites. MCL will continue to monitor activities in the area. —Nona Dennis



David Fulmer/Flickr Creative Commons

*MCL believes the Park Service needs an independent evaluation of optimum visitor capacity for the Monument and a cap on the number of visitors in order to ensure protection of the old-growth redwoods and to maintain a positive visitor experience.*

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*Board of Directors meetings are held at  
7:30 PM on the 3<sup>rd</sup> Tuesday of the month at  
the MCL office and are open to the public.*

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### Committee Meeting Schedule (subject to change)

#### *Land Use and Transportation:*

1<sup>st</sup> Wed. of the month, 9:00 AM–Noon

#### *Parks and Open Space:*

2<sup>nd</sup> Thurs. of the month, 3:00–5:00 PM

*Water and Watersheds:* 4<sup>th</sup> Thurs. of  
the month, 4:00– 5:30 PM, San Rafael  
Corporate Center

*North Marin Unit:* Varies, check website

Marin Conservation League was founded in  
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County's natural assets.

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## Save the Date – Felicia Marcus to speak at MCL's Annual Dinner and Meeting on April 11 in Novato

**MCL** will celebrate its 80<sup>th</sup> Anniversary at the Annual Dinner on April 11, 2014 at the Key Room at Homeward Bound, Novato. We are proud to present Felicia Marcus, Chairperson of the State Water Resources Control Board, as keynote speaker.

Ms. Marcus is a life-long advocate for the environment. She started her career as a public interest lawyer and community organizer, and went on to public service (Regional Administrator, EPA Region 9, San Francisco) and then non-profit leadership (Trust for Public Lands; Natural Resources Defense Council). She returned to public service when Governor Brown appointed her to Chair the Water Board.

Don't miss hearing Chairperson Marcus at this important event. Tickets will go on sale in February, so save the date!



Felicia Marcus