Vegetation Management on Mount Tamalpais

by Ann Thomas

Marin Municipal Water District (MMWD) this past fall adopted a vegetation management plan for its watershed lands which continues its prohibition on herbicide use. This was done despite urging by Friends and other environmental groups that limited herbicide use was sometimes necessary for situations where other controls do not work.

The plan applies to about 22,000 acres of wildlands owned by the district, including most of the Mount Tamalpais watershed along with the shorelines of Nicasio and Soulajule reservoirs. Almost 20,000 acres are on Mount Tamalpais, the source of approximately 75% the county’s drinking water. Some areas drain to tributaries of Corte Madera Creek through Larkspur, Tamalpais, Ross, and Fairfax creeks, but these supply almost none of the domestic water.

The plan is described in a comprehensive report, the Biodiversity, Fire, and Fuels Integrated Plan (BFFIP), which was several years in preparation. The approved plan contains many good measures to confront the growing threats of fire risk, harmful invasive species that overrun natural habitat and threaten public health and safety, forest disease, and climate change. Actions include fuel break design and construction, tree thinning, burning, pile burning, grinding; and mulching, mowing, mechanical or hand removal of invasive weeds. A wildland strategy which excludes an herbicide option, however, will not only cost more but could fall short of its habitat protection and fire risk reduction goals.

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The Bridges of Marin County

by Sandy Guldman

In recent newsletters we have mentioned changes to bridges, but in this issue, we are devoting an entire article to bridge projects, both large and small. There is no romantic interest in this tale (that we know of), but some changes are coming. We’ll start downstream and move upstream, describing what’s happening now and what’s coming up.

Bon Air Bridge Replacement

Anyone who lives in the lower Ross Valley or visits MarinHealth Medical Center (formerly Marin General Hospital) or doctors on South Eliseo has encountered the traffic disruptions and large cranes. The need for this project was driven by erosion of key components of the bridge. The new bridge will have a longer lifespan and improved access for pedestrians and bicycles. The large number of piles that support the old bridge and obstruct flow will be replaced with many fewer, more stable supports.

To mitigate the impacts of the project, wetland habitat at Hal Brown Park and Piper Park will be created and enhanced. Improvements will also be made to a recreational dock in Greenbrae. The 4-year construction period allows the bridge to carry traffic most of the time, necessary because the bridge is a vital link the hospital. At the present time, there are two temporary bridges used by workers. The City of Larkspur expects traffic to be switched to the new lanes on the north side of the bridge.

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This project replaces the long-lived, but ill-fated US Army Corps of Engineers (USACE) project. Now that the USACE’s active involvement has ended, a new project description is being developed in consultation with stakeholders. This project has numerous components in different stages of planning.

At the request of regulators who were reviewing projects in different part of the concrete channel, Friends worked with the Flood Control District (FCD) to provide a clear description of the various segments of the project. This narrative and the accompanying map of the concrete channel and environs (with corresponding numbering) are the result. The sewer mentioned in several paragraphs is the large Ross Valley Sanitary District gravity-flow line installed near the bottom of the left wall (looking downstream) when the concrete channel was built.

Work in areas 1 through 4 is being funded by the Ross Valley Watershed Program and a grant from the Department of Water Resources.

1 Lagunitas Road Bridge This bridge is the likely upstream limit of work done as part of the Corte Madera Creek Flood Risk Reduction Project.

2 Fish Ladder No matter which alternative is chosen (except for the No-Project Alternative), the fish ladder—actually a barrier to fish passage—will be removed as part of the Corte Madera Creek Flood Risk Reduction Project. It is at the upstream end of the concrete channel.

3 Allen Park This reach extends from the Lagunitas Road Bridge to the Kentfield Rehabilitation Hospital Bridge. Ideally, one or both concrete walls would be removed to create an expanded creek section with riparian terracing at Allen Park, with improvements upstream of the fish ladder to improve creek stability and accommodate more flow. Depending on the restoration design at Allen Park, an existing sewer pipeline along the creek’s left bank may be rerouted.

4 Granton Park This reach extends from the Hospital Bridge to the Science-Math-Nursing (SMN) Bridge, near the upstream boundary of COM property. It is not feasible to widen the right-of-way in this reach because it is lined with homes and the hospital buildings. The key issues here are passage for steelhead and flood protection of the Granton Park neighborhood.

Passage for Steelhead Downstream of this reach, tidal action makes it possible for spawning steelhead to pass through the concrete channel even though there are no places for them to rest. By contrast, this reach is a substantial barrier to spawning steelhead, and regulatory agencies expect this barrier to be treated as a condition for approving

Project areas (see text for descriptions of conceptual plans):

1 Lagunitas Road Bridge
2 Fish Ladder
3 Allen Park
4 Granton Park
5 COM Upper
6 College Avenue Bridge
7 Kent Middle School (KMS)
8 Stadium Way Bridge
9 COM Lower

Source: Base map modified from Ross Valley Watershed Program map
A charming hand-drawn map of part of the College of Marin campus has recently come to light, giving us a glimpse of birdlife in 1940, prior to the concretization of Corte Madera Creek. This was a time when there were “paved highways and the interurban electric [railway] line providing transportation facilities” for the Marin Junior College, as described in the San Rafael Independent.

Three students, Harvey Long, John Burton and Harry Clark, probably all freshmen, noted down the vegetation and birdlife along a section of Corte Madera Creek from College Avenue upstream to an overgrown orchard within the campus limits, and recorded their findings on a map. We don’t know over what period the survey was carried out. However, as a number of nests were recorded (song sparrow, robin, hairy woodpecker and cliff swallow), as well as observations of typically winter season birds (hermit thrush, golden-crowned sparrow, red-breasted sapsucker), the window may have been a spring semester.

Forty-one bird species were recorded—some perhaps with questionable accuracy. Relatively few riparian species or water-birds are featured: kingfisher, killdeer, great blue heron, black phoebe and rough-winged swallow. This in spite of a good number of willows, alders, box elders and understory growing on both sides of the creek. Most of these birds are still seen in Ross Valley gardens; more interesting observations are: wrentit, warbling vireo, Hutton’s vireo, fox sparrow, sharp-shinned hawk, and black-headed grosbeak.

In later life, Harry Clark operated the Larkspur Glass and Aluminum business, and lived until 1994. Harvey “Sonny” Long joined the Marines and sadly lost his life in a Pacific theater battle in the Kiribati archipelago in 1943; a Washington hawthorn tree was planted at Ross school as a memorial to this “outstanding nature student” the following Arbor Day.

Thanks are due to Paul da Silva for bringing the map to our attention, and to Parker Pringle for historical sleuthing.
San Anselmo Flood Risk Reduction Project
by Sandy Guldman

The San Anselmo Flood Risk Reduction (SAFRR) Project comprises three components: (1) Sunnyside Nursery Flood Diversion and Storage Basin at 3000 Sir Francis Drake Blvd; (2) the removal of the building at 634 San Anselmo Avenue and creek bank stabilization at the site; and (3) flood mitigation measures on downstream private properties that may see impacts from the project.

1. Sunnyside Nursery Flood Diversion and Storage Basin (FDS)

A design team has conducted additional studies needed to support final design of the diversion structure, overflow weir, and refined grading plans for the basin and the embankment. The team has also drafted sediment management, woody debris management and operations plans, and conducted a structural evaluation of the existing access bridge to the FDS. The 60% design plans are currently in the review process and are expected to be completed by the time this newsletter is published.

2. 630–636 San Anselmo Avenue

L’Appart restaurant has vacated the property. The other businesses are still in operation, but they are expected to complete relocation activities by the end of January 2020. The Flood Control District is currently assessing the existing buildings for demolition techniques and expects to remove the buildings in early 2020. The concrete slab foundation that spans the creek will remain in place until final permit approval and the main construction contract is awarded which is expected in 2021.

The design team has continued the geotechnical investigation of the site to refine project design. The District is working closely with The Town of San Anselmo to incorporate certain elements of the Reimagine Creek Park vision into the SAFRR Project. The updated design includes leaving the right bank retaining wall in place to maximize room for a new pedestrian plaza along San Anselmo Avenue as part of the Reimagine Park concept design. The approved Project EIR includes a new pedestrian plaza, replacing the existing performance stage, and new pedestrian bridge abutments.

The 60% design plans are expected in early 2020. Collaboration on the Re-Imagine Creek Park elements resulted in about a four-month delay to the Project design. This delay will move construction of the Project until 2021.

3. Private Property Structure Flood Risk Mitigation

The design team has developed a hydraulic design of the upstream elements of the project and assessed the impacts to structures adjacent to San Anselmo Creek downstream of 630–636 San Anselmo Avenue. Where there may be impacts to homes that would require mitigation, the District is planning to work with these individual homeowners to determine suitable measures.

Old Photos of Creek Watershed

Do you have any old photographs of the Corte Madera Creek or its tributaries, or of land use in the watershed, such as the one pictured on the left? We’d love to make copies of them! Please include any identifying information about the photo and contact us through our website.
Bridges of Marin County
Continued from Page 1

existing bridge in January 2020, after which the temporary bridge on the north will be dismantled. Check bonairbridge.com for updates.

Pedestrian Bridge in Hal Brown Park In contrast to the Bon Air Bridge, which is the most ambitious bridge project underway or planned for the near future in our watershed, the pedestrian bridge in Hal Brown Park is one of the smallest. It carries only foot, bicycle, and scooter traffic (some electric, so be alert). The bridge has reached the end of its useful life. Replacing it provides an opportunity to install a bridge and a connecting path that will not interfere with the flow of tides in the marsh and will be passable even at high tides. Marin County Parks expects to replace the bridge and path in summer 2020.

Bridge Avenue–Center Boulevard Complex These two bridges over San Anselmo Creek were built in the early 1940s. They are too narrow for the traffic and they also contribute to flooding. A combined project to replace both has been approved by Caltrans. Alternatives will be selected in the near future to deal with all three problems: capacity, flooding, and traffic flow.

Madrone Avenue Bridge and Nokomis Avenue Bridge These bridges over San Anselmo Creek were built in 1930. The existing sidewalks are narrow and do not comply with Americans with Disabilities Act requirements. Both roadways connect neighborhood residents to Sir Francis Drake Boulevard and Center Boulevard, primary thoroughfares leading into downtown San Anselmo and the greater North Bay area. The bridges are too narrow and contribute to flooding in the area, making them priorities for removal as part of the Ross Valley Flood Control Program. Selection of the preferred alternatives and final construction schedules will be announced in 2020.

Fairfax Bridges The Town of Fairfax is engaged in a multi-year project to rehabilitate five bridges that span San Anselmo and Fairfax creeks on Marin Road, Spruce Road, Canyon Road, Creek Road, and Meadow Way. Like many of the bridges in Fairfax, these were constructed eighty to ninety years ago. These bridges are showing the accumulated wear of decades and require preventive maintenance to insure they are safe for continued use.

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construction of the upstream Allen Park project. Conceptual designs for this reach are preliminary but will likely include constructing larger resting pools to allow spawning steelhead to travel through this reach. Friends of Corte Madera Creek Watershed submitted an application to the Coastal Conservancy for Prop. 1 2019 funds that would partially fund the design for fish passage restoration in this component. If we receive the funding, it will be awarded at the February meeting of the Coastal Conservancy Board.

**Flood Protection for Granton Park** Construction of a new floodwall at the left bank along this reach is proposed. This would minimize creek overtopping into the adjacent low-lying Granton Park neighborhood. The proposal also includes construction of a new pump station in this reach to route stormwater out of the interior drainage system in the neighborhood.

Work in areas 5 through 8 will be included in the project environmental impact report to be prepared for the Corte Madera Creek Flood Risk Reduction Project, but at the present time there is no funding for detailed design or construction. Friends plans to seek funding in the near future.

5 **COM Upper** This reach extends from the SMN Bridge down to the College Avenue Bridge. The conceptual plan calls for removal of the right wall in this reach, with the left bank left in place to protect the sewer and infrastructure installed by COM.

6 **College Avenue Bridge** This bridge constricts flow, but is in good condition and provides adequate capacity for traffic. The proposed solution is to build two high-flow, bypass culverts, one on each side of the existing bridge, within the FCD right-of-way.

7 **Kent Middle School (KMS)** The Flood Control District has an easement for the concrete channel and land on either side of the channel. Removing the right bank of the channel at KMS would require extending the project beyond the FCD easement onto land owned by the Kentfield School District (KSD), either to lower the entire playing field to create a floodplain or to widen the channel by laying back the bank. If KSD will not allow a wider easement, then various alternatives to accommodate more flow within the FCD right-of-way will be developed. Plans call for the multi-use path to be moved to the left bank of the creek, with the left wall remaining to protect the sewer and provide space for the multi-use path. This is the least well-defined component of concrete channel modifications.

8 **Stadium Way Bridge** The bridge will be replaced with a new, longer bridge. The design will depend on how the right bank at KMS is treated. The bridge is part of Safe Routes to School used by students going to KMS. At the present time, the multi-use path crosses the creek on this bridge.

9 **COM Lower** This reach starts at the downstream side of the Stadium Way Bridge and extends down to the end of the concrete channel. Conceptual plans call for removing the concrete on the right bank and bottom of the channel and preserving the protective covering of the sewer along the left bank. The multi-use path would be retained, but rerouted. The FCD owns the right-of-way; the wider creek would expand onto College of Marin land along the right bank. Developing the 65% design for this component is being funded by a grant to Friends from Marin Community Foundation, managed by the Coastal Conservancy. Design work is starting in early January 2020.

**Thank You!**

Friends of Corte Madera Creek Watershed wishes to thank the following individuals, organizations, and agencies for their contributions:

- San Anselmo Historical Society and the Town of San Anselmo for providing space for our monthly board meetings
- The Coastal Conservancy for funding habitat enhancement and restoration
- The Marin Community Foundation and the Coastal Conservancy for funding designs to remove part of the concrete channel in Kentfield and College of Marin, Ross Valley Sanitary District, and Marin County Water Conservation and Flood Control District for collaborating on the effort
- Marin County Parks for support of our work at Hal Brown Park by providing plants and water for irrigation
- Marin County Fish & Wildlife Commission for supporting water quality monitoring
- The many creek-side property owners who gave Friends permission to treat invasive cordgrass on their property
- Other dedicated volunteers who make our activities possible, including invasives removal and help with summer irrigation
- The many people who make financial contributions that allow us to continue our day-to-day work
Vegetation Management

(Continued from Page 1)

Friends supports a fully-fledged integrated pest management (IPM) program for invasive plant control because it mixes a variety of control techniques—mechanical, chemical, biological, and others—to achieve the specificity required by different situations. For example, herbicides are the only realistic control for Japanese knotweed, recently found downstream of district lands in the San Geronimo Valley, a virulent plant which not only damages waterways but can grow into, and crack, roadways and building foundations.

The most pernicious invader on Mount Tamalpais is broom, which left untreated produces thousands of seeds annually that disperse into adjacent neighborhoods, destroys native habitat, and, when growing in dense untreated stands, provides copious flammable fuels that carry fire into the tree canopy. It can be hand-pulled, but will regrow from scattered seeds for years, and is spreading on MMWD lands at the rate of about 50 acres annually. A stand, which will be left untreated, looms over Ross and San Anselmo.

Neither the BFFIP nor its EIR explain the cost difference between prohibiting all herbicide use as compared with a complete IPM approach. A 2012 draft plan, however, which the district discarded, reported that the difference in total annualized cost of a no-conventional herbicide approach over one that would allow conventional herbicides, would be about an additional $4 million a year. This number could be higher now.

MMWD’s rejection of all herbicide use was not based on science. The EIR concluded that prudent use of herbicides “would meet all the goals of the program.” The adopted plan has a requirement for ongoing evaluation of the measures prescribed, with annual reports and updates. The first review is due in May 2020 and we look forward to what it will reveal.

Calendar of Events

January—June 2020

Please check www.friendsofcortemaderacreek.org for updates

January 16 Monthly Board Meeting, Thursday, 7:00 p.m., San Anselmo Historical Society Room, 110 Tunstead Avenue, San Anselmo.
18 Creekside Restoration with One Tam, Saturday, 9:00 a.m.–12:00 p.m. Join Marin County Parks and One Tam staff to enhance native plants at a site once dominated by non-native grasses and weeds. Dress in layers you can get dirty, wear sturdy shoes, and bring water. Please bring gloves if you have them. RSVPs are appreciated but not required. Questions or to RSVP: Contact Volunteer Coordinator Kirk Schroeder at (415) 763-2977.
28 Winter in the Canyon, Tuesday, 10:00 a.m.–12:00 p.m. Join Marin County Parks to help observe the flowing creek, salamanders, and early blooming flowers. Meet at the gate at the end of Cascade Drive, paying attention to street signs when parking. This walk is for 18-year-olds and up. If the creek is full, the walk will be along the narrow, slippery High Water Trail. Questions: Contact Shannon Burke at (415) 893-9520.

February 8 Bald Hill Broom Bust, Saturday, 10:00 a.m.–2:00 p.m. Join Marin County Parks and MMWD for the annual Bald Hill Broom Bust. Meet at Deer Park and hike, bike, or carpool up to Sky Ranch. All skill levels are welcome; anyone under 18 must be accompanied by an adult. Contact Greg Reza at (415) 473-3778.
15 Creekside Restoration with One Tam, Saturday, 9:00 a.m.–12:00 p.m. See January 18 event for details.
20 Monthly Board Meeting, Thursday, 7:00 p.m., San Anselmo Historical Society Room, 110 Tunstead Avenue, San Anselmo.

March 19 Monthly Board Meeting, Thursday, 7:00 p.m., San Anselmo Historical Society Room, 110 Tunstead Avenue, San Anselmo.
21 Creekside Restoration with One Tam, Saturday, 9:00 a.m.–12:00 p.m. See January 18 entry for details.

April 16 Monthly Board Meeting, Thursday, 7:00 p.m., San Anselmo Historical Society Room, 110 Tunstead Avenue, San Anselmo.
18 Earth Day Event at Hal Brown Park, Saturday, 9:00 a.m.–12:00 p.m.

May 16 Creekside Restoration with One Tam, Saturday, 9:00 a.m.–12:00 p.m. See January 18 entry for details.
21 Monthly Board Meeting, Thursday, 7:00 p.m., San Anselmo Historical Society Room, 110 Tunstead Avenue, San Anselmo.

June 18 Monthly Board Meeting, Thursday, 7:00 p.m., San Anselmo Historical Society Room, 110 Tunstead Avenue, San Anselmo.
20 Creekside Restoration with One Tam, Saturday, 9:00 a.m.–12:00 p.m. See January 18 entry for details.
Join Us to Play
Game of Floods

Game of Floods, a board game developed by Alfred Twu and the County of Marin, with funding from the North Bay Watershed Association, provides an easily understood way to see the challenges of responding to sea level rise: what to protect, what to relocate, and what to abandon. Players benefit from cooperation and share resources in the decision-making. During one family game at Thanksgiving, a surprise was the conclusive choice of abandoning the marina and the historic district to preserve roads, housing, the downtown, and the airport. The financial constraints of doing otherwise were too great.

Join Friends at our March 19 board meeting for two rounds! Teams can accommodate several people, so show up to give it a try.