

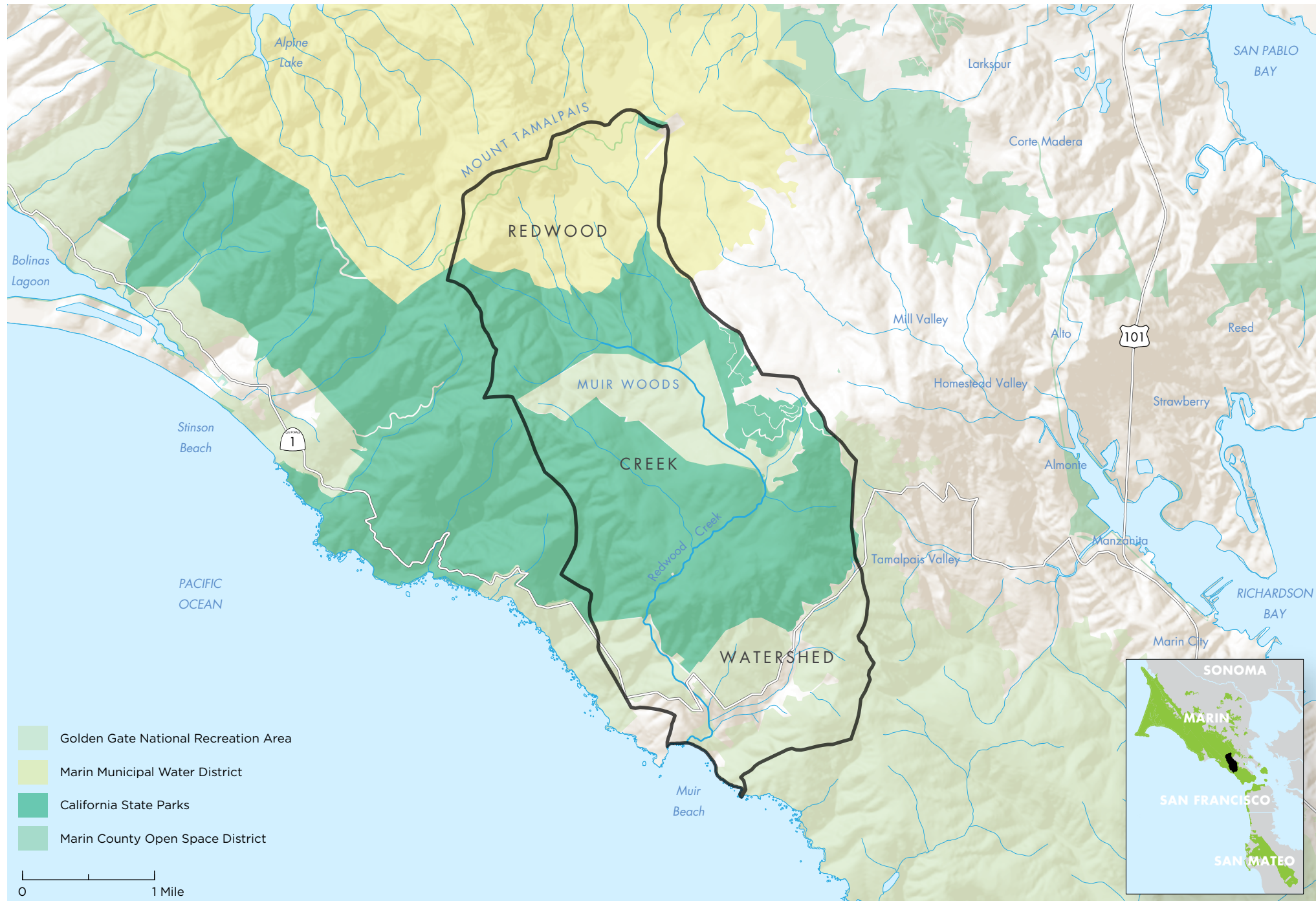


REDWOOD CREEK WATERSHED COLLABORATIVE

2012/13 ACCOMPLISHMENTS REPORT



ENHANCING PARTNERSHIP BETWEEN STATE AND NATIONAL PARKS IN MARIN COUNTY



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ANOTHER SEGMENT OF THE RIDGE TRAIL OPENS!



Frank Dean (NPS) and Danita Rodriguez (CDPR) are joined by community stakeholders in celebrating the opening of the newly improved Dias Ridge Trail.

State and National Park teams have long worked side-by-side with local communities, agencies, and non-profits to steward the land and welcome the public to the Redwood Creek Watershed in Marin County. In 2003, those partners, along with the Golden Gate National Parks Conservancy, jointly created a bold vision for future conditions in the watershed and advanced key projects such as the Dias Ridge Trail, Muir Beach Restoration, and Muir Woods Shuttle. Still, many challenges remained.

One of the biggest challenges was the 2011 California State Park crisis, which led to a proposal to close four of the six state parks within Marin County. The closure of these state parks would have resulted in unacceptable risks to natural and cultural resources—and greater burdens on other land managers. The vision and partnership we had all worked so hard to establish was under a serious threat.

It has been said that a crisis is a terrible thing to waste. For parklands in Marin County, out of this crisis came a collective recommitment to our public lands and a renewed focus on a collaborative vision among land managers and non-profit partners. For the Redwood Creek Watershed, we developed an innovative partnership of the National Park Service, California State Parks, and Golden Gate National Parks Conservancy.

The National Park Service asked visitors to the most renowned destination of the watershed, Muir Woods, to contribute an additional fee for the purpose of not only keeping State Parks open, but also to realize our broader vision for the parklands. We engaged the Parks Conservancy to translate the opportunity into immediate positive results within the watershed.

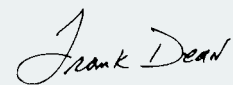
Two years into this enhanced collaboration, the results have been extraordinary. Popular trails have been reopened and enhanced, encroachment from invasive plants has been stemmed, a seamless signage approach has been developed, and more than ever the National and State parks in the watershed are working as a seamless collaborative team. And there is more to come!

So much success has been realized in such a short period that we have agreed to extend this beneficial collaboration, recognizing that there is still much to do. We extend our gratitude to our staff and partners for all their hard work in making the most of this opportunity.

We also want to acknowledge the support of the community, generous donors and public agency grants in our effort to improve the Redwood Creek Watershed. We look forward to collaboration on even a greater scale as we launch the Mount Tamalpais Collaborative, adding the Marin Municipal Water District, Marin County Open Space District, and Marin County Parks to our partnership.

Although we are often faced with challenges in bringing our vision to reality, it has never been more evident that innovation and collaboration in the preservation, management, and enhancement of parks and open space is thriving in Marin County. Together, the spectacular legacy and heritage of the Redwood Creek Watershed and Mt. Tamalpais park lands we all have enjoyed can be secured for generations to come.

Sincerely,



Frank Dean
General Superintendent
Golden Gate National
Recreation Area
National Park Service



Danita Rodriguez
Superintendent
California Department of
Parks and Recreation



Greg Moore
President and Chief
Executive Officer
Golden Gate National
Parks Conservancy

Trail projects near creeks in Mount Tamalpais State Park often need separate permits from the U.S. Army Corps of Engineers, San Francisco Regional Water Quality Control Board, and California Department of Fish and Wildlife. Because the park is home to threatened and endangered species such as the northern spotted owl, coho salmon, and California red-legged frog, these projects may also require the preparation of detailed biological assessments.

For an individual agency with limited staff capacity, meeting these requirements for surveys, assessments, permitting, and documentation can be prohibitively time-consuming and impede projects from moving forward. Under this Collaborative, staff of the Golden Gate National Parks Conservancy (Conservancy), National Park Service (NPS), and California Department of Parks and Recreation (State Parks) have been able to work as a team (with consultant support) to meet all of these requirements, and to do so in an efficient and cost-effective way.

LAYING THE FOUNDATIONS FOR RESOURCE PROTECTION TOGETHER

This partnership allowed State Parks and the Conservancy to leverage natural resource and permitting expertise in both organizations to successfully complete a project with multiple benefits.

— Cyndy Shafer (California State Parks/Marin Sector)



2012 storm event damage resulted in closure of part of the Bootjack Trail.



Mike Nelson (CDPR) guides the rock transport with a CCC member.



CCC remove the old bridge in preparation for the repair work.



The newly rebuilt bridge spans Rattlesnake Creek.

Case 1: Bootjack Trail

A slide in winter 2012 threatened to undercut a portion of the Bootjack Trail near its Rattlesnake Creek crossing. To protect the creek and preserve the trail, a rock wall needed to be installed—and the existing bridge removed and replaced—before rains in winter 2013 could cause further damage.



A current bridge and equestrian crossing along Redwood Creek.

Case 2: Redwood Creek Trail

Equestrians who camp at Santos Meadows often use the Redwood Creek Trail to travel between Muir Woods and Muir Beach. The trail's three bridges are pedestrian only, forcing the horses to cross through the creek channel. Currently in its planning phases, the Redwood Creek Trail Realignment Project will move the trail uphill and out of the riparian corridor, install a multi-use bridge to facilitate equestrian crossings, and improve drainage for easier trail maintenance. Before the Collaborative, a project of this scale would have been too large, complex, and expensive for any one agency to take on alone.

COLLABORATIVE ACHIEVEMENTS

- Allowed the State Parks to spatially array all of their trail treatment plans, through GIS and mapping support from the Conservancy
- Provided consultant support for rare-plant and special-status species surveys, helping with this project as well as other work in the watershed
- Advanced a trail improvement project that will benefit the salmon, trout, and red-legged frogs living in Redwood Creek, and will improve visitor access throughout the area

The much-used and well-loved network of trails connecting Muir Woods and Mount Tamalpais State Park is suffering from years of deferred maintenance. Erosion and other issues undermine valuable trail infrastructure, threaten important habitats, and create a less than optimal visitor experience.

Staff and funding limitations, and the cross-jurisdictional nature of trails, have made it difficult for individual land managers to address these issues in the past. Through this Collaborative, the Parks Conservancy, State Parks, NPS, the Bay Area Ridge Trail Council (BARTC), California Conservation Corps (CCC), and Conservation Corps North Bay (CCNB) were able to work together to efficiently address outstanding trail maintenance needs and create comprehensive and cost-effective plans for future work.

COLLABORATIVE ACHIEVEMENTS

- Hired a project coordinator to perform the critical functions of daily communication and coordination with State Parks, NPS, contractors, and Conservancy staff
- Integrated Trails Forever interns into the Oceanview Trail maintenance project during the federal government shut down of October 2013, and the Collaborative team now works with the Trails Forever Stewardship Program to bring in additional volunteer groups
- Enabled the CCC, CCNB, and State Parks to develop a deeper relationship, identifying opportunities for future collaborations on State Park lands
- Fostered close working relationships—through the effective coordination of schedules, logistics, and equipment among the Conservancy, State Parks, NPS, and CCNB—to complete priority projects on the Hillside Trail, Pinchot Tree Boardwalk and Oceanview Trail
- Developed trail treatment plans and cost estimates for several major trails through the efforts of State Parks trail experts and BARTC staff (routine maintenance projects are implementation-ready, pending funding; a list of projects beyond routine maintenance is ready for compliance and permitting as a package in 2014)
- Established well-defined needs and thorough treatment plans, allowing for a more proactive approach to seeking funding for deferred maintenance projects

PRESERVING OUR SIGNATURE TRAILS

Trails provide an important means for visitors to experience the natural world and deepen awareness of the grandeur and fragility of our park landscapes. Trails offer opportunities for recreation and rejuvenation, which lead us into the natural beauty and rich history of the national parks at our doorstep.

— Greg Moore, President & CEO (Parks Conservancy)





NPS trail crew and volunteers install protective fencing along a section of the Dias Ridge Trail.



Crew members carefully replace sections of split rail fencing near fern Creek.

The Marin Youth Ecology Corps— a youth education and job training program—focused on re-establishing fencing to keep visitors out of sensitive habitat along Redwood Creek, while offering them views of non-impacted stream side habitat. In eight weeks, the Corps installed and repaired 1,700 feet of fence, removed downed trees, repaired trail tread and drainage, rehabilitated social trails, installed signs, and fixed bridge handrails and decking.

In addition, CCNB completed critical deferred maintenance work, constructing over 800 square feet of retaining wall and 350 linear feet of turnpike wall, performing 1.6 miles of trio-maintenance, installing fence, rebuilding stairs, and adding over 1,200 cubic feet of fill rock to elevate the trail tread over fragile redwood tree roots.

Redwood Creek, the Deer Park Fire Road, and Dipsea Trail weave in and out of Mount Tamalpais State Park and Muir Woods National Monument. High-priority maintenance needs have remained unaddressed on these well-worn trails for at least a decade—as a result of a lack of funding and staff capacity. Effective protection and management of these vital cross-boundary resources requires the holistic approach made possible by this Collaborative.

COLLABORATIVE CARE FOR OUR MAIN THOROUGHFARES

Visitors to the watershed should not experience different trail conditions when they move between the State Park and National Park lands. This Collaborative is working to make the visitor experience consistent, with a natural flow through this singular landscape.

— Frank Dean, General Superintendent (NPS)



Visitors explore the watershed through trails that are collaboratively maintained by both the National and State Parks' staff.



Treatment plans include the stabilization of erosion gullies like this one found on the Deer Park Fire Road.

COLLABORATIVE ACHIEVEMENTS

- Completed maintenance assessments, detailed treatment plans, and cost estimates on work that will create natural drainage patterns and sustainable trail alignments, reducing erosion into adjacent springs and creeks
- Advanced this project to the compliance stage, with hopes to be shovel-ready by the first quarter of 2015
- Identified the need for a cooperative maintenance strategy for all trails within the Redwood Creek Watershed, resulting in a more efficient and collaborative management approach
- Formulated plans for project implementation that will likely be highly collaborative—drawing on the unique skills and capacity of NPS, State Parks, Conservancy, CCC, and CCNB staff, and private contractors

Like our trails and waterways, weeds are stubbornly unobservant of legislative boundaries. To date, control of these invaders has been agency-based, with weed treatments arbitrarily forced to stop at park boundaries. This restriction often left a rich source of seed nearby to re-infest the newly cleared area. In addition to jurisdictional barriers, effective weed control has been stymied by a shortage of field staff and funding, and a lack of time for strategic interagency coordination.

To tackle these challenges, the collaborative Redwood Creek Invasive Plant Project was launched in May 2013. Spanning both National Park Service and State Park lands across the Redwood Creek Watershed, Phase 1 had three main focuses: 1) a systematic and thorough follow-up to all previously treated invasive plant infestations in the watershed, 2) early detection and treatment of high priority invasive plants, and 3) mapping and identification of source populations as priorities for future control.

A UNITED FRONT AGAINST INVASIVE VEGETATION

Working on weeds this way really makes sense!

— Park Visitor

It is so much more efficient to work this way. We can treat a whole patch instead of having to stop half way through because we've moved into another park. Sometimes only one side of a patch would get treated for many years.

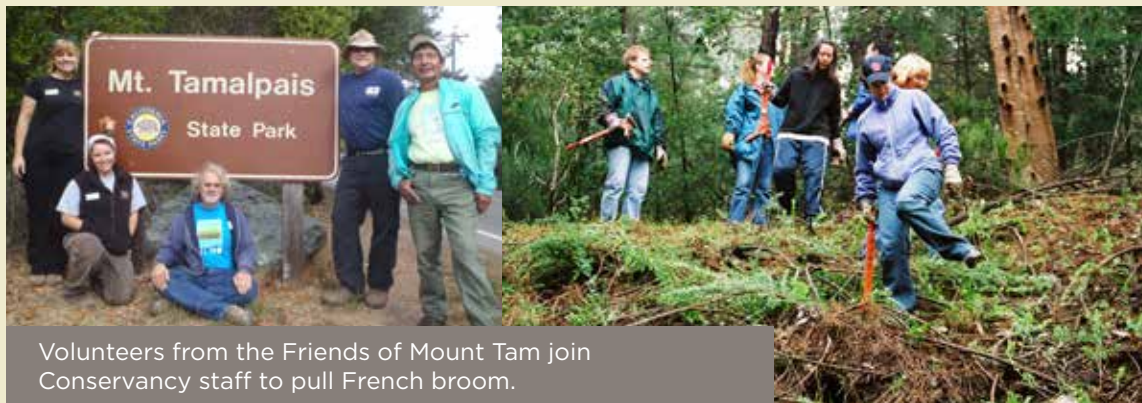
— Contractor



Catey Ritchie
(Parks Conservancy)
removes plumes from
invasive pampas grass.



Extensive weed management work has been undertaken to restore the diverse coastal prairies found on Dias Ridge.



Volunteers from the Friends of Mount Tam join Conservancy staff to pull French broom.



NPS Plant Ecologist Marin Alvarez piles recently pulled broom plants in preparation for chipping and mulching.

COLLABORATIVE ACHIEVEMENTS

- Supported 2,843 hours of invasive plant control
- Addressed 100% of infestations identified for follow-up treatment
- Produced more than 200 early detections of targeted invasive plants
- Surveyed and mapped priority invasive plants in over half of the project area, with numerous source populations identified and mapped—providing data that will be invaluable for future planning and for tracking the success of this project
- Developed a systematic, cross-jurisdictional field approach—deployed by Conservancy staff—to identify and treat smaller infestations before they become large, expensive, and difficult to manage (this approach also permitted the in-field contractor oversight and adaptive management necessary for more strategic weed control, faster treatments, and better long-term results)
- Engaged park visitors to explain the project, the advantages of working across land ownership boundaries, and the tangible benefits of applying Muir Woods entrance fees to work in the Redwood Creek Watershed
- Strengthened partnerships through a variety of projects, including:
 - A collaboration to treat weed populations that span the boundary between Mount Tamalpais State Park and the Tourist Club
 - A project, in coordination with Green Gulch Farm, to show how to control weeds that could spread into the park, and treat wind-dispersed species near the property line
 - A volunteer day, with the Friends of Mt. Tam, to control French broom at Camp Alice Eastwood, and grow a burgeoning partnership
 - A joint effort with the Homestead Valley Homeowners Association to identify (and in some cases, treat) shared cape ivy infestations

Just a short distance from the crowded Muir Woods valley boardwalk, the Canopy Trail (formerly Oceanview Trail) is one of the few places on the planet where you can look into the world of an old-growth redwood forest canopy. Four locations were selected for “viewing balconies,” where visitors can stop along the otherwise narrow trail to enjoy this one-of-a-kind experience. Two of the four viewing balconies have been completed, and the others will be finished this fall.

EXPERIENCING THE MAGIC OF THE REDWOOD CANOPY

Unique views into the forest and redwood canopy are now featured and easily available to those taking a short walk up a re-conditioned trail, just a short distance from the park entrance. This is such a beautiful experience the trail was re-named to call attention to what lies ahead for the visitor heading up the Canopy View Trail.

— Mia Monroe, Interpretive Supervisor at Muir Woods (NPS)



The canopy of the redwood forest provides a wonderful setting as visitors climb up the Canopy Trail.



Conservation Corps North Bay crew members repair and stabilize eroding trail tread on the Canopy Trail.



A Northern Spotted Owl peers out from the Muir Woods canopy.

COLLABORATIVE ACHIEVEMENTS

- Combined the creation of the viewing balconies (on NPS land) with over a mile of trail work (on State Parks land), saving time and money on both projects through enhanced coordination
- Leveraged funding to complete viewing balcony areas by combining the work with trail work performed by CCNB
- Provided a working model for future collaborations between the CCNB and State Parks

In early 2013, the State Parks, Conservancy, and NPS began a collaborative effort to develop a detailed map of the trees of Muir Woods and Kent Canyon—an invaluable tool for trail planning, locating streams and creeks, and tracking geomorphological changes over time.

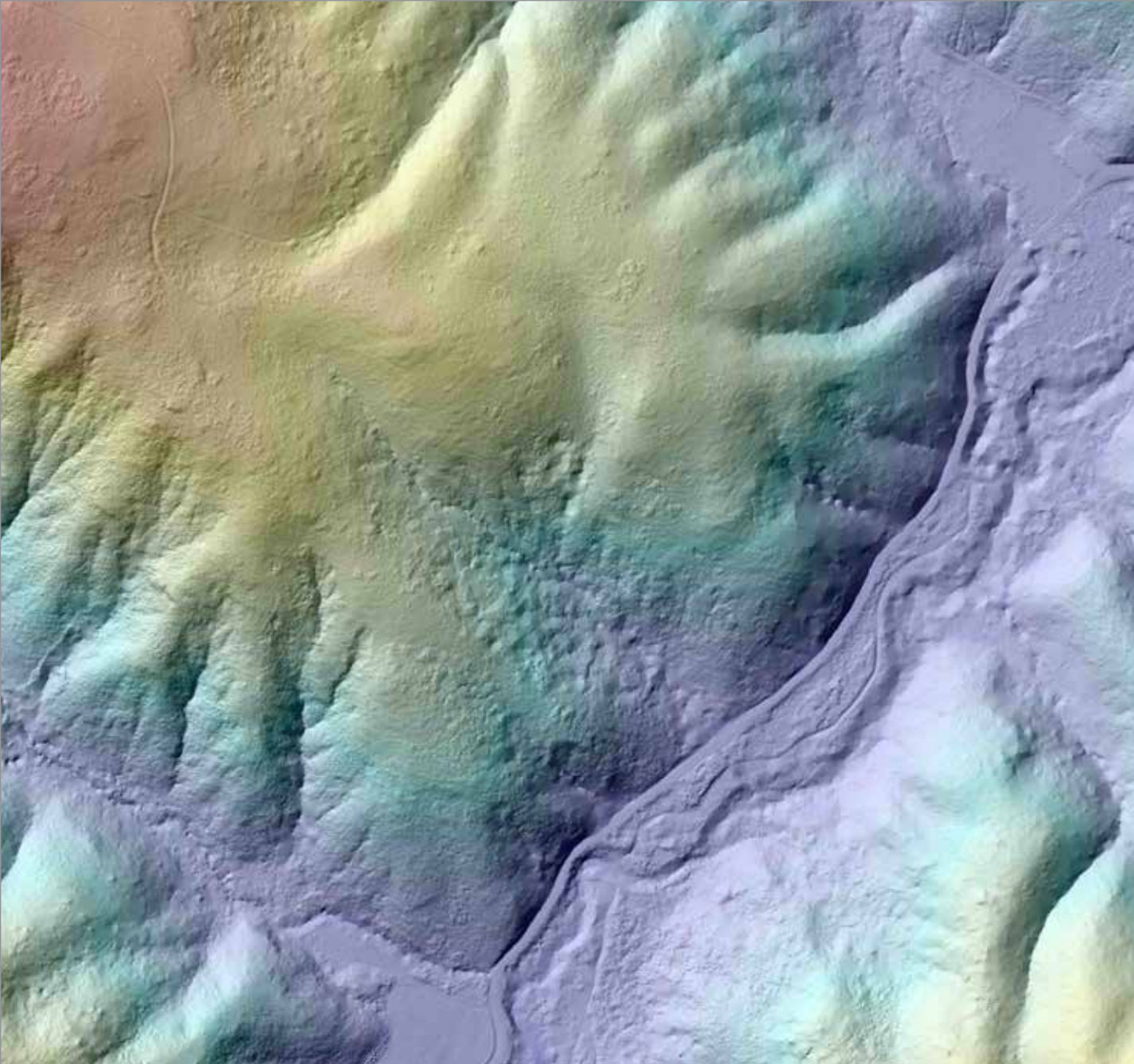
LiDAR data developed by San Francisco State University (SFSU) made it possible to “see” into the forest canopy and extract information that previously had been impossible to gather. Creating a map like this also requires extensive fieldwork to check computer results and gather data on the ground. In the past, jurisdictional boundaries prevented this kind of comprehensive data collection, and the cost, expertise, and effort required had been prohibitive for any individual agency.

A VIEW FROM THE TOP

To assess tree health and make accurate crown cover measurements over large areas, the resolution and capabilities of LiDAR data make possible what current elevation datasets cannot. LiDAR data is used in many applications for analysis and visualization as well as providing vertical accuracy control for orthographic aerial imagery.

— Steven Skartvedt, GIS Specialist (NPS)



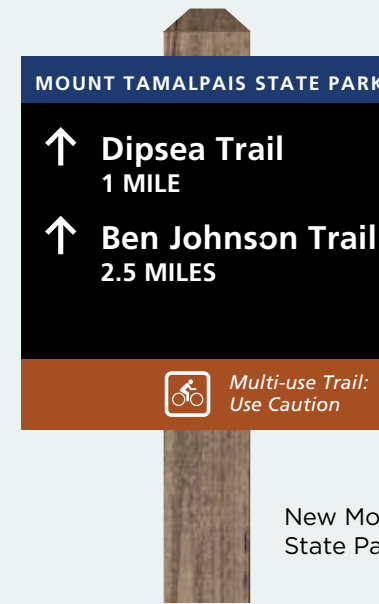


Thousands of laser pulses reflect back to an airplane-mounted collector and are processed to reveal the bare earth elevations of a portion of the Redwood Creek watershed. Here can be seen traces of the old Shansky Camp road above Frank Valley at left, the switchbacks of Heather Cut-Off dropping into Santos Meadow along Muir Woods (Frank Valley) Road at bottom, and the course of Redwood Creek extending northwest upstream to Kent Canyon at upper right.

COLLABORATIVE ACHIEVEMENTS

- Created the first detailed topographic surface and stream channel delineation of Muir Woods and Kent Canyon, using the data collection and management expertise of the SFSU team, coupled with fieldwork by Conservancy, State Parks and NPS staff members
- Utilized the mapping data as a part of a larger study to scout possible new locations for a more sustainable redwood creek crossing of the Dipsea Trail
- Made plans to create a map of tree locations next year, using LiDAR data and other imagery to determine tree species
- Established relationships that will facilitate further collaborative efforts, enabling the NPS and State Parks to replicate this process in the future

Effective signage not only provides the public a safer, richer, and more enjoyable park visit, it also provides a strong visual identity for the parklands. The Collaborative team identified six locations for new trailhead kiosks throughout the watershed, and developed site improvements plans for each. New kiosk designs were created to highlight accessible hiking routes, comply with new accessibility requirements, and help ensure continuity to the visitor experience throughout the watershed. Kiosks will be installed at the following locations—Dipsea Trail near Muir Woods, Camp Alice Eastwood, Mountain Home Inn parking area, the East Peak, Dias Ridge, and the Redwood Creek Trail in early 2014.



New Mount Tamalpais State Park wayfinding sign

A WATERSHED APPROACH TO PUBLIC LANDS IDENTITY

The agencies benefit through the cooperation of staff and shared resources. The natural and cultural resources and visitors benefit from the combined stewardship of the land managers and partners.

— Victor Bjelajac, Maintenance Foreman (California State Parks/Marin Sector)



Before



After



COLLABORATIVE ACHIEVEMENTS

- Infused signage with richer and more watershed-based interpretive content and maps, by combining the expertise of the NPS, State Parks and Conservancy
- Established a collaborative kiosk sign design, in parallel with updating the interpretive sign design for the Golden Gate National Parks
- Facilitated the adoption of Golden Gate National Parks Signage and Graphic Guidelines by the State Parks for the Redwood Creek Watershed, with a slight modification of the color palette to distinguish signs on State Park lands from those on NPS lands
- Completed a comprehensive signage inventory, building off the existing State Parks work
- Continued developing a watershed-wide wayfinding sign plan, with implementation scheduled for early 2014
- Installed a Muir Beach kiosk, with fabrication and installation of the remaining kiosks planned for early 2014

Trailhead Exhibit featuring natural and cultural resource interpretation as well as trail information including maps and featured accessible hikes.

Thronging of Muir Woods visitors park along the narrow and winding road leading into the National Monument, creating a dangerous situation for pedestrians, bicyclists, and vehicular traffic. They also leave a significant amount of trash along the shoulder, which affects the health of nearby Redwood Creek.

In the past, a lack of staff capacity forced NPS and State Parks to address these issues reactively, such as through emergency responses to accidents and the issuance of citations to cars blocking the road. Additional funding provided by the Collaborative has allowed the State Parks to hire the equivalent of two full-time seasonal maintenance aides to address these issues in a more positive and proactive way—creating a much safer and less frustrating experience for park visitors.

A SAFER WAY TO THE WOODS

Without collaboration of State Parks, NPS, and Marin county staff, impacts to the Redwood Creek Watershed would continue to compound. The team approach has allowed for management solutions to be developed in order to protect the cultural and natural resources in the area—and increase visitor safety and enjoyment of the lands that we all manage.

— Victor Bjelajac, Maintenance Foreman (California State Parks/Marin Sector)



Seasonal Ranger August Aubrey helps guide visitor parking and ensures resources are protected along Muir Woods Road.

COLLABORATIVE ACHIEVEMENTS

- Supported maintenance aides who help visitors find safe parking and ways to get into the monument, provide directions and information about the park and the Redwood Creek Watershed, pick up trash along Muir Woods Road and in parking lots, and maintain vegetation along the roadway and trails
- Decreased the number of emergency calls (according to park and county law enforcement officials), alleviated congestion on emergency response travel routes, and reduced emergency response costs
- Observed less trash in and along Redwood Creek, as visitors are made aware of the national and state park lands and informed about watershed ecology
- Established monthly coordination meetings among staff of the NPS, State Parks, and Marin County Department of Public Works to collaborate, exchange planning information, and work towards their common goals throughout the county

Three cast-bronze models—detailing every contour of the Redwood Creek Watershed from the top of Mount Tamalpais to where the creek meets the Pacific Ocean at Muir Beach—have been created to provide visually impaired visitors a way to experience the watershed. Two of the Braille-ensconced, fully accessible compatible models have been installed at Muir Woods and Muir Beach, and the third will be installed on the east peak of Mount Tamalpais in the near future. Working collaboratively allowed all three models to be produced at the same time, from the same cast.



Mia Monroe (NPS) helps orient visitors to the Redwood Creek Watershed.

A FEEL FOR THE WATERSHED

Our parks welcome visitors locally and from around the world. To create experiences that can be enjoyed by people with varied abilities and desires, we are constantly working on new projects from building board-walked trails and serving healthy food to providing information in many languages. Most recently we installed tactile models so that everyone can engage in the magnificence of the watershed.

— Michele Gee, Chief of Interpretation (NPS)



David Pon (Parks Conservancy) explores the watershed model with local youth.

Redwood Creek Watershed Collaborative

parksconservancy.org

nps.gov/goga

parks.ca.gov



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