SAVE THE AMERICAN RIVER ASSOCIATION

RiverWatch

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View from Sutter's Landing Park — Photo by Sean Ward

this issue

Water is Being Stolen for Illegal Marijuana Grows

In late September, Alameda County Sheriff's deputies raided 18 warehouses and other buildings which housed illegal marijuana grows – seizing more than 100,000 high-grade plants and $10 million in cash.

Deputies also confiscated computers, timers, power generators and other sophisticated equipment, and filled 12 tractor trailers with the weed.

What we don't know is the amount of water being consumed by marijuana plants in those grows and what the impact has been on the county's water supply. One plant sucks up an average of six gallons of water each day during the growing period.

During the ongoing megadrought in California, illegal growers statewide are tapping water in local distribution systems, in streams and rivers, and siphoning it from groundwater. Some steal water from hydrants or homes and businesses to fill their tank trucks.

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Local Legislators Secure $12 Million For the American River Parkway

BY STEPHEN GREEN

Assemblymember Kevin McCarty and Senator Richard Pan, MD, sponsored legislation that allocated $12,090,000 for the American River Parkway.

Both also announced that they hope to secure similar funding for the Parkway in next year's state budget.

Most of the money will be used to fund more than a dozen public access improvements along the Parkway.

"The American River Parkway is our local treasure enjoyed by thousands of Sacramentans and their families, including mine," said McCarty, D-Sacramento, who grew up near the Parkway. "Unfortunately, we haven't kept pace on expanding public access and making necessary upgrades, especially along the lower stretch of the Parkway. The projects we're funding will make the Parkway more accessible and enjoyable for future generations."

Sen. Pan, D-Sacramento, called the Parkway "a jewel of the Sacramento region and a natural habitat that our community enjoys and appreciates. I am thrilled to partner with Assemblymember McCarty to secure an additional $12 million in state funding to increase access to and preserve this beautiful river habitat and ecosystem… The Parkway is a great resource not just for local people but for the entire state."

Both McCarty and Pan have a long history of working in support of the Parkway. In 2016, McCarty sponsored legislation to establish the Lower American River Conservancy to protect and enhance the Parkway. The Conservancy has been issuing grants to local governments and organizations for projects on the Parkway including habitat restoration and new facilities.

Funds from McCarty and Pan's legislation will be allocated as follows:

SACRAMENTO COUNTY
$3 MILLION

Projects to promote greater access to the Woodlake/Northridge Area of the Lower American River Parkway east of Highway 160. It provides a boat launch ramp, restrooms, a parking area and connectivity to the mountain bike trail system.

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$12 Million

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CITY OF SACRAMENTO
$2 MILLION

Fills a gap in the Two Rivers Trail by completing planning to connect Sutter's Landing Park to the Sacramento Northern Bikeway Trail and the River District. The Two Rivers Trail will eventually connect Old Sacramento to Folsom Lake.

CITY OF SACRAMENTO
$1,490,000 MILLION

Projects at Sutter's Landing including $50,000 to update the Sutter Landing Park Master Plan, $1.2 million for a concession building for kayak/paddle board rental and refreshments, $150,000 for wildlife habitat enhancement, $50,000 for parking lot safety improvements and a gate, and $40,000 for a public art river scene mural.

CITY OF SACRAMENTO
$2 MILLION

For future projects to provide public access improvements.

SACRAMENTO VALLEY CONSERVANCY
$3.5 MILLION

Public access improvements at Camp Pollock, including an observation deck, non-motorized watercraft access, completion of the Myrtle Johnston Lodge Improvement project, water infrastructure improvements, and mural installations.

SACRAMENTO REGIONAL CONSERVATION CORPS
$100,000

Creates jobs for underserved youth to restore habitat for wildlife, reduce fire risk and remove trash from the river and streams. ■

Marijuana

Continued from Page 1

When Californians voted to legalize marijuana purchases, they had been told repeatedly that illegal grows would mostly disappear once state licensed growers began producing crops. That didn't happen. There are now more illegal grows in the state than ever before.

State officials estimate that 13.5 million pounds of marijuana are produced annually in California. But Californians consume only 2.5 million pounds of it. All the rest is smuggled out of the state where black-market dealers pay top dollars for the weed.

Licensed growers pay taxes and fees, and navigate through a complex regulatory system. Illegal growers escape all of that.

Those "operating outside the law and the protocols of governance of marijuana in California are making millions in profits," said Sgt. Ray Kelly, spokesman for the Alameda County Sheriff's Department. Although arrests were made, "there's nothing to stop them from doing it again," Kelly added. "It's such a lucrative business."

Kelly said the September raids were the most productive ever made in the county and the marijuana seized had a value of up to $42 million. The grow operations were "very sophisticated and high tech," he said. "The suspects were motivated by extreme profit and greed."

Grows in rural areas and public lands are notorious for polluting streams and rivers with fertilizers and rodenticides that runoff during irrigating cycles.

In the second driest year on record in California, illegal growers have been consuming water from rivers and streams where low water levels and high temperatures are destroying fisheries.

One of the most common chemicals investigators find is a pesticide called Carbofuran which is banned in the United States. It is used to kill wildlife eating marijuana plants. It remains on plants after application and seeps into the soil and nearby water sources where it poses a risk to human health. Just a quarter teaspoon of Carbofuran can kill a 600-pound bear.

In the second driest year on record in California, illegal growers have been consuming water from rivers and streams where low water levels and high temperatures are destroying fisheries. The stolen water also could be available to communities where clean water is in short supply and to farmers who are being forced to fallow food crops.

Some jurisdictions have been cracking down on illegal grows. But for decades, state enforcement efforts to eradicate illegal grows have been minimal, haphazard and, at times, non-existent.

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Marijuana

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But that changed in 2018 when recreational marijuana became legal in California. The Campaign Against Marijuana Planting (CAMP) program sends out teams of state and federal officials to raid and destroy illegal grows. This year, raids were conducted at 491 sites in 26 counties where nearly 1.2 million illegally cultivated marijuana plants were eradicated and 180,000 pounds of processed marijuana was seized.

The largest concentration of grows was found in Riverside County where 135 sites were raided and 509,453 plants were eradicated. In Sacramento County, seven sites were raided and 4,062 plants were destroyed. There were no inspections in Placer, El Dorado and Amador Counties. Save the American River Association has asked Attorney General Rob Bonta to include those counties in CAMP operations next year. That may happen.

Bonta directed his office "to review the CAMP program and ensure that we are using our resources to effectively address the environmental, labor and economic impacts of illegal cultivation…Illegal marijuana planting is bad for our environment, bad for our economy, and bad for the health and safety of our communities."

The problem is not unique to California. Illegal grows are threatening environments and public health in many states.

In Southern Oregon, Jackson County officials had been appealing to state government for months to get rid of illegal grows that are draining waterways and depleting groundwater.

On Oct. 13, the Jackson County Board of Commissioners declared a State of Emergency in the county and appealed to the governor for help.

Water diversions have created an "imminent threat to the public safety of our citizens from the illegal production of cannabis in our county," the commissioners said. ■

Support County Parks — Buy An Annual Pass

The Pass pays for itself in 10 visits and all funds go directly towards maintaining and operating the 15,000-acre system. For as little as $50 per year, you can have unlimited access and parking in the parks.

Pass holders receive free daily entry into Regional Parks and annual passes are valid for one year from date of purchase.

Pass Fees Are Based On Use:

Vehicle:	$50
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Vehicle + Horse trailer:	$75
Vehicle and small watercraft:	$80
Parks supporter pass*	$50

** This pass is for those who want to support Parks but do not drive to Parks facilities*

Where to Purchase Your Parks Pass

- Online through the American River Parkway Foundation Web site arpf.org/visit
- At REI stores in Sacramento, Roseville and Folsom
- Patriot Cycles in Fair Oaks
- Effie Yeaw Nature Center at Ancil Hoffman Park
- Regional Park offices and park kiosks
- American River Parkway Foundation office at the William B. Pond Recreation Area ■

Migratory Bird Treaty Act has been Restored

The Biden Administration has restored vital provisions of the Migratory Bird Treaty Act which had been gutted during the last days of the previous administration. They also said they would be working with Congress to update and strengthen the Act which originally became law in 1918.

Last January, the previous administration finalized a change in the Act that limited its protections to activities that kill birds, exempting industrial hazards from enforcement. If that change had been in place in 2010, BP would have faced no consequences under the ACT for the more than one million birds killed by the Deepwater Horizon oil spill in the Gulf of Mexico. Instead, BP was required to pay up to $8.8 billion to address damage to natural resources.

In the past century, the Act has been called into play numerous times when wildlife and natural resources have been harmed or threatened in the Pacific Flyway in Western North America.

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Study Finds Dams Ineffective For Conservation of Salmon and Trout

BY DAN BACHER — *Fish Sniffer Magazine*

For many years, federal, state and corporate proponents of building more dams in California have touted cold water river releases provided by increased water storage behind dams as a key tool in "saving" struggling salmon and steelhead populations.

Yet a just published study by the UC Davis Center for Watershed Sciences, Dams Ineffective for Cold-Water Conservation– 8/25/21, has found that dams are ineffective for the cold water conservation that is needed to preserve imperiled salmon, steelhead and trout.

"Dams poorly mimic the temperature patterns California streams require to support the state's native salmon and trout — more than three-quarters of which risk extinction," according to the study published in the journal PLOS ONE by the University of California, Davis. "Bold actions are needed to reverse extinction trends and protect cold-water streams that are resilient to climate warming."

The study helps identify where high-quality, cold-water habitat remains to help managers prioritize conservation efforts.

"It is no longer a good investment to put all our cold-water conservation eggs in a dam-regulated basket," said lead author Ann Willis, a senior staff researcher at the UC Davis Center for Watershed Sciences and a fellow for the John Muir Institute of the Environment. "We need to consider places where the natural processes can occur again."

"Understanding where cold water is likely to stay cold is critical for conservation," according to the study. "But 'cold' is more than just a number on a thermometer. The term represents the many factors that combine to create cold water capable of supporting aquatic ecosystems."

Water managers deliver cold water from reservoirs to streams to support aquatic life, but Willis said this assumes that all cold water is the same — "akin to giving blood to another person without understanding their blood type and health status."

"While previous studies have suggested that dams can be operated to achieve ideal temperatures, few tested that hypothesis against the temperature patterns aquatic ecosystems need," the study reveals

The UC Davis study assessed stream temperature data from 77 sites in California to model and classify their "thermal regimes," or annual temperature patterns. It found the state's reservoirs do not adequately replicate natural thermal patterns, making them incapable of supporting cold-water species effectively. The study states:

"In stream reaches that lack a resilience to climate warming, cool- and cold-water habitat may be unachievable through dam regulation. In particular, the stable cool regime may present the greatest challenge to cold water conservation as it generally lacks the cooler winter temperatures of unregulated variable cool regimes. One notable result was the classification of the Shasta Dam outlet (site SHD)–the only reservoir to produce a stable cold thermal regime. At 4.6 million acre feet (MAF), Shasta Lake is California's largest reservoir and maintains its cold pool through cold-water inflows, cooling that occurs during the winter, thermal stratification, and operational decisions [38]. Despite the large capacity of New Melones (2.4 MAF, 4th largest reservoir in California), it, or any other dam included in this analysis, was unable to produce a stable cold regime at its outlet."

In response to the release of the study Barbara Barrigan-Parrilla, Executive Director of Restore the Delta said, "We feel validated when top-notch university science programs prove what our community science researchers find. The Delta Conveyance Project is predicated on increased dam capacity. But increasing dam capacity won't provide the cool clean water we need to restore the Delta. Climate change demands bold new solutions for water management and a reckoning of how much water we allocate for industrial ag.

"Empty dams and a dry tunnel will not solve our problems. We predicted in 2014 that Prop 1 funds for dams would not work, and legislators would not listen. We hope those funds are rerouted for meaningful water projects that will serve all Californians," Barrigan -Parrilla concluded.

The release of the study couldn't come at a more grim time for imperiled salmon and steelhead in California. The California Department of Fish and Game has forecasted that nearly all of the juvenile winter-run Chinook hatched

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"It is no longer a good investment to put all our cold-water conservation eggs in a dam-regulated basket. We need to consider places where the natural processes can occur again."

ANN WILLIS

SENIOR STAFF RESEARCHER AT THE UC DAVIS CENTER FOR WATERSHED SCIENCES AND A FELLOW FOR THE JOHN MUIR INSTITUTE OF THE ENVIRONMENT

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SARA appreciates the support of our generous members. Without your support, SARA would not be able to continue our role as *Guardians of the American River and Parkway since 1961*. New and renewing members are listed in *RiverWatch* according to their preference (indicated on the SARA membership/renewal form).

In Memoriam

Save the American River Association has received donations honoring the memory of the following friends:

TIMMY HARPER
STEVE FLANNERY
JIM LIVINGSTON
JULIA S. MEIER
DIXIE LEE ANDROUS RINCON
DAVID ROBERTS

Save the American River Association frequently receives donations in memory of lost loved ones, many of whom were users and supporters of the American River Parkway. Some donors give names. Others prefer to remain anonymous. SARA notifies family members when donations are made. The money is used to further SARA's advocacy work on behalf of the Parkway. Contributions may be made by check or online via SARA's website. **SARA also has a Legacy program. For information on the program, please contact the SARA office.** ■

Dams

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on the Sacramento River this year could die before spawning, due to disease spurred by warm water conditions below Keswick Dam:

A record run of over 18,000 endangered spring-run Chinook salmon on Butte Creek, a tributary of the Sacramento River, has also turned into disaster as 14,500 fish have to date died before spawning. These fish also have perished due to the outbreak of disease in warm, low water conditions.

The only good news is that the rate of mortality has slowed down after more water was finally released by PG&E down the creek on August 3 and conditions improved. "Many fish are still hanging in there," reported Alan Harthorn, Executive Director of Friends of Butte Creek.

As adult fall Chinook salmon return to the Sacramento River and its tributaries, they will face warm water conditions populations is to remove dams and restructure water management in California.

"I'm an engineer; I thought we could operate ourselves into success, but the science doesn't support that," Willis said. "It's not a question of whether we remove a dam, but which dam, and how we need to restructure how we manage water. Or we and low flows, potentially spurring an outbreak of disease that would kill many fish before they are able to spawn." ■

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Fish Habitat Restoration Project is Finished

The Water Forum recently completed a habitat restoration project at Ancil Hoffman Park near the Effie Yeaw Nature Center.

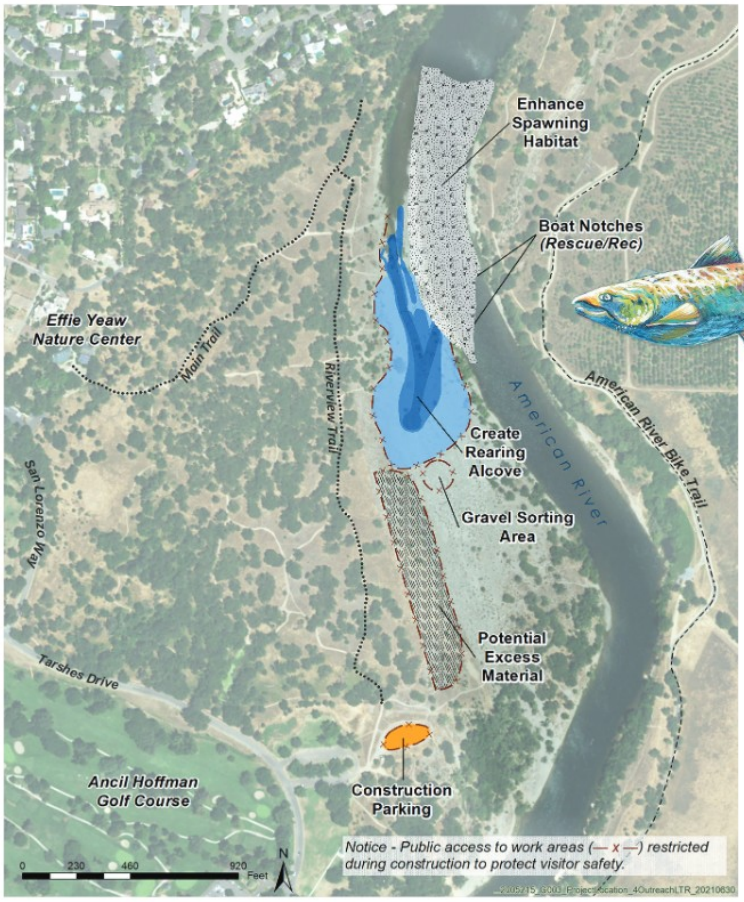
The project created spawning and rearing areas for salmon and trout by laying some 15,800 cubic yards of clean gravel in the river and creating a rearing area by carving out a new alcove in an existing gravel bar. Fish create a nest called a redd in the loose gravel in the riverbed, deposit their eggs and then cover them with more gravel. Once hatched, the young fish move to slower moving side channels to find protection from predators and grow.

In coming months, teams will plant willow cuttings in the rearing alcove and seed the area with native grass and wildflower species.

This is the Water Forum's tenth fish habitat restoration project on the Lower American River. Previous projects were built along Sacramento Bar, Sailor Bar, River Bend Park and Nimbus Basin. Each project has provided successful spawning and rearing habitat for fish.

The project was funded by the U.S. Bureau of Reclamation Central Valley Project Improvement Act Anadromous Fish Restoration Program.

More information on the Water Forum's habitat restoration project can be found at waterforum.org/AH. ■



Horse Power Clears Debris and Invasive Vegetation from Steelhead Creek

BY ROLAND H. BRADY III, PHD, AND CRYSTAL TOBIAS

Flowing southward east of Highway 99 then west into the Sacramento River at Discovery Park, Steelhead Creek is the largest undammed stream in Sacramento County. Water flows through the channel all year.

Although the creek bed has been modified by levees, it supports a narrow but important corridor of riparian habitat which is identified in the American River Parkway Management Plan as "sensitive," and is a valuable recreation element in the American River Parkway. Fall and spring runs of steelhead and Chinook salmon have historically migrated from the Sacramento River through Steelhead Creek into its tributaries to spawn. A host of aquatic organisms, beavers, otters, skunks, raccoons, and numerous birds make this watercourse their home.

North of the levee is the Gardenland Northgate neighborhood. Many of the residents grew up recreating here, but they no longer use the waterway in that fashion. Although still esthetically appealing, the creek banks are overgrown with non-native, scarlet wisteria which grows up to 12 feet tall and pushes out native riparian woody plants. The channel is overgrown with non-native aquatic primrose which is progressively blocking the channel, reducing flow capacity and impeding fish passage. The creek-side habitat also has been highly impacted by homeless camping.

Seven years ago, Roland Brady, Emeritus Professor of Geology from Fresno State University, and the American River Parkway Foundation mile steward between Northgate and West El Camino bridges, identified ecological problems in Steelhead Creek and decided to quantify them scientifically. Crystal Tobias, a self-taught naturalist and co-founder of Friends of Lakes Folsom and Natoma, joined Roland three years ago. Together we conducted a number of small-scale studies of the amount and type of debris in the creek, including tires, shopping carts, mattresses, bedding, tarps, and the like. We recognized that the debris has two deleterious effects.

First, fabric and plastics "armor" the channel bottom, preventing invertebrate organisms — including those that salmonids feed on — from burrowing into the substrate, and it blocks life-sustaining oxygenated water from entering the sediment. Second, large debris such as shopping carts and mattresses accrete flotsam and sediment onto which the primrose attaches, forming islands which then attach to the banks. In places, this has reduced the channel volume by two thirds.

Removing large debris by hand is extremely laborious: an embedded shopping cart can take an hour using a come-along, a tire 1/2 hour, while a saturated mattress, which can weigh over 1,000 pounds, is nearly impossible to retrieve. Realizing that any large-scale clean-up could not be done by hand no matter how many personnel were involved, we wanted to identify a practical way to clean the channel or at least improve it enough to restore its form and ecological function. Heavy equipment would require many permits, significantly impact the waterway, and be very costly. After weighing various options, we decided to experiment using draft horses to haul debris from the channel, pull wisteria stumps, and remove primrose. To our knowledge, using horses to clear a stream channel has never been tried before.

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Steelhead Creek

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After outlining our strategy, the first step was to identify our partners. We were delighted that Save the American River Association agreed to serve as the non-profit and manage the financial account, while Sacramento County Parks agreed to donate in-kind support by removing the trash and hauling it off. Funding was secured through a proposal to the Confluence Program of the Sacramento County Regional Sanitation District. Scott Borello, a horse logger from Greenwood, provided an intrepid team of small but mighty Haflinger draft horses. We hired workers to assist with removing, counting, bagging, and weighing the debris through the NGO Sacramento Regional Conservation Corps. And finally, we applied for and received a Lake and Streambed Alteration (1600) permit from the Dept. of Fish and Wildlife allowing us to proceed. But just then we were informed that owing to COVID restrictions, we had to put the Project on hold. A year later we got the "all clear" and began work last August.

The first two days we cleaned nearly a ton of debris from four abandoned camps along the stream bank. We also experimented with the best ways to rig and manage the horses and crew.

We purchased a decrepit but serviceable 8-foot aluminum John boat to use as a barge, and in it we placed a 1-cubic yard bulk materials handling bag. Wading into the creek, our crew retrieved soft debris from the bottom using garden cultivators, and put it into the bag which, when full, could weigh several hundred pounds. We then pulled the boat next to the shore, hooked the bag up to the horses, and dragged it to a staging area where Parks could remove it with their Bobcat steer loader. Large items like shopping carts and tires were chained directly to the horses, which they readily pulled out of the channel.

To best document the specific types of debris and amounts present in the creek, we identified three "metric" areas in the channel where the debris we removed was catalogued, weighed, and/or the volume measured. For example, in the 90 x 40-foot area directly beneath the Arden-Garden bridge, we removed 4300 pounds (600 cubic feet) of debris, including 32 tires, 3 shopping carts, over a ton of fabrics (384 cubic feet) including a mattress and carpet remnants, 60 pounds of plastic (88 cubic feet), and 250 pounds of miscellaneous debris. This probably represents a minimum of what lies all along the channel bottom.

We also compared the effectiveness of using hand crews vs. horse power to remove the non-native vegetation. In our "metric" area near the Northgate bridge, we removed 192 wisteria bushes. To prevent the spread of their pernicious seed pods, we cut off the branches and laid them on a large tarp which was rolled up like a burrito and hauled up the bank with the horses for disposal. Pulling small (1.5 inch) trunks by hand using a weed wrench was easy so long as the soil was very wet and/or sandy. However, it took the horse team to pull out larger trunks (up to 4 inches diameter). We rigged up a system of chains and rope that allowed the horses to pull three smaller trunks at once in less time than one trunk could be extracted by hand using a weed wrench.

The primrose posed a particular problem because it is bulky, very heavy, and requires wading into sometimes deep water, and it can be strongly attached to the bottom. Here too, we compared hand pulling with removal using the horses. We found that we could put a 20-foot steel cable under a mat of primrose, and the horses could pull it out by the roots and up onto the bank. At the Northgate site, in one half day, the horses made 33 pulls totaling 9200 pounds (340 cubic feet) — a feat impossible by hand. The areas cleared of primrose and wisteria provide important sites to monitor the spread and regrowth of these plants.

In late August, during the second week's work, the water rose by at least a foot to an unsafe level for wading. That usually occurs in late September or October when the rice fields in Yuba County are drained into Steelhead Creek. We had planned to be done by then, but the rice was ready to harvest earlier than usual. We postponed our efforts for a month until early October, when the water went back down, allowing us to work two more weeks, finishing on October 19.

We are now writing the Project Report which will conclude that horses can play an important role in stream rehabilitation. They: 1) allow heavy items to be pulled from the channel; 2) greatly speed the removal of large volumes of bulk debris; 3) can remove wisteria trunks larger than what can be extracted by hand, and can pull smaller trunks more effectively; 4) can pull and remove primrose in greater volume and in less time than can be done by hand; 5) can access areas inaccessible to motorized equipment; and 6) because they impose negligible impact on the riparian habitat, they do not require special permitting or accommodation.

Overall, we consider the Project to have been very successful in terms of assessing the amount and kinds of debris in the channel, developing innovative methods for removing the debris and non-native vegetation, and providing valuable data that can be used to develop a more comprehensive cleanup project. We could not have done it without the involvement of the Save the American River Association, Mr. Scott Borello, County Parks, the Sacramento Regional Conservation Corps, and the Sacramento Regional Sanitation District, for which we are ever grateful. ■

Horses pulling debris, Northgate bridge. Photo by Kathy Kayner

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