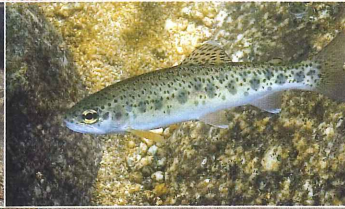


THRIVE CALIFORNIA

Uniting people to solve our Golden State's toughest environmental challenges.



Siskiyou County



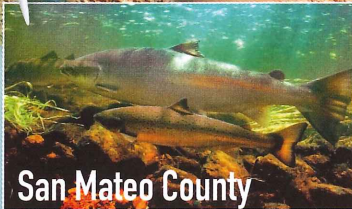
NOT A MOMENT TO SPARE

Projects to bring imperiled fish and wildlife back from the brink can balance human and habitat needs for generations to come

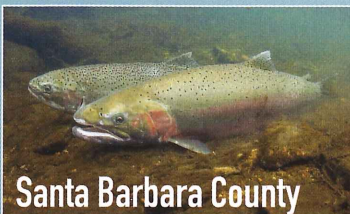
PLUS

SCIENCE BRIEF:

Why restoration matters – and why we need it now



San Mateo County



Santa Barbara County



NOT A MOMENT TO SPARE

Habitat restoration projects have the power to protect California's vibrant landscapes, water. Sustainable Conservation makes it easier for folks like Betsy, Kellyx, and Tim to carry out t



WHERE: French Creek, Siskiyou County
WHO: Betsy Stapleton, Board Chair, Scott River Watershed Council
WHAT: Beaver dam analogue (BDA) installation project

Taking care of people and the planet comes naturally to Betsy Stapleton. During her career as a nurse practitioner, Betsy navigated the highly regulated medical field and translated complex information into human language to get her patients what they needed.

Those skills have transitioned beautifully to Betsy's retirement "hobby" of leading habitat restoration projects up in Siskiyou County. Today, she focuses on improving the health of the land and waterways in her Klamath Basin community. That means identifying solutions that will work for local fish and wildlife and local landowners alike. It also means sorting

out permitting to turn conservation ideas into reality.

One of those solutions borrows an engineering technique from beavers. Betsy learned about this unique method from Dr. Michael Pollock of National Oceanic and Atmospheric Administration (NOAA) Fisheries, and partnered with him to bring it to California. Historically considered a nuisance and nearly hunted to extinction for their pelts, beavers curry favor today with their knack for managing water. The introduction of low-cost post-and-fiber lattice structures – known as "beaver dam analogues," or BDAs – leverages water both in rivers to help recover dwindling

populations of Coho salmon and steelhead, and on land to sustain the area's farming economy and recharge aquifers.

Thanks in part to a permitting tool Sustainable Conservation developed with the California Department of Fish and Wildlife, called the Habitat Restoration and Enhancement (HRE) Act, BDAs are catching on in Betsy's rural, far-northern pocket of the Golden State – and providing a learning lab for folks from all over the U.S.

"I'm a huge fan! You get a permit with everything aligned, including coverage for species listed under the California Endangered Species Act – which saves a lot of money. This tool helps us bring projects to life faster, and aids our outreach to increase restoration."

Beavers are busy for a reason! Building structures that mimic their dams redirects, slows down, and pools stream flows to create hospitable habitat for imperiled fish. This savvy system also helps flows and silt move up onto adjacent floodplains to enhance wetlands, replenish groundwater, and enrich soil.

In 2017, Betsy employed the HRE Act to permit construction of six BDAs on French Creek, a tributary of the Scott River.

SCIENCE BRIEF

Why Restoration Matters – and Why We Need It Now

Fish and wildlife at risk of extinction need our help today. Fortunately, restoration activities can help protect the environment in ways that balance the needs of nature and people. Here are just a few of the

benefits made possible by projects like the ones profiled above:

HEALTHY WATERWAYS offer robust migration corridors that enable wildlife to adapt to climbing temperatures and changing precipitation patterns.

FLOODPLAINS provide room for rivers to spread out and slow down during volatile

storm events, lessening the risk of flooding in downstream communities. In some locations, standing water can percolate down to recharge over-drafted aquifers. **MEANDERING CHANNELS** slow stream velocities, relieving pressure on riverbanks and levees that might otherwise breach and providing crucial aquatic habitat for a

resources, and iconic species.
his time-sensitive work.

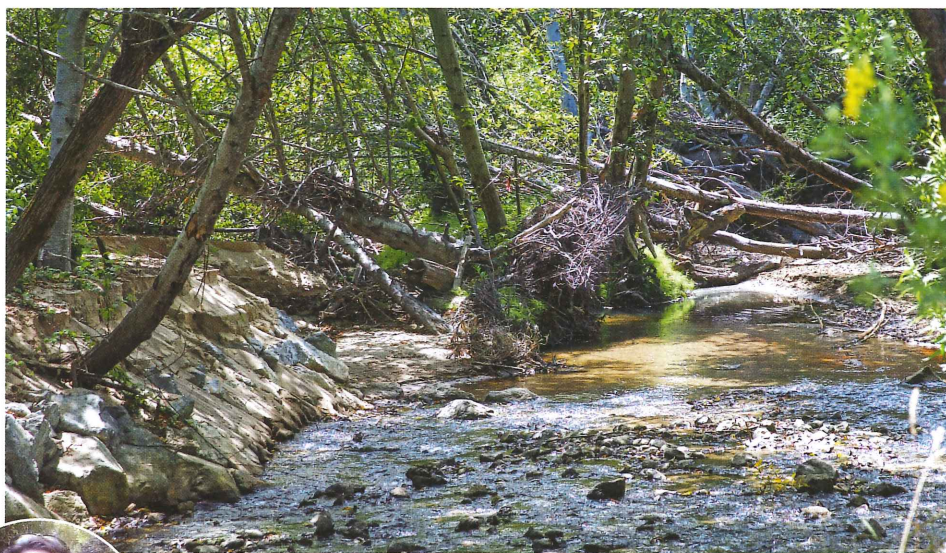
First and foremost, we're in the relationship business," says Kellyx Nelson. Helming a local government entity that aids landowners in stewarding natural resources, Kellyx is a staunch believer in common ground to catalyze conservation.

Sound familiar? Resource Conservation Districts (RCDs) have long been treasured partners of Sustainable Conservation in accelerating restoration across California. We share a collaborative ethos, and Sustainable Conservation's permitting tools are tailor-made for the types of projects RCDs carry out to serve people, nature, and agriculture.

Healing our Golden State landscapes is of utmost importance to the more than 350 California species currently listed as threatened or endangered – as well as to our water and climate resiliency. For example, Coho salmon are on the brink of vanishing from Kellyx's coastal district.

A permitting program Sustainable Conservation helped broker between the California Coastal Commission and National Oceanic and Atmospheric Administration (NOAA) Restoration Center saves Kellyx and her staff oodles of time – an estimated one to two years per project that can now go toward reaping restoration work's intended benefits.

In 2016, Kellyx's RCD utilized the program to partner with Peninsula Open Space Trust (POST) to reconnect Butano Creek with approximately 100 acres of floodplain and enhance creek function. By building up the deeply eroded creek bed and introducing boulders and logs at strategic points, water can slow to a more hospitable



WHERE: Butano Creek, San Mateo County
WHO: Kellyx Nelson, Executive Director, San Mateo County Resource Conservation District
WHAT: Floodplain restoration project

clip for local Coho and steelhead and scour refuge pools for both young and migrating adult fish.

Water can also spill over the creek banks now, dropping out sediment that would otherwise sandblast fish eggs and juvenile fish. Recovered wetland once again hosts special critters like the California red-legged frog and rare San Francisco garter snake. Out on the land, creek flows help recharge groundwater. And, downstream, the floodplain restoration prevents 150,000 tons of sediment from inhibiting fish migration and causing flooding in the Pescadero community.

For Kellyx, finding solutions to meet the complex, pressing needs of the

"Today's conservation work MUST keep up with the scale and pace of threats facing our natural resources. Sustainable Conservation understands that predicament and is doing something about it."

environment and people is "heart work." With committed folks like her in dialogue with the land and landowners, our Golden State's vitals have hope yet.

Continued on back

host of species in every region of the state. **IN-STREAM LOGS AND STREAMBANK VEGETATION** give fish cover from predators, form refuge pools, and decrease the likelihood of streams evaporating during dry periods. **RIVER-ADJACENT FORESTS** grow shade canopies that keep water from getting too

hot for native fish and provide homes for songbirds, owls, and raptors.

INCREASED AQUIFER STORAGE will help California meet future droughts. Underground caching keeps more water in-stream to support aquatic ecology while ensuring communities and farms have what they need to grow our food.

Our Role: Sustainable Conservation works with state and federal agencies in California to simplify the permitting process, while maintaining strict environmental standards, so more restoration can be done now – not years from now – to help our fish, wildlife, and communities thrive.

Continued from inside



WHERE: Quiota Creek, Santa Barbara County
WHO: Tim Robinson, Ph.D., Senior Resources Scientist and Fisheries Division Manager, Cachuma Operation and Maintenance Board
WHAT: Fish passage improvement project



Bridge by bridge, Tim Robinson works to revive endangered Southern California steelhead.

By removing fish passage barriers in the Santa Ynez River watershed, Tim and his colleagues contribute to the bigger picture of restoration and resulting ecosystem health for the area. On Quiota Creek, that means replacing small culverts that carry water under low-flow, concrete stream crossings with spacious bridges. Eleven of these road structures have historically impeded Quiota Creek migration by Southern California's distinct population of steelhead, which has spent 20 years on the federal endangered species list.

Bridges afford more room for

stream passage, offering adult and juvenile steelhead access to precious spawning and rearing habitats within the creek – true lifelines to a species in trouble. These spanning installations also support local wildlife, including California red-legged frogs and Western pond turtles, in moving freely within a connected environment; help keep local roads from flooding; and provide safer passage for firefighting teams into Los Padres National Forest.

Permit by permit, Tim's team negotiates the regulatory matrix to implement these vital restoration projects. **Thanks to the Habitat Restoration and Enhancement (HRE) Act – Sustainable Conservation's**

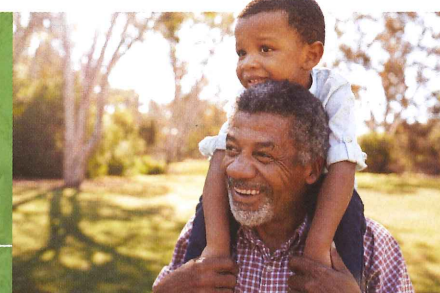
legislation that expedites the California Department of Fish and Wildlife's permitting process – compromised creek crossings can be fixed more efficiently than ever. Tim has employed the HRE Act to advance three of eight Quiota Creek fish passage improvement projects to date, the latest of which will be constructed in the fall of 2018.

"Trimming time off the permitting process means a lot when we're up against funding deadlines and encroaching winter weather to get these projects in the ground. The restoration community needs help to recover these fish, and we're grateful for the HRE Act's insightful support."

Without a moment to spare, research findings tied to these projects spark hope for Southern California steelhead and their human advocates. Tim has been able to DNA-type fish to Quiota Creek – meaning the fish had matured in Quiota Creek, traveled to the ocean as a smolt, and returned to spawn in its natal stream. Knowing the anadromous gene – innate direction to head back up rivers from the sea to procreate – is alive and well in this tributary motivates Tim's efforts on behalf of our Golden State's endangered fish and wildlife.

HOW WILL YOU BE REMEMBERED?

With your help, Sustainable Conservation has been bringing people together for over 25 years. Your legacy gift ensures that you and we can keep uniting people for environmental solutions that make economic sense. Creating a legacy gift to Sustainable Conservation can be as simple as signing your name, and might provide tax protection to your heirs. To learn more, please see suscon.org/giving-details. Or, contact Martha Henderson, Director of Development, at mhenderson@suscon.org or 415-977-0380 x305.



Sustainable Conservation Sustainable Conservation helps California thrive by uniting people to solve the toughest challenges facing our land, air, and water.

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