Rewilding California Rivers

By John Carlon, President, River Partners

In 1998, Barney Flynn and I started River Partners with the sole mission of rewilding rivers. We weren’t interested in fighting others to stop the destruction of riparian habitat - the forest that grows along rivers, we wanted to create it. Our plan was to engage farmers and ecologists in river conservation. We didn’t know it at the time but this would be our first step in a long journey of building collaborative partnerships.

Why only focus on Rivers? Because healthy rivers, and the water that flows through them, are the lifeblood of our communities.

Since the Gold Rush we have been trashing our rivers. The 49ers turned them inside out with dynamite and hydraulic mining. A hundred years later we built dams first Shasta then Oroville. Now we have completely re-plumbed our rivers so that we can sell water. Like a teenager with a credit card we have been on a spending spree with our ecological capital. It has been all about us – spend now pay later.

Our young organization wanted to reverse this trend and make our rivers healthy again. How could a small, non-profit help solve an environmental crisis this big? We would plant trees - a few at first, and then hundreds, and then thousands, and then tens of thousands. We would continue to plant trees until all of the wildlife species that depend on these forests for their survival are safe from extinction.

When most people think of a river they picture flowing water, but rivers are also floodplains - the land where a river is now, has been in the past, or will be in the future. Floodplains filter out pollutants, slow down and disperse flood water, and recharge our aquifers. They are also some of the most biologically productive places on the planet. And our floodplains are literally teeming with wildlife - birds that migrate from as far away as Argentina and the Arctic Circle, and resident wildlife that are found nowhere else. Like canaries in a coal mine, when these birds start to disappear our rivers are in trouble.

Ninety-five percent of California’s riparian habitat is gone. As the last remaining blocks of forest die off - they’re not replaced. The natural processes that rejuvenate these forests are altered and our rivers can no longer heal themselves. All attempts to regenerate riparian habitat in California without human intervention have failed. When people tried retiring farmland to let the forest come back on its own, all that grew back were weeds.

Armed with the belief that we could make native plants grow, we started actively planting back forests, one tree at a time. The mystery was no one could tell us what our forest should look like. We started experimenting, randomly planting different native trees across fields and monitoring the results. As we learned how to match the right tree with the right soil and site conditions we expanded our operation.

With our new plant designs our trees grew faster and died less often. We planted more; our hope was that if we could establish a large enough patch of habitat wildlife would move in. We believed that if we “built it they would come.” Gophers and voles were the first to show up. They moved in and ate everything we planted. We survived the attack but learned an important lesson about restoration ecology – you have to be careful who you invite to

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It has been fifteen years since Sacramento River Partners began its restoration activities on the Sacramento River. The success of the organization did not go unnoticed and within a few years we dropped the name “Sacramento” and became simply River Partners. At our 10th anniversary, we were at work on eight California rivers; now, as we celebrate our 15th anniversary, we have completed or are presently engaged in restoration efforts on thirteen California rivers.

In this anniversary edition of the Journal, the staff of River Partners surveys the organization’s efforts over the past fifteen years. The science of riparian restoration has advanced over this period and River Partners has been a leader in the field. The field itself is certain to become more complex as restoration specialists are forced to deal with issues of flooding, drought and whatever additional challenges are brought on by climate change.

In his cover essay, president John Carlon reviews the mission and growth of River Partners, the learning curve associated with a relatively new restoration process, how the organization responded to the concerns of farmers and the flood-control community, and its cooperative relationship with stakeholders, policy-makers and the public.

Senior Restoration Biologist Helen Swagerty discusses River Partners work in the Sacramento Valley and illustrates how, over its fifteen-year existence, its mission has expanded to include land acquisition, meeting community needs, and educating policy-makers.

The collaborative article written by four members of the River Partners science staff explains why the organization has earned a strong reputation for designing and implementing science-based restoration projects, utilizing methods that include hydraulic modeling, specifically-oriented planting designs, and long-term wildlife monitoring.

Julie Rentner’s summary essay on River Partner’s thirteen years of restoration activity on the San Joaquin River National Wildlife Refuge presents a photo-oriented timeline that creatively reviews our efforts on the Refuge; Julie then discusses what lessons can be learned from the experience.

The San Diego watershed is River Partners newest area of restoration activity and David Neubert writes about how we got there, what we are doing there, the challenges confronted, particularly with regard to water delivery, and future projects in the region.

On May 31 River Partners will celebrate its 15th anniversary and we are asking our partners and supporters to save the date and join us as we look back at our past accomplishments and look forward to the challenges that lie ahead.
Rewilding California Rivers

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Once we were confident that we could get native plants to grow and survive, we wanted to go big. Our goal was to double the amount of existing riverside forest, to plant 20,000 acres. To do this, we would need to plant hundreds of acres at a time, something that had never been done with riparian species. Utilizing modern agricultural practices we went to work. We tried different planting methods and built customized farming equipment. Most importantly, as ecologists and farmers, we learned to work together.

River Partners now has the capacity to actively rewild a floodplain in three years. In year-one we clear the ground, prepare it for planting, install an irrigation system, and plant the native trees, shrubs, and grasses. In years two and three we control the weeds and water the plants. By the end of the third growing season we have trees 30 feet tall that are able to survive on their own without any further human attention.

As our forests matured our focus shifted to wildlife – were they actually utilizing the habitat we created. To help us answer this question we invited biologists to start monitoring our projects. Working together we learned how to arrange combinations of plants into groups that would attract different kinds of wildlife. We continued to adapt and modify our plant designs and wildlife poured into our projects. Fields that supported 4 different kinds of birds before we started had 53 different species three years later. Larger animals moved in as well. In some of our newly rewilded areas we had so many mountain lions that we had to provide mountain lion safety training for our employees.

Planting our first 100-acre project attracted the attention of the agricultural community. Our neighbors worried that our wildlife would damage their crops. Fearful of government regulators they were reluctant to share a fence line with an environmental group that harbors endangered species. When farmers started showing up at public meetings opposing our projects, we realized we had a problem.

Before we put another tree in the ground we met with all of our neighbors and listened to their concerns. I think it helped that we spoke farming, but I was still amazed by the results. Working together, we developed projects that benefited all of us. We could buffer their fields from flood damage and they could help us implement our projects. Hiring farmers to work on our projects resulted in larger plantings with better plant survivorship.

Almost all of the land we work on is located inside floodways. After we planted a thousand acres of forest the flood control community became alarmed. Like farmers before them, they showed up at public meetings opposing our projects. The flood engineers were concerned that we were endangering public safety by clogging floodways with vegetation. They were worried that the trees we were planting would grow wild and out of control and make their job of keeping flood channels clear much more difficult. Fearful of government regulators they were reluctant to share a levee with an environmental organization that harbors endangered species. Sound familiar?

Our new challenge was to design forests that we could safely plant in floodways that would still provide high quality habitat for wildlife. To meet this challenge we needed the help of engineers. Working together, we identified some remarkable opportunities. Many riparian trees are very flexible and allow floodwaters to pass unimpeded. While floodwaters damage farms and cities it nourishes riparian forests. When we take land out of production and convert it into forest we take it out of harm’s way and provide a location to divert floodwater. Unlike the landowners before us, we are happy to “park” floodwater on our land. This kind of flooding is not only great for wildlife, it also improves public safety. Rewilding rivers is one of the most cost effective methods of flood control.

Working with ecologists, farmers, biologists, and engineers River Partners now restores 1,000-acres a year. Over the last 15 years we have planted almost 2 million trees, rewilding 8,000 acres. People who use to be our biggest critics have become some of our best clients. From San Diego to Redding, songbirds, brush rabbits, foxes, and mountain lions are surviving in habitat we created. Even some of those disappearing songbirds are starting to come back. A least Bell’s vireo, a bird that had not been seen in the Central Valley for 60 years, built it’s nest, and fledged it’s young, in a tree we planted.

We are off to a good start but it’s going to take more work to restore the health of our rivers. We have to reconnect our rivers to their floodplains and improve in-stream flows. Restoring natural river processes will not only help wildlife, it will also keep our supply of water clean and dependable. Truly, rewilding our rivers will take more than farmers, ecologists, biologists, and engineers working together – it’s going to take all of us.

The 1600-acre The Dos Rios Ranch was acquired by River Partners in 2012. Photo by Douglas Steckly
Since our inception, River Partners has earned a strong reputation for designing and implementing science-based restoration projects. From the beginning, we adopted sound horticultural techniques, with native woody species planted in rows and maintained using agriculture practices like irrigation and weed control. We also considered factors that remain important to riparian restoration planning, such as soil characteristics and land-use history.

At the same time, we were becoming curious about the potential to include native understory species in addition to overstory trees and shrubs. Our hypothesis was that native understory species could further enhance wildlife habitat, as well as serve as a barrier to weed invasion in years after restoration. On River Partners’ first project at Ord Bend in Glenn County, a cover crop was planted in year 1 between rows of native woody species. The following year, 4 native grass species were planted to replace the cover crop, and 10 native grass species were added into smaller experimental plots to examine species responses to the 5 different soil types spanning the 50-acre site (Fig. 1). A robust annual monitoring effort demonstrated gradual increases in native grass cover, and soil types strongly affected which species became dominant through time. At a 777-acre site on the San Joaquin River National Wildlife Refuge, we experimented with native grasses and broadleaf species for understory restoration, including mugwort, gumplant, and creeping wildrye. River Partners staff collected native seed for propagation and tested seed viability and germination requirements. Stephen Sheppard, our Director of Operations, worked hard to implement these practices (Fig. 2), and he also evaluated additional understory species for use by River Partners (a process that continues to this day).

Through the years, we have used our science-based approach to tackle a wide array of challenges and to improve success on riparian restoration projects on major rivers throughout California. Our focus has expanded to include planting designs to create habitat mosaics to maximize the niches exploitable by breeding songbirds. Early riparian restoration efforts targeting species such as the yellow-billed cuckoo generally had low plant species diversity and rather uniform vegetation structure. Discussions with wildlife conservationists led us to increase the number of woody shrubs and other non-tree species in order to create variation in habitat structure that led to increased diversity and richness in restored forests. Long-term monitoring of avian species at the Beehive Bend project in Glenn County, Point Blue Conservation Science (formerly PRBO) has verified the success of these designs. Over an eight-year period at the Beehive Bend project in Glenn County, Point Blue staff found that avian species richness in restored forests increased to approximately the same levels as found in neighboring remnant riparian forests (Fig. 3). River Partners has also created planting designs to aid in conservation of endangered mammals. For example, restoration projects at the San Joaquin National Wildlife Refuge have included carefully designed habitat features for the endangered riparian brush rabbit, which requires dense shrub cover and high-ground refugia during flood events (Fig. 4). A similar approach has been taken in the initial stages of restoration at our large-scale Dos Rios Ranch project at the confluence of the Tuolumne and San Joaquin rivers (Fig. 5).

Beginning with the O’Connor Lakes project in 2004, River Partners also began to contract with consulting firms to perform hydraulic modeling in support of our permit applications to the Central Valley Flood Protection Board. These permits, which are required in advance of planting native woody vegetation in floodways, are only issued after applicants can demonstrate that planned restoration activities will not increase flood risk to
Figure 5. A recently constructed bunny mound at the Dos Rios Ranch restoration project in Stanislaus County surrounding areas. Since then, most of our projects have had some level of hydraulic modeling as part of planning and design, guiding River Partners scientists to adopt a broader, watershed perspective and to consider ways to achieve flood neutrality while maximizing habitat value and other benefits.

Over the years, we have also delivered scientific results and “lessons learned” to an increasingly broad audience across California. Our projects have been presented at a wide variety of professional workshops and conferences, such as those hosted by the California Invasive Species Council (Cal-IPC) and the California Society for Ecological Restoration (SERCAL). In addition, we produced the widely read California Riparian Restoration handbook in 2009, a work that continues to be downloaded frequently from our website. River Partners scientists have also been co-authors on peer-reviewed publications in scientific journals, as well as producing numerous outreach articles in journals and newsletters of SERCAL, the California Native Plant Society, and the California Native Grassland Association.

On our 15th anniversary, we are proud that River Partners has established a reputation for science-based habitat restoration for the benefit of people and the environment. We are continuing to seek ways to expand our internal body of scientific knowledge that underscores our successful restoration projects. We have expanded the number and scope of our field experiments with tests of additional native species, new restoration and monitoring methods, and techniques designed to reduce restoration costs. We have also expanded our efforts to translate our projects and results to a broad audience of stakeholders spanning state and federal agencies, private-sector consultants, non-profits, and restoration practitioners. Both our internal and external scientific efforts are being bolstered through new and continuing partnerships with academic researchers, non-profit and agency scientists, and private-sector consultants.

At the same time, we are working on translating and marketing our science-based restoration practices to effect changes within the framework of state and federal agencies as well as the broader policy arena. Questions we are considering include: How can we apply our experience to reduce or remove permitting and policy hurdles that affect not only River Partners’ project success, but also the larger conservation landscape of California? How do the results of our long-term project monitoring efforts inform ongoing debates about vegetated levees and planting woody vegetation in floodways? In addition, how can we leverage our experience with funding acquisition and partnership building to support regional and state-wide coalitions working to advance multi-benefit projects along California’s major rivers?

For 15 years, we have used science-based restoration approaches to become an industry leader in the field. Now the challenge is to continue to accomplish our core mission by improving our restoration practices, while capitalizing on our expertise to engage broader issues relating to wildlife conservation, habitat design, and floodway policy.

Adopt a Tree!

Join us in our mission to create wildlife habitat for the benefit of people and the environment. Your contribution will support our work to restore and protect the rivers of California. You will receive our quarterly Journal and invitations to special tours and events.

☐ Yes! I’ll give the gift of nature and adopt a tree to support River Partners.

Adopt A Tree Options:
☐ $150 10 Trees ☐ $ 60 4 Trees
☐ $135 9 Trees ☐ $ 45 3 Trees
☐ $120 8 Trees ☐ $ 30 2 Trees
☐ $105 7 Trees ☐ $ 15 1 Tree
☐ $ 90 6 Trees ☐ $____ Other
☐ $ 75 5 Trees

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Please send your check made out to: “River Partners” 580 Vallombrosa Ave., Chico CA 95926. Thank you for your tax-deductible contribution. River Partners is a 501(c)3 nonprofit. Online Credit Card payments at RiverPartners.org. Phone orders at (530) 894-5401 x 223.
A Model for the Future - Closing a Chapter at Valley Ranch

By Julie Rentner, Director of Special Projects

In 2001, River Partners’ Board of Directors travelled to the newly acquired, 3,166-acre “West Unit” of the San Joaquin River National Wildlife Refuge to brainstorm on large-scale wildlife habitat restoration, and make an historic decision: to change our name from ‘Sacramento River Partners’ to ‘River Partners’ symbolizing a shift in geographic interest from our home in the north state to rivers that need help all over the western US. Since that meeting, we have been working closely with the USFWS Refuge staff and management to design and implement the largest contiguous block of riparian and floodplain restoration in the Central Valley. Thanks to generous contributions and strategic partnerships with a variety of agencies and organizations (see inset), 2014 represents the last year of maintenance for the final phase of this large-scale restoration initiative. 2,500 acres of floodplains lands that had previously been cleared for agriculture have now been returned to native vegetation communities strategically designed to support endangered species. Hundreds of additional acres of remnant habitat areas have been enhanced through weed removal and grass seeding – particularly after large floods and fires. These efforts have brought over $35 million in competitive grants to Stanislaus County, and over 250,000 labor hours for Central Valley residents. River Partners is so pleased to have been a project partner in this astounding accomplishment, and it deserves some reflection as we celebrate 15 years of organizational growth and achievement.

As a model wildlife recovery and flood management project, what lessons can we take from this experience as we look to the future at Dos Rios Ranch and Hidden Valley Ranch, and beyond? First, and perhaps most important: It takes a village to complete large-scale wildlife recovery. From excellent scientists to responsible land managers to creative engineers to flexible vendors to labor to NGOs to agencies, it is impossible to describe all of the folks in the local, regional and statewide ‘neighborhood’ who came together to support this initiative. Without broad support from a diverse team, such a large outcome will not be possible.

2001
A nursery was established including a wide genetic variety of cottonwoods and willows to provide stock for the upcoming restoration efforts.

2003 - 2004
Project partners completed the first of a series of hydraulic analyses that would inform restoration design. We planted our first 800 acres.

August 2004
A fire started on Highway 132 and travelled south across the site – burning remnant habitat areas but sparing the newly planted restoration project.

2005 - 2006
We celebrated the return of the endangered Least Bell’s Vireo to nest at the Refuge in trees that we planted.

2006
A springtime flood inundated the Refuge illustrating the critical need for vegetated high-ground refugia for endangered mammals.

2006-8
We initiated restoration of an additional ~1200 acres including over 8 miles of levee slopes and >30 ‘bunny mounds’.

2008
Another fire chars the Refuge but post-fire monitoring shows resilience from the native herbaceous understory.
possible in the future.

Second: "It takes vision and guts to initiate a large project, and it takes strong and respectful team leadership to bring such a large vision to life. Throughout the years, there have been challenges. From funding freezes and government shutdowns to floods and fires to lacking resources to staff turnover, it is impossible to name all of the specific lessons that have been learned by this productive partnership, except that flexibility and resolve are required to lead such an incredible effort. Without the visionary leadership and unflinching resolve of the USFWS, such a model project will struggle to get off the ground in the future.

Finally: Large-scale habitat restoration initiatives must be founded in good science, and must be flexible enough to change course as new science comes to light. When this project was first conceived, the primary value was thought to be in the “Frequently Activated Floodplain” – the fish habitat areas that would be reconnected to the river through eventual levee breaching. As we watched dry year after dry year, punctuated with the large flood events of 2006 and 2011, we learned that the floodplain reconnection is not only difficult and very important, but the habitat value of the restored floodplain during non-flood years was very important too! From yellow warblers and least Bell’s vireo to riparian brush rabbit and riparian woodrat, this project showed us all that our floodplains are very diverse habitat areas with potential to provide species recovery for several critters at the same time. Without a team culture of adaptive management and relentless self-assessment, such a multi-faceted initiative will not achieve such a myriad of benefits in the future.

As we look to the future of Mid-San Joaquin River Region and its upcoming conservation and integrated water management initiatives, and envision large-scale floodplain restoration in the San Joaquin Valley and beyond, these lessons of team-reliance, strong leadership and adaptive management should guide our efforts and our investments. 15 years in, River Partners is excited to be able to continue contributing to large-scale initiatives in California. We hope the next 15 years bring as many learning opportunities and excellent partnerships for wildlife recovery successes as the past 15.

Partners
• US Fish and Wildlife Service
• USDA – Natural Resources Conservation Service
• US Army Corps of Engineers
• US Bureau of Reclamation
• California Natural Resources Agency, including Department of Water Resources and Department of Fish and Wildlife
• California Wildlife Conservation Board
• State Water Resources Control Board
• Endangered Species Recovery Program at CSU Stanislaus
• Point Blue Conservation Science
• Ducks Unlimited
• Tuolumne River Trust
• California Conservation Corps
• San Joaquin Regional Conservation Corps
• Youth Conservation Corps
River Partners in San Diego

By David Neubert, River Partners

In January 2008, River Partners staff made their first exploratory trip to San Diego to look at habitat restoration opportunities. Before we departed Chico, we cold-called Mr. John Willett, Chair of the Otay Valley Regional Park Citizen Advisory Committee, whose name kept popping up on Google whenever we looked up the Otay River. We pitched him on River Partners’ capabilities and asked if he thought there were any opportunities to do riparian habitat restoration work in San Diego County. John enthusiastically suggested that we come to his house for a meeting with other stakeholders to discuss opportunities. Further, he offered to organize the entire event and assured us that people in the South Bay area of San Diego were interested.

Arriving at his tidy house in Chula Vista on a sunny winter day, we were ushered into his garage, which was set up as a make-shift war room for Otay River restoration and clean-up projects. Maps hung on the walls with arrows and dots pasted on them. Flip-charts and tables were set up and chairs were in place for the upcoming meeting. As people began arriving at the appointed time, our 85+ year old host enthusiastically greeted them and graciously introduced River Partners staff. It was obvious to all that John Willett had great passion for habitat restoration, a love of his community and possessed boundless energy.

As the meeting broke up a few hours later River Partners left with the support of a wide variety of local, state and federal stakeholders - all of whom were, to one degree or another, infected with John’s passion for the Otay River.

Returning to Chico, River Partners was soon able to secure $25,000 in funding from the Resources Legacy Fund to undertake a pre-restoration plan for the Otay River. Later that year, the pre-restoration plan evolved into grant proposals for Caltrans, the San Diego Foundation, and the Wildlife Conservation Board (WCB). These grants helped fund approximately 50 acres of habitat restoration at the point where the Otay River flows into the San Diego Bay, on U.S. Fish and Wildlife property, which we called the Otay Delta project.

Just as our projects in San Diego began to gain momentum, the U.S. economy went into a tailspin after the credit and housing bubble burst in the fall of 2008. We were able to secure funding for the Otay Delta project, but other projects we had lined up were frozen as the State’s financial machinery ground to a halt. Like the rest of the economy, it took several years for the State grant machinery to begin operating again.

The challenges we faced were not just limited to securing financial support for our Otay projects. In San Diego, buying municipal tap water for large-scale restoration projects is cost-prohibitive. To control costs in Southern California, we needed to identify alternative irrigation water sources. At Otay Delta, we found a nearby agricultural well that had been developed more than 60 years earlier. The challenge was that the well was located on the east side of the I-5 freeway and our project was located ¼ mile away on the west side of I-5.

In searching for a solution on how to move the water, our field foreman took a simple and practical approach – he found the old irrigation main line and hooked it up to a 1,000 gallon water tank, pressurized it and looked for leaks. Luckily, the leak was on the opposite side of the freeway so we knew there was an existing pipe we could tap into.

The next challenge was getting the irrigation pipe across the Otay River. To lay a new pipe would involve years of complex permitting and hundreds of hours of staff time. We again pressurized the pipe with water, looking for the point where it crossed under the river, but this time we found no leaks.

These are just a few of the typical challenges our team faces in Southern California where our restoration sites may lie next to freeways, industrial parks and mile after mile of urban sprawl.

San Diego County is one of the most biologically diverse parts of our country. It contains more threatened and endangered species than any other county in the U.S.
River Partners in San Diego

Although the field operations and partnerships in San Diego are complex, we have full backing of the community, elected officials and local institutions.

As the economic thaw began, in 2011, River Partners received WCB funding for the 178-acre Rancho Jamul project. This project was located on the Department of Fish and Wildlife Rancho Jamul Ecological Preserve and the Hollenbeck Wildlife Area. Dulzura Creek, which flows through the project area, is used by the San Diego City Water Department to transfer drinking water from the Barrett Reservoir to the Lower Otay Reservoir. When transfers occur, the creek provides an important groundwater recharge source for our wells that irrigate the Rancho Jamul project.

In 2012, the Upper Otay project was approved for funding by the Department of Water Resources. Soon after receiving the award letter for the 71-acre Upper Otay project, River Partners applied for and received additional Caltrans funding for 25 acres adjacent to the Upper Otay at Proctor Valley. With only twelve inches of rainfall per year, water is always a limiting factor in our San Diego projects. In this case, River Partners negotiated an agreement with the City of San Diego Water Department allowing us to draw water directly out of the Upper Otay Reservoir to irrigate our restoration site. The reservoir is partially recharged by landscaping runoff that escapes from the neighboring subdivisions that were built in the 1990’s. Ironically, some of this water originates from as far away as Lake Oroville near Chico and is shipped to Southern California via the California Aqueduct.

Our next project, at the San Dieguito River, received funding approval in September 2013. The 100-acre site contains a number of abandoned agricultural wells that River Partners will rehabilitate for irrigating the restored riparian habitat. After the restoration site is irrigated for three years, the native plant roots will be tapped into groundwater and will be self-sufficient. At that point, we will turn off the pumps and return management to Mother Nature.

As River Partners enters its 15th year, our San Diego office is working with the California Department of Fish and Wildlife and the WCB to design and fund the 128-acre Rancho Jamul Phase II project. This project will fill in a gap and link together earlier projects to form a continuous five mile riparian corridor on Dulzura Creek.

San Diego County is one of the most biologically diverse parts of our country. It contains more threatened and endangered species than any other county in the U.S. River Partners’ projects are specifically designed to create habitat for these listed species. In the coming years, we will be monitoring for a diverse mix of critters including the Quino checkerspot butterfly, Arroyo toad, San Diego horned lizard, California gnatcatcher, Cactus wren and Least Bell’s vireo to name a few. Success of our 500+ acres of restoration in San Diego will be measured by our ability to provide habitat to these rare and endangered species as well as enrich the lives of people throughout the county.

We all owe a debt of gratitude to John Willett and the many other people in San Diego who have supported our work and welcomed River Partners into their community.
15 Years of Restoration in the Sacramento Valley

By Helen Swagerty, Senior Restoration Biologist

Like the dynamic rivers and floodplains on which River Partners carries out its restoration activities, our organization and work in the Sacramento Valley have evolved over the past fifteen years. The initial vision was to reverse the trend of habitat destruction by planting native riparian plant species and restoring wildlife populations that depend on the vegetation of the wildlife corridors along the large rivers of the Central Valley. Our business model has changed over time with habitat restoration remaining as our core mission and driving force, but it has been expanded to land acquisitions, community planning and educating policymakers.

In our first restoration project, River Partners collaborated with the US Fish and Wildlife Service (USFWS) to restore 100 acres on the Sacramento River National Wildlife Refuge Ord Bend Unit. It served as an experimental restoration project designed to yield high quality wildlife habitat on a large scale. The design approach utilized was simple: plant 10 species of native plants and arrange them in varying patterns to develop a vegetation structure that would attract targeted wildlife species, such as the federally threatened valley elderberry longhorn beetle (Desmocerus californicus diamorphus) and neo-tropical migratory birds. In 2003, River Partners surveyed elderberry shrubs at this unit and noted that the elusive valley elderberry longhorn beetle (VELB) had colonized the site.

Although native grasses support a wide variety of wildlife species and provide important ecological benefits, they were often excluded as part of riparian restoration projects or implemented on a small scale. The Ord Bend Unit provided an opportunity to demonstrate that 50 acres of native grasses could be successfully incorporated amongst woody riparian species and allowed us to test several planting strategies to compare the relative success of each approach. It also enabled us to refine our process and document how a grass mix sorts itself out by soil type. To date, River Partners has established approximately 2,000 acres of native grasses in the Sacramento Valley.

In 2002, River Partners acquired a 259-acre property along the Sacramento River at the urging of our co-founder Barney Flynn. The parcel, which was named the Del Rio Wildland Preserve, marked River Partners’ first large acquisition solely for riparian restoration with the intention to donate it to a state or federal partner for conservation and public access. Barney firmly believed such land and access to the river belonged to the people of California.

The site has hosted many community events and served as an outdoor laboratory for local students from Butte and Glenn Counties. After his passing in 2010, we renamed the Del Rio Wildland Preserve the Bernard F. Flynn, Jr. Wildland Preserve in his memory.

A core value of River Partners, beyond carrying out restoration projects that provide high quality wildlife habitat, is to ensure that the planned project also serves the needs of the local community. The Llano Seco Riparian Sanctuary Unit project exemplifies this core value in our collaboration with the USFWS and the Princeton-Codora- Glenn and Provident Irrigation Districts (PCGID-PID). When completed the project will provide riparian habitat, stabilize the riverbank to protect the operation of a pumping plant and fish screen facility threatened by the meandering river, and remove upstream rock revetment in order to reinitiate natural river processes and mitigate for downstream rock placement. In addition, as planned, the project has the potential to supply a reliable source of water to 30,000 acres of agricultural areas.

Several community events, such as birding tours, take place at the Bernard Flynn, Jr. Wildland Preserve.
and wetlands in Glenn County and will be the first project to remove rock revetment on the Sacramento River.

Adapting and building upon past experience is at the heart of River Partners success. In 2004 River Partners continued to gain recognition for the quality of its restoration projects and began work on the O’Connor Lakes Unit of the California Department of Fish and Wildlife’s Feather River Wildlife Area. This 228-acre restoration project took our restoration work from rural areas with large floodplains to a region with urbanizing communities and a history of catastrophic levee failures. The sensitive reach between Marysville, Yuba City and Sutter Bypass on the Feather River encompasses an area where three rivers (Yuba, Bear and Feather) converge and the floodways narrow due to the levee system. As a result, our scientific approach to designing projects was refined to include more sophisticated hydraulic modeling and working with flood engineers to ensure that restoration projects do not pose a risk to public safety. After planting, floodwaters that entered and safely exited the site showed the success of our planting design.

As part of the O’Connor Lakes project, River Partners facilitated the signing of a multi-agency agreement among the Central Valley Flood Protection Board, the USFWS, California Department of Water Resources (DWR) and California Department of Fish and Game (now Fish and Wildlife). The multi-agency agreement allowed for the planting of the elderberry shrubs as part of the O’Connor Lakes habitat restoration project, without any obligation to mitigate for their loss if future maintenance or flood fighting activities damage or destroy the planted bushes. An agreement of this kind had never before been negotiated and illustrates River Partners’ ability to build consensus.

With a presence in the Feather River Watershed, River Partners worked with the flood management community on three of the largest setback levee projects in the state (Bear River Setback, Feather River Setback and Star Bend Setback). By working directly with hydraulic and civil engineers, we were able to integrate riparian vegetation as a design feature to protect newly constructed levees from erosion as a result of wind/wave action. Planting buffers on the floodway will help dissipate kinetic energy that could affect levee integrity. Moreover, multi-discipline collaboration results in projects that achieve both public safety and increase wildlife habitat.

As we celebrate our 15th anniversary, we look fondly on our accomplishments. Responding to the challenges we’ve encountered has advanced our restoration processes, built our confidence in efficiently restoring quality habitat, and broadened our range of services. Our drive has never been stronger as we look to the future to fulfill our important mission.
SAVE THE DATE

RIVER PARTNERS’
15th ANNIVERSARY EVENT
SIERRA NEVADA BREWERY BIG ROOM
SATURDAY, MAY 31st, 2014

Join with us to celebrate 15 years of creating wildlife habitat for the benefit of people and the environment

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