Riparian Habitat Restoration Begins at Dos Rios Ranch

By Jeff Holt, Restoration Biologist and Julie Rentner, Central Valley Regional Director

On April 25, just one year since closing the acquisition of the 1600-acre Dos Rios Ranch in Stanislaus County, River Partners and the California Conservation Corps planted the first native trees and shrubs along the margins of an historic slough on the southern portion of the Ranch. The restoration of this large property, at the confluence of the Tuolumne and San Joaquin Rivers, will unfold in phases over the next eight years or so. In this first phase, restoration is focused on 198 acres including former agricultural fields, the site of an abandoned milking barn (the property was a dairy until the mid-1980’s), and the Steenstrup Slough – a 50-acre wetland that once connected directly to the San Joaquin River but now disconnected by a federal flood control levee.

In planning for this phase of the project, River Partners’ biologists have reached out to a variety of restoration experts including the USDA Natural Resource Conservation Service (NRCS), the Riparian Mammals Technical Group, the US Fish and Wildlife Service (FWS), the Tuolumne River Trust, Point Blue Conservation Science (formerly PRBO Conservation Science) and many others. A large number of state and federal agencies are funding the first and subsequent phases of the restoration. (See the accompanying box).

In the first phase of restoration at Dos Rios Ranch we will be constructing five acres of elevated refugia for terrestrial species and planting over 45,000 native trees and shrubs. The plantings will include fourteen different species of trees and shrubs and eight different species of herbs and grasses. The plantings and construction activity are designed, in large

Funding for the first phase of restoration at Dos Rios Ranch is provided by the USDA NRCS, US Bureau of Reclamation and FWS Central Valley Project Improvement Act Habitat Restoration Program, FWS Partners for Fish and Wildlife Program, and River Partners. Funding for future phases of restoration has been secured from the California Department of Water Resources Flood Protection Corridor Program and the California Wildlife Conservation Board.
While River Partners has recently expanded its activities to areas beyond the Central Valley, the Valley continues to be the location of its major riparian restoration efforts, primarily in the Sacramento River and San Joaquin watersheds. And much of this work is under the regulatory authority and vision of the Central Valley Flood Protection Board.

The Board has a long history in California. Its origin goes back to 1911 with the Legislature’s creation of the Reclamation Board with jurisdiction over the Sacramento Valley’s local levee maintaining agencies and, later, over the San Joaquin Valley’s levee maintaining agencies as well. In 1956 the Board was placed under the Department of Water Resources (DWR) to facilitate cooperation in their various areas of concern.

River Partners involvement with the Reclamation Board was primarily concerned with requesting encroachment permits allowing it to restore acres of floodplain to riparian forests through its planting programs. Such permits were (and are) required before beginning any project on or near a federal or state levee or any flood control structure within the Board’s jurisdictional area.

In 2007 major changes were made in California’s approach to flood control. The State Reclamation Board’s name was changed to the Central Valley Flood Protection Board to be comprised of seven voting members appointed by the Governor and confirmed by the Senate for fixed four-year terms. The Board was made a separate agency, independent of DWR, and given its own funding in the Governor’s budget. It received expanded responsibilities in a number of areas including encroachment enforcement, report preparation, and local land use decision-making.

The 2007 legislation also required DWR to prepare, and the Board to adopt, a Central Valley Flood Protection Plan (CVFPP) by July 2012. Moreover, and most significantly, it mandated cities and counties to make their floodplain land-use plans and zoning consistent with the CVFPP.

The Plan, adopted by the Board on June 29, 2012, provides a comprehensive effort to link the many resources that affect the state’s flood protection efforts. It coincides with the mission of River Partners in many particulars, including in its call for both structural and non-structural approaches to flood protection and means for enabling or improving riverine ecosystem functions. Specifically, the Plan proposes to restore thousands of acres of riparian habitat in the floodplains as well as increase flood system capacity by “setting back levees away from the active river channel.”

River Partners welcomes the expanded responsibilities of the Central Valley Flood Protection Board and the visionary contents of the CVFPP that it will administer. We look forward to working in close harmony with the Board and providing whatever assistance we can offer to contribute to the success of the Plan and to California’s flood protection efforts.

Message from the Board Chair
By Irv Schiffman

Working with California’s Comprehensive & Flexible Approach to Flood Protection
Welcome Aboard, Nine New Summer Interns!

Each year, River Partners selects summer interns from a group of candidates looking to get their hands dirty and obtain real world experiences that apply to what they've been studying in school. This year, we have offered internships in biology and marketing.

Our biology interns are currently pursuing or recently graduated with degrees in biology or natural resources. Over the course of eight weeks, they will brave the rising valley temperatures to map and monitor the weed removal efforts along the San Joaquin River; conduct plant censuses; monitor an understory demonstration trial at the La Barranca Unit; monitor valley elderberry longhorn beetle mitigation sites; and produce short videos on restoration for our website. Their contributions will help us design better habitat restoration projects in the future, while fueling their passion for conservation. We are pleased to welcome Aaron Sewell (CSU Chico/Butte College), Kate Ronan (CSU Chico), Joel Fricker (UC Santa Cruz), Connor Block (Humboldt), Mark Hilgers (CSU Stanislaus), Michelle Andreetta (UOP Stockton) and Autumn Turner (UOP Stockton) to the River Partners biology department!

Although they won't be literally getting their hands dirty, our marketing interns will be responsible for promoting our annual Colusa Mud Blast event to large businesses and organizations in the Chico area. We are pleased to welcome Chris Purkis and Rachel Zunino, both from CSU Chico, to the River Partners family!

Honolulu Bar Floodplain Restoration Project

By Trevor Meadows, Restoration Biologist and Julie Rentner, Central Valley Regional Director

River Partners planted the Honolulu Bar Floodplain Restoration Project along the lower Stanislaus River following grading activities in fall 2012 and the site is already showing wildlife response and resilience to fluctuating river flows!

In March 2013, the newly graded floodplain at Honolulu Bar supported spawning salmon – several redds (spawning nests) were identified by project biologists in gravels that had been placed there just months earlier. River Partners planted and is maintaining hundreds of native trees and shrubs around the edges of the gravelly floodplain to provide shade, allochthonous inputs, and to minimize weed dominance in the riparian zone. Project partners for this exciting restoration include the US Army Corps of Engineers, Stanislaus River Parks, US Fish and Wildlife Service Anadromous Fish Restoration Program, Oakdale Irrigation District, FishBio, and the San Joaquin Regional Conservation Corps.

In April and May of 2013, flows in the Stanislaus River were increased to 3,000cfs for a period of several weeks to investigate the effect of high flows on the river ecosystem and to encourage salmonid outmigration. The water was released by Oakdale Irrigation District and South San Joaquin Irrigation District as part of ongoing work to ensure the river’s flow regime is beneficial for salmon and steelhead fisheries. The Stanislaus is a snowmelt watershed that, prior to the development of storage reservoirs in the foothills, would reach peak flows in the springtime due to warming springtime temperatures. Today, dam releases are largely related to irrigation demands and flood control, which means that large (3,000-cfs) springtime pulse flows are rare.

During the large flows of April and May 2013, some plants were completely inundated for ten days. River Partners biologists have monitored performance following this high flow event, and found that the species inundated during the large flow event are thriving.

Multi-Benefit Restoration Within the Natomas Basin

since 2007 River Partners has been working with the Sacramento Area Flood Control Agency (SAFCA) to help protect Sacramento and the Natomas Basin against flooding through the restoration and mitigation of native habitats along a newly improved levee. SAFCA is a regional joint powers agency whose mission revolves around increasing flood protection for the well-being of human health and life in the Sacramento region while also preserving and enhancing local riparian and riverine habitat.

In 2007, SAFCA began raising and strengthening 18 of the 42 miles of levees along the east side of the Sacramento River within the Natomas Basin. The 53,000 acre Basin is a critical part of the metropolitan Sacramento regional economy, containing 100,000 residents, hundreds of local businesses, a key transportation hub, including the Sacramento International Airport, and Interstate 80 and 5, two critically important highways on the west coast. As with most large-scale infrastructure projects, mitigation was required in order to offset environmental impacts that could not be avoided during the construction process. Understanding the importance of riparian habitat along the Sacramento River, SAFCA designed multi-benefit, on-site mitigation areas in order to create and enhance large extents of habitat as well as improve travel corridors between existing remnant habitat and other wildlife preserves within the basin.

Habitat was designed in order to benefit several threatened and endangered species including Swainson’s hawk, valley elderberry longhorn beetle, and giant garter snake to name a few. To implement its mitigation and restoration goals, SAFCA contracted with River Partners to plant, maintain, and monitor over 410 acres of riparian woodlands, and 80 acres of wetlands.

Native Perennial Grasslands
Not only has SAFCA designed on-site mitigation and habitat improvements, where feasible it has endeavored to incorporate them into the new levee improvements. Along the entire 18 mile stretch of the project, the levee slopes and adjacent areas were designed to be seeded with native perennial grasses in order to provide both an engineering and habitat benefit. These deep rooted native grasses provide multiple values including critical erosion control to protect the levee itself, ancillary foraging habitat for the Swainson’s hawk and a stable grass cover in order to prevent use of herbicide to control noxious weeds, while also allowing easy access and visibility for routine levee inspections by the local recreation district.

Since 2008, River Partners has seeded different native grass mixes within the project area. In order to promote the establishment of the native grasses, we are currently undertaking weed control activities including mowing and herbicide applications in order to control broadleaf weeds and non-native annual grasses. We also conduct scientific monitoring to determine the effectiveness of our weed control activities and to quantify the rate of establishment of the native grasses.

Riparian Woodlands
Riparian woodlands have been designed throughout the project area in order to expand and create nodes of larger habitat as well as allow wildlife travel corridors between restored areas, remnant habitat, and existing wildlife preserves within the Natomas Basin. To date, River Partners has planted, maintained, and monitored over 18,000 native trees, flowering shrubs and plants near the landside of the levee. The understory in these areas has also been seeded with a native grass mix in order to increase habitat value and help displace and control the spread of exotic weeds.

In addition to planting new woodlands, River Partners is also maintaining mature elderberry and oak transplants. The mature elderberries were within the construction footprint, requiring them to be transplanted in order to help protect the endangered valley longhorn elderberry beetle. Going above and beyond, SAFCA also transplanted approximately 1200 valley oaks that were also in its construction footprint. These trees were relocated and preserved with greater than a 95% success rate to minimize habitat losses for the Swainson’s hawk as well as numerous other raptors and cavity dwelling birds and mammals.

Wetlands
The Natomas Basin contains multiple giant garter snake (GGS) preserves which have been geographically disconnected in the north and southern parts of the Basin. In order to improve connectivity between these areas and create additional habitat, SAFCA designed a GGS canal to connect several of these preserves. So far, River Partners has planted, maintained, and monitored over a mile and a half along the banks of the GGS canal with native wetland plants including tules, rushes, and sedges. Areas adjacent to the canal have also been seeded with native grass mixes in order to create additional basking areas for the giant garter snake.

Beneficial Pollinating Insect Plantings
Because agriculture is the primary land use within the Natomas Basin, SAFCA has also included beneficial pollinator planting plots throughout the project area. Because reductions in domestic native bee populations have been seen throughout the nation, it has become more important than ever to help restore populations through the planting of critical habitat for native pollinators. These pollinating insects assist in crop pollination and are a great benefit to the neighboring farms.

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Restoration Begins at Dos Rios Ranch
By Heyo Tjarks, Project Coordinator and Tad Alexander, Senior Project Manager

part, to benefit a number of threatened and endangered species. For example, we are constructing high-elevation areas in the floodplain and restoring dense shrubbery vegetation on existing high-elevation fields to provide flood refugia for the endangered riparian brush rabbit. High densities of valley oak and other tree species will be planted to provide densely wooded areas for endangered forest-dwelling riparian woodrats. The planting of willow-dominated riparian forests with native herbaceous understories is to encourage the recovery of the endangered Least Bell’s vireos. And blue elderberry shrubs will be established across the site to provide habitat for the threatened valley elderberry longhorn beetle. Finally, in an article dated 1914, a local birder documented the largest breeding colony of tricolor blackbirds at Dos Rios Ranch. We are planning to treat invasive weeds in the Steenstrup Slough and restore hydrology to encourage the diversity of this and other marsh-nesting birds.

The planting of the 198 acres is only the beginning of River Partner’s efforts in this first phase of restoration. Four years of irrigation and weed control will follow along with four years of performance monitoring, and two seasons of avian monitoring. All in all, it is estimated that work on the first phase of the restoration at Dos Rios will involve 30,000 worker-hours for laborers, college interns, managers and ecologists.

You can check out the project website at http://riverpartners.org/where-we-work/dosrios.
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Sacramento River Race
September 14, 2013
San Joaquin River Race
October 19, 2013

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Wildflower Restoration at the La Barranca Unit

By Michael Rogner  
Associate Restoration Biologist

Threats to honeybees have received tremendous media attention recently due to colony collapse disorder. But the decline in pollinators goes far beyond this common species. An article published last month in the journal *Trends in Plant Science* documents how plant communities are being stressed by a global decline in the overall abundance of all pollinators.

River Partners has been adding many native wildflower species to our restoration projects in recent years in order to benefit pollinators. This spring, partnering with the US Fish and Wildlife Service at their La Barranca Unit in Tehama County, we began an experiment with six more flowering plants (Fitch’s spikeweed, hayfield tarweed, naked buckwheat, Oregon goldenaster, vinegar weed, and Wright’s buckwheat). These new plants are best suited to dry, gravelly areas where trees and shrubs will not grow. The plants were chosen based on their ability to be collected locally for seed, and because the individual plant species flower at different times within growing season, providing nectar sources over the span of many months. River Partners collected 23 pounds of seed which were broadcast over a five acre area.

With the addition of three new biology interns, River Partners began monitoring these plots in May. We will continue to monitor them throughout the year, and if all goes well we will be able to add multiple new species to our planting palate, as well as train interns on how to evaluate which species are suitable for the type of large scale restoration projects which we implement.

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**Membership Categories:**

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- $250 Sponsor  Gift
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Otay Delta Serves as Outdoor Classroom for High Tech High Chula Vista Students

In late May, 50 sophomores from High Tech High Chula Vista visited the Otay Delta restoration project to help River Partners and US Fish and Wildlife Service monitor native plants within the trail buffer. Using a dichotomous key, students learned to identify and collect information on the 18 species mix of native grasses and broadleaves planted in the buffer areas on either sides of the main hiking/biking trail on site. The data will be used to calculate plant survivorship and assess whether the restoration project is meeting project objectives.

Mid-San Joaquin Regional Flood Management Plan Shaping Up

By Julie Rentner, Central Valley Regional Director

In March and April, River Partners, along with a coalition of regional partners and hired consultants, hosted the first planning meetings for the Mid-San Joaquin River Regional Flood Management Plan. The Mid-San Joaquin River Region is one of 6 regions in the Central Valley undertaking parallel efforts to develop a ground-up vision of flood safety that will inform future state investments in flood management. These efforts are funded by the California Department of Water Resources and include active involvement and technical assistance from DWR and the Central Valley Flood Protection Board.

In efforts to build a coalition of actively engaged flood management interests for the region, the Mid San Joaquin project team has visited with area stakeholders at one-on-one site visits, small group meetings and tours, large group meetings and presentations including other regions and state and federal agencies. The first workshop to begin compiling the Regional Flood Management Plan will focus on describing regional conditions and flood hazards. The workshop is scheduled for 10am on July 18th at the Stanislaus Agricultural Center in Modesto.

River Partners needs the help of area stakeholders to make sure that all are engaged in describing the current conditions for the region. We invite all relevant stakeholders to check out the website for the effort at midSJRFloodplan.org to see our events calendar and to sign up for the mailing list.