

Executive Summary

San Joaquin River National Wildlife Refuge Conjunctive Use Project River Partners 2017

This Executive Summary refers to other sections of the application, and addresses each of the following categories:

- 1) Project operations fit the definition of conjunctive use;
- 2) The Project is a part of the San Joaquin River National Wildlife Refuge (SJRNWR) Boundary Expansion, and River Partners is working with local entities to integrate the Project into the *East Stanislaus Regional Water Management Plan* (ESWRMP) and other other integrated planning documents;
- 3) The Project is integrated with, and increases the flexibility of, the San Joaquin River water system;
- 4) The Project changes the use of water in the San Joaquin River in ways important to increasing water system reliance, and achieving public benefits.
- 5) The Project will contribute to sustainable groundwater management;
- 6) River Partners is exceptionally capable and will expand the Project beyond its current capacity; and
- 7) The Project offers exceptional physical and economic public benefits relative to its costs;

Other relevant information River Partners deems necessary to inform the Commission is included throughout.

1. Project Operations Fit the Definition of Conjunctive Use

River Partners seeks funding for the “San Joaquin River National Wildlife Refuge Conjunctive Use Project” (“Project”) which will acquire land and perform bare essential modifications to acquired properties located between river miles 82 and 101 on the San Joaquin River. River Partners’ stated objectives in completing this project are trifold: (1) improve rearing and migration habitat for spring-run Chinook salmon, (2) improve habitat for endangered riparian brush rabbit, and (3) improve water quality and quantity in the San Joaquin River.

River Partners is seeking funding for the Project as Conjunctive Use Project because our river land acquisitions, retirement of farmland, and subsequent management for habitat, water conservation and flood control is a means of coordinating and planning the management of existing surface water and groundwater resources to maximize the efficient use of both resources. Operational agreements with water districts, agencies, local landowners and others an essential part of our success in the work that comprises this request, but there is no construction of appurtenant infrastructure in our proposal.¹

River Partners qualifies for a maximum project cost share exception, pursuant to Water Code section 79756(a), because the Project is entirely limited to acquisition, related costs, and planning for

¹ As a part of this effort, River Partners may acquire structures such as residential homes, barns, dairy stalls and other infrastructure which may be rented to tenants for activities that do not impact public benefits, but may produce revenue that can support public benefit activities. Note that all milking infrastructure will be removed and sold. Note also that allowed deterioration of farmer berms is a critical component of our Project.

subsequent land management. Existing facilities and resources at each site being acquired are already sufficient to achieve our claimed benefits to the maximum extent practicable. Later restoration, which River Partners will fund separately, will add to the benefits claimed but they are not essential to them. While we maintain some groundwater benefits will occur as a result of our work, the Project is not designed to “capture, infiltrate, inject or recharge... water supplies into a groundwater basin for later use,” nor is the intent behind the Project to address undesirable groundwater results.

In this Project application, River Partners proposes to acquire four properties chosen for their location and ripeness following recent flood conditions, and informed by the willingness of the landowners to sell. Once acquisition of these properties is complete, River Partners will retire agriculture for water quality benefits and make minor alterations to improve rearing and migration habitat for spring-run Chinook salmon. Later on, with funding from other sources, River Partners will take on the restoration process at each site and further effect benefits proposed in this request.

River Partners also understands that fair market value purchases from willing landowners who farm in floodplains along rivers is a critical but essential first step toward implementation, study and monitoring of a model for that is needed in the Central Valley to achieve all of the goals of the CWC Program. This application is another step toward employing the model Central Valley-wide in a fashion that meets the goals of the Proposition 1 Water Storage Investment Program and other water storage, conservation, agricultural and economic objectives included in Proposition 1.

2. The Project is a part of the San Joaquin River National Wildlife Refuge (SJRNWR) Boundary Expansion, and River Partners is working with local entities to integrate the Project into the East Stanislaus Regional Water Management Plan (ESWRMP) and other other integrated planning documents.

Based on our work at Dos Rios, the San Joaquin River National Wildlife Refuge, the recent expansion of the San Joaquin National Wildlife Refuge Expansion Boundary, our participation in the East Stanislaus Regional Water Management Plan (ESWRMP) process and in other other integrated planning documents throughout the San Joaquin Basin, River Partners will integrate the Project into water conservation, storage, and management efforts in the Central Valley.

The proposed project includes parcels that are identified in the East Stanislaus Regional Water Management Plan (ESRWMP). River Partners Dos Rios Floodplain and Riparian Habitat Restoration project is identified in the ESRWMP for its successful marriage of multiple social and economic benefits, including: improved channel-floodplain connectivity, improved transient floodwater storage, restored riparian habitat, and improved access to recreational opportunities for local communities. The Project is based on our Dos Rios work, and includes two adjacent parcels: Property 2 shares Dos Rios’ eastern border and Property 1 immediately across the San Joaquin River from Dos Rios. Property 1 also borders Grayson Ranch, and is separated only by a historic slough channel. Both properties will extend the benefits of Dos Rios Project identified in the ESRWMP.

Properties 3 and 4 are located approximately 13 miles and 15 miles downstream, respectively. They are adjacent to each other and included in the newly approved Acquisition Boundary for the San Joaquin River National Wildlife Refuge. River Partners worked closely with the FWS to have the new boundary approved in the waning days of the Obama Administration. The expansion would not have occurred absent River Partners’ efforts in the second half of 2016, but the EIR that defined it had already gone

through public comment and the expansion had broad local support – including support from Congressman Denham. The new boundary, also shown in the Project Map, runs along the San Joaquin River and connects San Joaquin River National Wildlife Refuge to its southern neighbor, the San Luis National Wildlife Refuge. Through its participation in the scoping process, River Partners will be encouraging the inclusion of Properties 3 & 4 in the ESRWMP based on their location within the boundary along the San Joaquin River. We expect little or no opposition.

Overlap with Existing Plans and Water Systems

The proposed project will include acquisition and minor land modifications to achieve benefits of improved habitat for anadromous species, riparian brush rabbit, and improved water quality and quantity in the San Joaquin River. Following acquisition, River Partners will begin fundraising for implementation of restoration. Acquisition and subsequent restoration at the properties identified in this proposal are actions that are suggested or described in multiple local, regional, and statewide wildlife and flood protection planning efforts.

Proposed wildlife habitat improvement actions are consistent with the following plans and studies:

- U.S. Fish and Wildlife Service. 2001. Anadromous Fish Restoration Program, Final Restoration Plan. Stockton, CA
- U.S. Fish and Wildlife Service. 1998. Recovery Plan for the Upland Species of the San Joaquin Valley, California. Region 1, Portland, OR
- U.S. Fish and Wildlife Service. 1998. Draft Recovery Plan for the Least Bell's Vireo. Sacramento, CA
- U.S. Fish and Wildlife Service. 1984. Draft Recovery Plan for the Valley Elderberry Longhorn Beetle. Sacramento, CA
- National Marine Fisheries Service. 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of Central Valley Steelhead. Sacramento, California.
- Central Valley Joint Venture. 2006. Central Valley Joint Venture Implementation Plan Conserving Bird Habitat. U.S. Fish and Wildlife Service, Sacramento, CA
- CALFED Bay-Delta Program. 2000. Multi-Species Conservation Strategy, Final Programmatic EIS/EIR. Sacramento, CA
- PWA. 2004. San Joaquin River National Wildlife Refuge Phase 2: Habitat Implications of Levee Breach Alternatives. Stockton, CA
- US Fish and Wildlife Service. 2006. Comprehensive Conservation Plan for the San Joaquin River National Wildlife Refuge, Sacramento, CA

Proposed flood management actions are consistent with the following plans:

- RD 2092 and Stanislaus County. 2014. Mid San Joaquin River Regional Flood Management Plan, Modesto, CA
- California Department of Water Resources. 2015. Draft Conservation Strategy for the Central Valley Flood Protection Plan 2017, Sacramento, CA
- California Department of Water Resources. 2015. Basin-Wide Feasibility Study for the San Joaquin River, Central Valley Flood Protection Plan 2017, Sacramento, CA
- US Army Corps of Engineers. 1997. Final Report of the Flood Emergency Action Team, Sacramento, CA

3. The Project is Integrated with, and Increases the Flexibility of, the San Joaquin River System.

As our climate continues to change and more pressure is placed on our water management systems to adapt and provide for communities in times of drought and flood, it is imperative to promote projects that enhance flexibility in our water management. The proposed project will work to enhance flexibility of water management in the San Joaquin River system by increasing connectivity and allowing for increased time to respond to rapidly changing conditions.

Connectivity

The proposed project will primarily enhance flexibility in the water management system through increased connectivity – both connectivity in terms of groundwater and surface water connections and floodplain connectivity. Floodplain connectivity will be achieved through removal of farmer berms within the term of the grant. Once the properties are acquired, farmer berms will be immediately removed. Farmer berms are not federal or state levees, but are also erected by landowners to prevent floodwaters from entering properties. Removing these berms will allow floodwaters to enter 1,450 acres of historic floodplain as a result of this project. Furthermore, once fundraising for restoration is complete, River Partners will evaluate design considerations and seek permitting to remove federal levees on these project sites if it is deemed feasible and appropriate.

Increasing connectivity by allowing the river to expand onto floodplains is widely considered a valuable resource in preparing to meet challenges posed by climate change. This action has the added benefit of meeting dual goals of multiple San Joaquin River regional planning efforts of increasing flood management opportunities while improving ecosystem function through restored habitat. A study published in the Journal of the American Water Resources Association indicates that “restoring river-floodplain connectivity can increase the ability of the system to cope with the larger and more frequent floods projected under climate change by utilizing the natural storage capacity of floodplains, subsurface flow, aquifers, in addition to human-managed storage reservoirs.” (DiFrancesco and Tullos 2014, attached). As such, River Partners sees acquisition of property for restoration and inherent floodplain expansion associated with our restoration model as a necessary complement to existing flood storage projects already in place in the San Joaquin watershed.

Redundancy

The proposed project will also increase flexibility in the San Joaquin water management system by enhancing redundancy. Redundancy indicates multiple options for achieving the same outcome. In this case, the proposed acquisitions and removal of farmer berms will diversify options for flood management on an already taxed water management system, thereby increasing the ability of the San Joaquin system to adapt to future conditions exacerbated by climate change (Glieck 2003). During the 2017 flood season, River Partners observed the great potential that lies in co-existing floodwater attenuation and habitat restoration projects at the San Joaquin River National Wildlife Refuge. On February 15, 2017, flows in the San Joaquin River were just reaching flood stage and projected to continue rising over the next few days. At just the right moment, the West Stanislaus Irrigation District’s intake canal breached, allowing flood waters to pour into the Hagemann Unit of the Wildlife Refuge through a 15-foot wide gap in the earthen canal banks. 1,535 acres of habitat restoration in the Hagemann Unit were submerged. By March 3, 2017, the water level in the Hagemann Unit had reached nearly 10 feet deep in places. Flow gauges at Vernalis (a few miles downstream) and Mossdale Bridge (25 miles downstream) recorded a significant dip in river stage that coincides with the Refuge’s acceptance of floodwaters (see attached description of SJRNWR Flood Event).

This is a naturally occurring example of the floodwater attenuation that can be achieved through acquisition of property and removal of barriers to natural floodplain inundation. Acceptance of floodwaters in this way has the potential to provide additional options to flood managers throughout the San Joaquin River system in times of flood. In addition, floodwaters typically remain on restored riparian habitat without damage to the restoration for months at a time, providing groundwater recharge benefits as well.

4. The Project Changes the Use of Water in the San Joaquin River in ways that are important to increasing water system reliance, and achieving public benefits.

Well prior to acquisition, River Partners will have detailed knowledge of the water rights for each of the properties in the Project, including among other things: type (riparian or appropriative), owner of the right, the diversion season, diversion amount and diversion rate. Some properties will have riparian rights only, and some will have both riparian and appropriative rights. In most cases, River Partners already has the information since we are in negotiations or in contract. Additionally, River Partners is, or will be, in close communication with important water rights owners such as the Turlock and Merced Irrigation Districts.

In every case, implementation of the Project will dictate changes to the water rights. Specifically, after purchase River Partners will forbear the use of riparian rights in favor of instream habitat for anadromous fish. In addition, River Partners will work closely with the irrigation districts, with whom we have relationships, to divert appropriated water toward the benefits claimed in this proposal.

By acquiring the subject properties, River Partners will retire the ag and dairy operation and restore properties to a native riparian habitat. At the completion of restoration, native plants will be established in the water table and will not require irrigation. This change in land use will result in the following benefits:

- **Enhanced Flows:** The net amount of water dedicated to instream flow will depend on net ETAW reductions on the parcels, plus net reductions in use from other sources when available. Enhancement will be determined through an approved site-specific measurement and monitoring program.
- River Partners could also acquire additional water at a cost along the lines of current tiered pricing (see Project Description). Working with the irrigation districts, River Partners and TID could provide approved metrics for the net benefits to instream flow from these additional non-diversions.
- All riparian rights, through a forbearance or 1707 dedication, would be left instream, thereby reducing direct diversions by an additional +/- 145 acre feet annually.

- Finally, all appropriative water is from the Tuolumne, is high quality water, and could be left in the Tuolumne (instead of delivered to the San Joaquin) if the parties and interests deem this to be the most beneficial result.
- There will be no difference for other agricultural water users because River Partners will be taking the same amount of water out of the system as operations affected by current landowners.

Flow in the San Joaquin will increase by 1,285 acre feet annually. There is no reason to believe that any downstream user will pick up that water since the water users have long established uses along the San Joaquin, and in many cases have the same TID rights as the Mendonca Property. Also, of great significance is the location of the Mendonca Property within a National Wildlife Refuge boundary. Over time, we expect the agricultural uses along the immediate stretch of the river to dissipate in favor of fish and wildlife uses. This will benefit ongoing monitoring efforts.

5. The Project will Contribute to Sustainable Groundwater Management.

According to the Sustainable Groundwater Management Act (SGMA), groundwater resources have the potential to help protect communities, farms and the environment during dry periods if they are properly managed. As our climate continues to change, extremes will become the norm and droughts or dry periods will be more prevalent. One of River Partners' main objectives in completing this project will be to improve management of groundwater resources at a localized level in a critical reach of the San Joaquin River.

Groundwater Sustainability Agencies

As identified in Q.6 of the Eligibility and General Project Information section of the application, this project will enhance sustainable groundwater management in two groundwater basins: Northwestern Delta-Mendota GSA (basin 5-022.07, posted on 3-14-2017) and West Turlock Subbasin Groundwater Sustainability Agency (basin 5-022.03, posted on 3-27-2017). This is not, however, a groundwater project in that high levels of Corcoran clay in the area make groundwater recharge a longer, more difficult process than in other locations. Projects intended as groundwater projects should occur at more ideal locations

River Partners, however, will take actions will enhance recharge potential and reduce stressors to sustainable groundwater management. Primarily, River Partners will cease agricultural operations on 1,450 acres of prime Central Valley farmland. The groundwater management benefits of retiring 1,450 acres of agriculture in the valley, alone, are significant: no longer will these farms draft from groundwater resources during dry periods, reserving groundwater for other purposes. In addition, as a 501C3 with conservation mission, River Partners is obligated to ensure that groundwater recharge results in a net environmental benefit. Through the use of legal tools like 1707 dedications of water for the benefit of fish and wildlife, River Partners will ensure that water saved is not shunted to a second agricultural purpose.

River Partners will continue to communicate with the GSAs identified above to ensure groundwater resources in this region are sustainably managed with emphasis on River Partners-owned properties,

National Wildlife Refuge properties, and those properties identified for acquisition as a part of the Project. The primary benefit of these communications, however, is to inform the agencies of studies that take place on our properties, to help them utilize restoration techniques on lands more suited for groundwater recharge, and to inform the process generally.

6. River Partners is Exceptionally Capable and will Expand the Project Beyond its Current Capacity.

River partners has nearly 20 years of experience completing acquisition and floodplain habitat restoration projects throughout California. In particular, River Partners has gained extensive experience completing this type of project on the San Joaquin River near the Tuolumne River confluence (see Table 1, below). Beginning in 2002, River Partners began restoration at the San Joaquin River National Wildlife Refuge and since then has collaborated with the US Fish and Wildlife Service to complete over 5,000 acres of riparian and floodplain habitat restoration to benefit a suite of focal species. This opportunity afforded River Partners the chance to test restoration methods in the San Joaquin River ecosystem and build on adaptive management lessons to determine what works best for this region.

River Partners acquired Dos Rios Ranch (in 2012) and Hidden Valley Ranch (in 2015), resulting in ownership of 2,100 contiguous acres of floodplain habitat restoration potential. Dos Rios and Hidden Valley Ranches are located immediately to the east of the San Joaquin River National Wildlife Refuge, across the San Joaquin River. Finally, River Partners acquired the Stokman Property (in 2016), which borders the Refuge's southern edge. Together, this area comprises the largest contiguous acreage managed for conservation purposes in the San Joaquin River Valley.

The model River Partners has established is easily duplicated in this region and elsewhere and will provide multiple benefits to both people and wildlife. This model includes the following steps for which we are seeking funding from CWC. Both of these steps are explained in more detail in the Project Description:

- A) Phase 1: Acquisition – Following execution of a funding agreement, River Partners will work with the California Water Commission to complete the necessary due diligence to close the acquisition of each property. This includes, among other things: title review, Phase 1 & 2 environmental reports, appraisal and appraisal review, negotiation of deed restrictions, negotiations with landowners, CEQA exemption filing (pursuant to CEQA Article 19 Section 15313), the opening and management of escrow, and closing.
- B) Phase 2: Planning - Following acquisition of each property, River Partners will begin planning and permitting of each restoration project. Parts of this phase will be included in this Project funding request, and other parts will not. It includes such things as a draft Restoration Plan, detailed site assessments, expert data review, report drafting, the completion and circulation of a final restoration plan, hydraulic analyses, and project permitting.
- C) Phase 3: Restoration - Finally, River Partners will fund Phase 3, Restoration, from Separate Sources after the grant period, including: site preparation, irrigation Installation, planting, maintenance and monitoring and reporting.

Each of the three phases described above is easily replicable and has been replicated already across over 5,600 acres within the vicinity of the proposed project. River Partners is confident in the success of this

model at each of the sites identified in this proposal. The following table shows granting success in the San Joaquin region since 2010:

<u>Table 1. State and Federal Investment in River Partners' Acquisition and Restoration in the San Joaquin Region</u>	
<i>Acquisition Grants awarded to River Partners</i>	
2010 to present	
\$35 million	
2,385 acres	
<ul style="list-style-type: none"> • USDA NRCS 2012: Dos Rios Ranch Wetland Restoration Program Grant: \$6.9million Wildlife Conservation Board 2012: Dos Rios Ranch Acquisition: \$5.5million • California Department of Water Resources, Flood Protection Corridor Program 2012: Dos Rios Ranch Acquisition: \$3million • California Natural Resources Agency, River Parkways Program 2010: Dos Rios Ranch Acquisition: \$2.65million • San Francisco Public Utilities Commission 2011: Dos Rios Ranch Acquisition: \$2million • USFWS North American Wetland Conservation Act 2011: Dos Rios Ranch Acquisition: \$1million • US Bureau of Reclamation and USFWS, Central Valley Project Conservation Program 2010: Dos Rios Ranch Acquisition: \$950,000 • Wildlife Conservation Board 2014: Hidden Valley Ranch Acquisition: \$3million • California Department of Water Resources, Flood Protection Corridor Program 2014: Dos Rios Ranch Acquisition 2: \$2.4million • California Department of Water Resources, FloodSAFE Ecosystem Stewardship and Statewide Resources Office: \$3.9million • Wildlife Conservation Board, Proposition 1 Program: Stokman Property Acquisition \$3.1million 	
<i>Similar Multi-Benefit Restoration Projects on Adjacent Lands:</i>	
2001 to present	
\$25 million	
3,200+ acres	
<ul style="list-style-type: none"> • CalFED 2001: Habitat Restoration at the San Joaquin River National Wildlife Refuge \$3million • CalFED 2006: Land Acquisition, Habitat Restoration and Captive Breeding and Reintroduction for Riparian Brush Rabbit \$2.8million • California Department of Water Resources, Flood Protection Corridor Program 2005: Vierra Tract Restoration at the San Joaquin River National Wildlife Refuge: \$1.7million • US Bureau of Reclamation and USFWS, Central Valley Project Improvement Act Habitat Restoration Program 2008: Habitat Restoration at the Hagemann Tract of the San Joaquin River National Wildlife Refuge: \$500,000 • California Natural Resources Agency, River Parkways Program 2006: Habitat Restoration and Public Use at the San Joaquin River National Wildlife Refuge: \$250,000 • Wildlife Conservation Board 2006: Habitat Restoration at the Hagemann Tract of the San Joaquin River National Wildlife Refuge: \$400,000 • California Department of Water Resources, Flood Protection Corridor Program 2011: Ecosystem Restoration and Floodwater Attenuation at the San Joaquin River National Wildlife Refuge: \$3.2million • US Bureau of Reclamation and USFWS, Central Valley Project Improvement Act Habitat Restoration Program 2009: Habitat Restoration at the Arambel Tract of the San Joaquin River National Wildlife Refuge: \$420,000 • US Bureau of Reclamation and USFWS, Central Valley Project Improvement Act Habitat Restoration Program 2009: Habitat Restoration for Riparian Brush Rabbit at the San Joaquin River National Wildlife Refuge: \$450,000 • USDA NRCS Wetland Reserve Program 2012: Dos Rios Ranch Conservation Plan: \$3.2million • California Department of Water Resources, Flood Protection Corridor Program 2013: Floodplain Expansion and Ecosystem Restoration at Dos Rios Ranch: \$6.8million • US Bureau of Reclamation and USFWS, Central Valley Project Improvement Act Habitat Restoration Program 2012: Dos Rios Ranch Restoration: \$750,000 • Wildlife Conservation Board 2013: Dos Rios Ranch Restoration: \$1.2million 	

7. The Project Offers Exceptional Physical and Economic Public Benefits Relative to its Costs

River Partners anticipates multiple benefits to stem from this project both to wildlife and people. Benefits will include improved salmonid rearing and migration habitat, improved riparian brush rabbit habitat, and improved water quality and quantity in the San Joaquin River. These benefits are identified

and monetized in question A.4 of the Benefit Calculation, Monetization and Resiliency Section; and the rationale, methodologies, and feasibility of our work to effect the changes is described in the sections of this proposal. Benefits summarized:

- **Benefit claimed to anadromous fish.**

River Partners has pioneered riparian restoration science in the San Joaquin and Tuolumne Rivers and met with much success. River Partners is partnering with CalTrout and UC Davis to restore natural flood patterns and hydrologic processes, without the use of supplemental water, for the benefit of native fish (with ancillary benefits for water birds, riparian dependent wildlife, and drought and flooding resiliency). Accordingly, this Project is based on models that River Partners has tested at its 2,100-acre Dos Rios and Hidden Valley Ranch Properties (See map attachment). By employing these models and working in partnership with neighbors, agencies and NGOs, River Partners estimates that will increase rearing habitat for salmonids by 705 acres. This land will see an increase in flooding frequency and duration. This will be a 16% addition to the required 4,500 acres required for the salmon doubling goals (See Ecosystem Priority Worksheets).

- **Benefit claimed is to Riparian Brush Rabbits.**

River Partners work on Dos Rios and the adjacent San Joaquin River NWR has been a driving force behind reintroduction of the endangered riparian brush rabbit. The proposed Project will contribute to specific objectives of the Recovery Plan for Upland Species of the San Joaquin by advancing Priority Actions 2(a) and 2(d) for the RBR and Priority Actions 1 and 4 for the RWR, as follows:

Task 1: Complete scientifically-rigorous survey protocols to estimate rabbit and woodrat population size and range at Dos Rios Ranch

Task 2: Obtain and analyze genetic material from RBR and RWR detained in live trapping

The specific need for each of these project tasks has been widely discussed and the subject of several studies. Riparian brush rabbit populations are recorded in several areas adjacent to the Dos Rios Site (see Project Maps 2 and 3, below) and further evidence of their presence and genetic material will advance important objectives of the recovery plan. Specifically, reliable estimates of remnant and reintroduced riparian brush rabbit populations, in addition to continued monitoring, will be critical to downlisting and eventually delisting the riparian brush rabbit (Williams et al. 1998; USFWS 2002). A defensible population estimation protocol based on the best available science is needed for the riparian brush rabbit. Such a protocol will need to incorporate traditional population sampling method (e.g., mark-recapture), but also spatially-explicit methods of accounting for animal movement, home range size, and other factors (e.g., Sollmann et al. 2012). Future implementation of the population estimation protocols will be performed by USFWS staff and potentially other stakeholders pending funding and permitting.

By employing these models and working in partnership with neighbors, agencies and NGOs, River Partners estimates that The habitat will become more suitable over the first five years, and

then improve as shrubs structure and understory species mature creating quality brush rabbit habitat. We believe the rabbit population will respond as follows: year 1 -20 individuals; year 2 – 60 individuals; year 3 -160 individuals; year 4 -180 individuals; and year 5 -225 individuals. We believe this is a conservative estimate that reflects emigration and births.

- **Benefit claimed is to water quality and quantity.**

Nutrients (nitrogen and phosphorus) discharged from agricultural irrigation runoff are causing significant water quality issues in the San Joaquin River. These nutrients promote excessive growths of algae and water weeds like water hyacinth. During the low flow water years of the drought, water hyacinth completely covered the surface of large sections of both the San Joaquin and Tuolumne rivers. Last year one of Dos Rios' pumping stations on the Tuolumne River was destroyed after being hit by a wave of water hyacinth. In addition to nutrient loading, the San Joaquin River has high concentrations of organochlorine "legacy" pesticides in its aquatic sediments. The Central Valley Regional Water Quality Control Board has listed the San Joaquin River as impaired because of excessive bioaccumulation of organochlorine-based pesticides.

Finally, there are unclaimed benefits that are difficult to quantify given River Partners's resources, but are significant.

The benefits we claim in this application are limited to the ones we can succinctly claim in this format given our capacity as an organization and the opportunities for acquisition at hand. Nonetheless, River Partners and the groups we work with have experience, research, and science showing that our work has critical value for groundwater replenishment, flood protection, multiple species recovery, and increased recreational opportunities. This knowledge is based in River Partners' 19 years of success in acquisition, restoration, and farming of riparian and floodplain habitat in California's Central Valley. In that time, we have employed over \$65 million in state and federal investment toward restoration of over 12,000 acres, acquired for permanent protection over 2,500 acres, and partnered effectively with many NGO's; state, federal and local agencies; foundations and corporations (not to mention and countless families, farmers, landowners and small donors) (See attached list of partners.).

Finally, River Partners is a landowner of thousands of acres adjacent to the San Joaquin River NWR. This partnership was crucial over this past year as our properties and the Refuge took on floodwaters that would otherwise have flowed to the ocean or damaged agricultural land. While farmers deplore such highwater events for good reason, River Partners and the Refuge welcome them for the benefit of the habitats we protect and restore. Our success in providing multiple benefits beyond what is quantified in this application is mentioned throughout the application. We seek to duplicate these success to whatever extent the community at large calls for, and for many years to come.