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RECEIVED

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CALFED Bay-Delta Program

The U.S. Fish and Wildlife Service (Service) is both a participant and project applicant in the CALFED 2002 Ecosystem Restoration Program. The Service personnel who submitted proposal # 230, Recovery Implementation for Riparian Brush Rabbit and Riparian Woodrat on the Lower Stanislaus River, have provided clarification on this project per CALFED reviewer comments. In addition, with this year's integration of several Central Valley Project Improvement Act (CVPIA) Programs as part of CALFED's "single blueprint" strategy, Service Program Managers for the CVPIA have been engaged in considering proposals submitted through the CALFED Proposal Solicitation Process (PSP) for CVPIA funding as well as evaluating the Selection Panel's initial recommendations.

The Service biologists who submitted proposal number #230: Recovery Implementation for Riparian Brush Rabbit and Riparian Woodrat on the Lower Stanislaus River, offer the following to clarify comments from CALFED review panelists:

Research and Restoration Technical Panel Review:

Within the summary, the panel questions an investment of more than $11 million prior to development of a restoration plan. For clarification, as is stated on page 16, the San Joaquin Refuge has restored Christman Island as the first brush rabbit reintroduction site. The Refuge's restoration plan was partially funded and approved by CALFED and implemented by Sacramento River Partners, the same firm we recommend in the proposal. As discussed under qualifications, Mr. Dennis Woolington, San Joaquin Refuge, would oversee this restoration as well. We won't have property access to develop a site-specific restoration plan until the proposed acquisition is complete. However, based on similarities between sites, we anticipate developing a restoration plan similar to Christman Island, done by the same firm and overseen by the same qualified biologists. We can provide these restoration plans. Obviously levee set-back design would take very detailed site-specific information which would only be available with property access.

1. Goals and Justification. The reviewers felt the hypotheses were weak and that testable hypotheses needed development.

We agree that developing compelling, testable hypotheses should be part of any study of declining small mammal populations. However, this proposal does not seek funding to study declining populations because we believe the major causes for the decline of these species are already identified and the courses of action to reverse the declines are obvious or under study.

We seek funding for actions aimed at reversing these declines and will include appropriate studies as part of these activities (Other studies that are not a part of this proposal are in progress, looking at the effects of exotic black rats on riparian woodrats and migratory song birds; controlled propagation of brush rabbits; design of artificial houses for woodrats; social structure of local subpopulations of woodrats, and populations genetics of riparian woodrats and brush rabbits). Results of these studies will be incorporated into restoration/reintroduction adaptive management strategies.

The process of restoring riparian plant communities in the northern San Joaquin Valley is well documented. Habitat needs of both brush rabbits and woodrats also are well understood and do not need to be determined through experimentation. Potential habitat exists along stretches of the Stanislaus and San Joaquin rivers that we believe could support populations of one or both species with no need for restoration of riparian vegetation—what is needed are accessible sites with habitat above flood level where animals can escape flooding. For some properties targeted for acquisition, reduction or elimination of livestock grazing in the riparian zone should result in rapid increase in habitat suitability for both species. Some recovery actions for these species need to be conducted within controlled, replicated experimental processes, but we believe that an adaptive management approach to restoration of riparian plant communities and re-establishing populations of riparian brush rabbits and woodrats is the most appropriate course, overall.

For clarity, our hypotheses presented in the proposal were (1) providing 500-1,000 acres of continuous existing and restored riparian habitat with a low threat of total inundation will sustain a population of captive-bred brush rabbits and allow for expansion of and existing population of woodrats, and (2) that this population augmentation will assist in the recovery of these two highly endangered riparian species that have come to the brink of extinction due to a loss of riparian habitat and upland refugia. For the extant Caswell population, by providing improvements and expansion of habitat, the extreme fluctuations in brush rabbit abundance and the threat of population extirpation from wildfire or flooding can be reduced to the extent that the long-term viability of the Caswell population is ensured.

To be more specific, we hypothesize that for some sites, such as the San Joaquin River National Wildlife Refuge, self-sustaining populations can be established through translocation of animals from existing populations or a controlled propagation facility. We hypothesize that other populations (e.g., Caswell Memorial State Park) can be enhanced and protected so that they become self-sustaining by acquisition of additional land contiguous to existing occupied habitat and by providing refugial sites above flood levels and ground that can be maintained in a natural succession of native vegetation with fuel loads kept to acceptable levels through active management. Still other populations can be established on formerly inhabited land by restoration, protection through appropriate habitat management, and translocation or natural dispersal where contiguous source populations exist. All manipulations of biotic communities will be measured and monitored, and where appropriate, controlled, replicated experimentation will be conducted.

In articulating a set of hypotheses that are both practical and testable within the framework of restoring populations of endangered riparian brush rabbits and woodrats, we first offer the following set of observations and assumptions all of which are contained in the proposal or the reports and plans cited in the proposal. Each assumption associated with an observation can be restructured as one or more testable hypotheses; however, we believe it is unnecessary or impractical to formally test most of these. These statements are general, and well within the

currently accepted principles of conservation biology. Working through these statements will result in an understanding of the framework for the principal hypotheses in this proposal.

- Habitats for riparian brush rabbits and woodrats are found only in Valley Oak woodland and riparian communities on the northern San Joaquin Valley floor. Their abundances are greatest in different seral stages and microhabitats within these communities. Essential habitat elements for riparian brush rabbits include appropriate size and distribution of clumps of shrubs for cover, suitable types and amounts of plant species providing cover and food, and access to non-flooded ground with cover and food. Tree canopy is not an essential element of their habitat. Essential habitat for riparian woodrats includes Valley oaks, tree canopy cover of moderate to high percentage, shrub understory, and shelter with food and nest sites above flood levels (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- Impoundment and channelization of streams resulted in alteration of the northern San Joaquin Valley landscape, including the development of cultivated agriculture and human structures on former floodplains. All permanent Valley streams in the northern San Joaquin Valley have one or more up-stream impoundments (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- Conversion of riparian and woodland communities to agricultural and urban uses has eliminated more than 95 percent of the natural communities that riparian brush rabbits and woodrats depend upon for their existence. Remnants of these communities today are found only within the levees of the stream channels (Proposal).

- Permanent cultivation and other developments on the land sides of stream levees prevent access by brush rabbits and woodrats to non-flooded ground with appropriate food and cover during times of high stream runoff. Flood control levees raise the level of in-channel flooding, thereby eliminating most or all patches of non-flooded ground within levees. Most stretches of existing riparian communities along Valley streams have no high ground suitable for brush rabbits to take refuge from flood, and either are too small or lack essential habitat elements for supporting a permanent population of either rabbits or woodrats. Woodrats can exist for extended periods in appropriate trees, above flood level, if cavities or nests for shelter and food are available. Fresh or freshly-dried oak leaves are a suitable food. Throughout most of its range, riparian woodrat depends on live oaks for its existence. There are no live oaks or other evergreen flowering trees in Caswell Memorial State Park and none are known from elsewhere within the range of the riparian woodrat; thus survival of long-term retreat in deciduous trees during winter floods is problematic, making refuges with ground above flood levels essential (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- Some essential elements of habitat for brush rabbits and woodrats were partly created and maintained by natural flood dynamics and ecological succession. In particular, the erosion and deposition of alluvial soils in the meander zones formerly provided a steady supply of early to mid-successional habitat with the necessary understory habitat components needed by the brush rabbit (Habitat Management for Riparian Brush Rabbits and Woodrats with Special Attention to Fire and Flood (1998)).

- Impoundment and channelization of streams changed flood dynamics and altered ecological processes (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- Long-term fire suppression and reduction or elimination of scouring floods because of upstream impoundments have resulted in a decadent, climax community with a high fuel load and very little ground dominated by secondary seral communities in Caswell Memorial State Park, one of two sites inhabited by riparian brush rabbits. Resulting changes have degraded habitat and reduced carrying capacity for riparian brush rabbits and woodrats. Invasive exotic trees, shrubs, and other plants have further altered the composition and structure of the plant community, but the complete specific ecological effects on the animal community are unknown. An example of such an effect is the possibility that black rats have been favored by the modified community; research of the black rat ecology with riparian woodrats and riparian brush rabbits is in progress to address this, funded by the Service and Reclamation. This was stated in the references cited by the proposal (Habitat Management for Riparian Brush Rabbits and Woodrats with Special Attention to Fire and Flood (1998)).

- In combination with the reduction and degradation of habitat for brush rabbits caused by human-induced changes in the landscape, environmental, demographic, or genetic stochasticity separately or in combination, extirpated all but two isolated populations of brush rabbits and three closely clustered populations of woodrats, thereby causing their endangerment (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998) / Habitat Management for Riparian Brush Rabbits and Woodrats with Special Attention to Fire and Flood (1998)).

- One population of brush rabbits, at Caswell Memorial State Park, is estimated to consist of fewer than 25 individuals. The greatest number caught in annual censuses between 1997 and 2001 was 6. Only two were caught in 2001. This population was estimated at about 241 individuals in 1993, when 41 were captured prior to prolonged flooding in 1997. The history of the other brush rabbit population, located on private lands along Paradise Cut, is unknown, but was thought to be no greater than about 200 individuals in 2002. The dangerously small population size at Caswell Memorial State Park precludes any substantial experimental manipulation of existing habitat or extensive trapping and handling of rabbits that might result in mortality or reduced carrying capacity (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- The other population is located on about 250 acres of habitat distributed in patches along Paradise Cut, a channel of the San Joaquin River where it enters the Delta, and two railroad right-of-ways near where they cross the channel. All the land is privately owned and is either managed for cultivated agriculture, transportation, or flood control. Currently there are no opportunities for experimental manipulation of habitat, acquisition, or expansion of habitat for this population on private land (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- Two of the three known populations of riparian woodrats are on private land. The largest population is located in Caswell Memorial State Park. A very much smaller population, perhaps fewer than 10 individuals, is located approximately 1.5 miles westward from

Caswell Memorial State Park on the same, north side of the Stanislaus River. Another very small population in located directly across from Caswell Memorial State Park on the south side of the river. Properties on the south side of the river, across from the Park and westward to the confluence of the Stanislaus and San Joaquin rivers are targeted in this proposal for acquisition and/or restoration and translocation of rabbits and woodrats, working in cooperation with willing sellers and private landowners (Proposal).

- Recovering riparian brush rabbits and woodrats requires increasing population sizes by restoring and protecting riparian communities with suitable habitat and reintroducing brush rabbits and woodrats or allowing them to colonize sites to where natural dispersal may be possible (Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- Remaining natural communities inhabited by riparian brush rabbits are separated by almost 20 river-miles of degraded and flood-prone stream channels without the complete array of all essential habitat components, with substantial portions having almost no habitat value at all. Water barriers also exist between the extant populations of brush rabbits, and between one woodrat populations and the other two. Except for Caswell Memorial State Park, land supporting riparian vegetation and brush rabbits and woodrats is privately owned. Most of the land with riparian vegetation between the two sites occupied by brush rabbits is too degraded, fragmented, and flood prone to support riparian brush rabbits or woodrats (Proposal/Recovery Plan for Upland Species of the San Joaquin Valley, California (1998)).

- Conflicting management objectives at Caswell Memorial State Park, including preservation of the climax Valley oak forest, differing habitat needs for woodrats and brush rabbits, recreation, and archaeological and historical resources, prevent large-scale conversion of the community to secondary successional stages more suitable for brush rabbits. However, expansion of the Park by acquisition of contiguous land now in walnut orchards would provide from about 50-90 acres that could be restored and managed as high-quality habitat for brush rabbits. Small-scale restoration projects, such as removing exotic trees and shrubs, and reduction in fuel loads would then be accomplished without the high level of risk these activities currently pose (Habitat Management for Riparian Brush Rabbits and Woodrats with Special Attention to Fire and Flood (1998)/Proposal).

- Other sites, such as the San Joaquin River National Wildlife Refuge, within the historical geographic ranges of riparian brush rabbits and woodrats, are in public ownership or easements and suitable areas are being or can be protected and restored as suitable habitat for these riparian species, but cannot be re-colonized by natural dispersal from existing populations because of non-habitat barriers that isolate them. Translocation is the only feasible way to repopulate the Refuge (Proposal).

- At the San Joaquin River National Wildlife Refuge sufficient ground is now suitably protected from flooding so that all life requirements for brush rabbits are met. A comparable habitat assessment for riparian woodrats is not yet available because of recent land use changes and on-going community restoration, but all habitat elements appear to be available on the Refuge. The management plan for the refuge includes not repairing former breaks in the west-side levees along the river and allowing flood waters to flow

through formerly cultivated ground, creating a more natural hydrological cycle, maintaining more ground in secondary seres, and eliminating the need for flood control levees. These levees are being re-vegetated by natural processes and now provide suitable cover for rabbits to take refuge from high water. Additionally, ground higher than the levee tops has been created at one site to provide an additional site where rabbits could refuge from flood (Proposal).

2. Likelihood of Success.

The reviewers stated that there was no justification of captive breeding, and felt that this, as well as genetic risks should have been discussed in this proposal. The controlled propagation and reintroduction plan provided in the proposal conforms to Service policy (2000) on controlled propagation. This policy supports controlled propagation of a listed species only when other measures employed to maintain or improve listed species' status in the wild have failed, are determined to fail, are shown to be ineffective in overcoming extant factors limiting recovery, or would be insufficient to achieve full recovery. All reasonable efforts to recover the species in the wild should be made prior to implementing controlled propagation of the species. The Riparian Brush Rabbit controlled propagation program meets this Service policy(our letter to Region identifying how policy requirements are met is available upon request).

We believe it is clear that the populations in which annual trapping have yielded only two individuals cannot recover solely by the actions suggested by the reviewer. Most of the developments that collectively have resulted in the endangerment of riparian brush rabbits and woodrats and their supporting communities are not reversible in today's society. Social considerations, including economics, politics, and human ecology severely restrict options for recovery from endangerment. Further, the small sizes and extreme vulnerability of these species' populations, and non-compatible land uses on private property limit the ability to create continuous habitat between populations. Finally, cost constraints and the likelihood that conditions in existing populations will continue to deteriorate compels that we act sooner rather than later.

Controlled propagation was identified in both the recovery plan and controlled propagation plan as the best course of action to obtain the animals needed to establish new populations without depleting or significantly altering the genetic structure of existing populations. The controlled propagation is being carried out in ways designed to maximize genetic diversity in founder populations within the constraints imposed by other considerations. Because animals selected for breeding are being returned to their place of capture after one breeding season or a part of a breeding season, their genes are not being removed from the source population and genetic diversity is not being appreciably reduced by this activity. Further, the recovery plan requires that we do exactly what the reviewer suggests and for what this proposal seeks funding to accomplish: introduce captive bred animals into areas where local populations have been extirpated and acquire and restore more land where populations of brush rabbits or woodrats already exist in Caswell Memorial State Park and along the south side of the Stanislaus River.

The recovery plan cited in the proposal justifies the use of a captive breeding program under Conservation Strategy. By assigning captive breeding a Priority 1, the Service determines that it is "an action that must be taken to prevent extinction or to prevent a species from declining irreversibly in the foreseeable future". This document underwent extensive peer and public

review. The plan for captive breeding of the riparian brush rabbit underwent extensive peer review by lagomorph and genetic experts. Below is the list of reviewers and their affiliation.

Peer Reviewer Credentials of Riparian Brush Rabbit Propagation and Re-Establishment Plan

Names	Credentials
Dr. Katharine S. Ralls	Research Zoologist Smithsonian Institution National Zoological Park ●Population Genetics Specialist— Member of the California condor and southern sea otter recovery teams and an internationally recognized expert on captive breeding and conservation genetics.
Mr. Pete Gober	Field Supervisor, South Dakota Field Office U.S. Fish and Wildlife Service ●Black-Foot Ferret Propagation & Releases— FWS Coordinator for the Black-Footed Ferret Recovery Team.
Mr. Paul Marinari	Fish and Wildlife Biologist U.S. Fish and Wildlife Service ●Black-Foot Ferret Propagation & Releases
Dr. Joseph A. Chapman	President North Dakota State University ●Joseph Chapman authored the brush rabbit species account for the Mammalian Species series by the American Society of Mammalogists. ●Co-editor of: 1990 Status Survey and Conservation Action Plan for Rabbits, Hares, and Pikas. by the IUCN/SSC Lagomorph Specialist Group.
Mr. David Hays	Conservation Biologist Washington Department of Fish and Wildlife ●Pygmy Rabbit Propagation
Dr. Dale L. Brooks	UCD Director of Animal Resource Services School of Veterinary Medicine University of California at Davis ●Management of Captive Animals Specialist
Mr. Dale Steele	CDFG Supervising Biologist, Species Conservation & Recovery Program California Department of Fish and Game ●Small Mammals Expert

4. Cost/Benefit. The reviewers stated that this was a huge budget, the price per acre appeared too high, and that fee-title was higher than in other proposals.

The Service has determined that 500 to 1,000 acres of riparian habitat per reintroduction site are required to protect and de-list the riparian brush rabbit. At current appraised values, that totals $5,500,000 - 11,000,000. If the Service acquires the Buffington parcel (with funds from Phase 1) and successfully negotiates reintroduction onto neighboring private land (already under Service conservation easement), additional land acquisition may not be needed. Any "left-over" land acquisition funds would be utilized for restoration (as described on pages 7-8 of the proposal).

The cost estimates used in the proposal were gathered from recent Service appraisals. The adjacent Mapes Ranch was recently appraised in August 26, 2000 and updated January 29, 2002. The market data showed an increase in values. The current per acre values ranged from $7,500 - $10,500.

As described, some tasks could be funded separately: such as Task B, which is land protection adjacent to Caswell Memorial State Park, or Task F, implementation of restoration and management actions critical to the rabbits survival at Caswell Memorial State Park.

The protection/restoration of a site for reintroduction of the riparian brush rabbit is the number one priority of this proposal. Attaining the broader flood management restoration is a larger goal, but should not supersede the request for the reintroduction site request.

5. Regional Review. The reviewers encouraged coordination with flood planning entities.

Page 12 and 17 of the project description indicates that any full-scale restoration must include our partners' participation, including Army Corps of Engineers and Department of Water Resources. The Sacramento/San Joaquin Drainage District has been contacted about the phase two proposal; under phase one coordination is imminent as we are acquiring fee title through Phase 1 funding which will include the District's levee.

Land Acquisition Review:

2. Landowner willingness. The reviewers stated that there was no explicit assurance that land will be purchased only from willing sellers. On page 5 and 6 we state that we will work with willing sellers or easement holders. It is the policy of the Service to acquire areas under general authorities such as the Migratory Bird Conservation Act, Migratory Bird Hunting and Conservation Act, the Endangered Species Act, the Fish and Wildlife Act of 1956 or the Refuge Recreation Act *on a willing seller basis*. The Service, like other Federal agencies, has been given the power of eminent domain, however, it will not be used in this project.

The landowners that have expressed an interest are listed in the "Progress on Phase 1", as one of the Phase 1 tasks was initial landowner contact. "Initial contact with Mr. Wend, Mrs. Buffington and Mr. Gallo has been positive. Mr. Pelluca expressed interest at the public scoping meeting. Mr. Brocchini is considering the proposal" (*i.e.* Mr. Brocchini will entertain our offer when we have funding in hand).

3. Local government support. The reviewers noted that their may be issues or concerns with this proposal. However, we do discuss on page 19, under local involvement, that the Service has an active outreach effort in Stanislaus County, including periodic meetings with adjacent neighbors to discuss items of mutual interest, and the San Joaquin River National Wildlife Refuge

completed NEPA review, including public scoping meetings about refuge expansion as recently as 1997. Refuge plans have been modified to address adjacent landowner concerns. Concerns of local landowners and governments along with Refuge responses and changes to the Plan are available in the Environmental Assessment and Land Protection Plan (Service 1998). Additionally, within the Environmental Assessment is the letter from the Army Corp of Engineers that reiterates the Flood Emergency Action Team's support of the Service's efforts to acquire three of the Reclamation Districts in which the Sacramento and San Joaquin Drainage District owns easements for the construction, repair operation and maintenance of flood control levees. Listed species concerns will be addressed through Section 7 consultations and Safe Harbor agreements.

4. Site's consistency with the general plan designation and zoning. The reviewers stated that a "nature area" is not clearly compatible with agriculture and open space zoning (Stanislaus County zoning type A-2-40), nor with the open space and resource conservation zoning (San Joaquin County zoning type OS/RC). Below is clarification.

For the parcels in Stanislaus County—
For the lands of interest in Stanislaus County we stated in the proposal that we would manage the area between the levees as well as outside the levees and restored to riparian habitat as wildlife habitat, which is an *open space* use as described by the County ("protection and use of natural resources"). We would manage any area outside the levees not needed for riparian restoration as a buffer for the riparian habitat by establishing wildlife friendly crops as foraging habitat for Aleutian Canada goose, sandhill cranes and other migratory birds, which is an "open space and agricultural" use as described by the County ("agricultural and open space"). All of the parcels will be managed so as to provide a level of flood protection for health, safety, and property at least as high as is currently the case. This is also compatible with the A-2-40 zoned purpose of "protection from natural hazards" as described by the County. The ONLY change is from Agricultural to wildlife habitat, this change is still WITHIN THE SAME General Plan Designation.

For the parcels in San Joaquin County—
For the 90 acres in San Joaquin County, we stated that we would manage the area as riparian habitat and maintain at least the current levels of flood protection. This is compatible with the zoning designation of "open space and resource conservation" as described by the County, including both riparian habitat values and floodplain values such as flood protection.

5. Is the land mapped as prime farmland, farmland of statewide significance, unique farmland, or farmland of local importance?

Under the first question for item 5, there is a comment on a lack of information about the soil types, although "some orchards apparently are located on these lands." Below is clarification.

As is stated on page 6 the lands of interest are 50 percent prime and 50 percent unique farmland. We state that the land is found along a river. For clarification this means that the soils are alluvial.

Other Comments: Under this section we have already addressed above a few of the reviewers concerns, however, the reviewers mentioned that the "recovery plan is still being drafted/peer

review not yet completed." The recovery plan which covers these two species was completed in 1998 after going through extensive public and peer review. The Captive Propagation and Reintroduction Plan is also complete and has undergone peer review. Additionally, the reviewer questioned the capacity for long term management of lands outside the current park and refuge boundaries. Current Refuge and Park staffing is fully adequate to manage the additional acreage. In addition, riparian habitat, once restored, requires minimal staffing. Initial operations and maintenance costs are being requested in this grant. Long-term operations and maintenance costs would be budgeted by both Parks and Refuge into their yearly requests.

San Joaquin Regional Review:

Other comments: The reviewers suggest engaging the Comprehensive Study/flood planning entities in a site restoration plan. If restoration of floodplain hydrology, per this proposal, moves toward becoming a reality, the Comprehensive Study Team would become a pivotal, crucial partner and would be integrated in any management and design decisions.

External Scientific Review:

2. Justification
There was a concern that the reviewer could not clearly find narrative about the possibility of providing corridors to connect isolated populations, and inclusion of native vegetation into the urban development schemes (a holistic plan).

The Recovery Plan for these species does not envision connecting existing or all future populations as practical options. This is because populations are either separated by water barriers, private lands with land uses that preclude establishment of habitat for these animals (the two existing populations are about 20 river miles apart), or long stretches (i.e., several miles) of channelized streams where flood control considerations are paramount. Prior to European settlement, populations probably were not continuous and when disease, flood, fire, or other events periodically caused local extirpations, the clumped spatial pattern of populations allowed some to escape these events. To lower the risk of mortality-causing epidemics and other environmental stochastic events, some of these small, highly vulnerable populations should be kept isolated. Where genetic or demographic considerations require, animals can be periodically moved between isolated populations. The first and proposed second reintroduced populations would both be on the San Joaquin River NWR. The Refuge actively restores, enhances and manages riparian areas, therefore connecting the two populations may, if determined appropriate, be possible.

With regards to the inclusion of native vegetation into an urban development scheme, urban settings adjacent to riparian brush rabbit habitat are not appropriate. Cats, feral or domestic, kill baby and juvenile rabbits, dogs would be capable of killing adults, and the level of public use may cause harassment at such a level as to harm breeding and foraging by the rabbits. We can offer that the San Joaquin River NWR plans to provide opportunities for hunting, fishing, wildlife observation and photography, and environmental education and interpretation at appropriate locations. The Refuge itself is a mosaic of habitats and uses - existing riparian, riparian undergoing restoration, wildlife-friendly crop easements, ponds and other associated wetlands, and grasslands.

5. Project Specific Measures

There was a request for the captive breeding enclosures to be placed adjacent to or in the refuges and a question if animals could be raised in a lab colony as a backup.

We agree that the reviewer's suggestion for location of the Controlled Propagation Facility to be at the release site is the best solution. Yet more than 50 sites for the controlled propagation facility were evaluated for suitability, including San Joaquin River NWR, and only the chosen location at Pond 6 was found suitable. Suitable land with no flood risk, appropriate amounts of vegetation and other habitat elements for brush rabbits, and year-round access for construction and maintenance of pens and their populations did not exist on or adjacent to the refuge when controlled propagation was planned and initiated. The environments at Pond 6 and the San Joaquin River NWR are not so different that we would expect a need for acclimation at the release site or adaptation to a different regime by the captive animals.

As long as the natural population from which animals are taken for controlled propagation and then returned remains at a healthy level between 100-200 animals, we see no need for a backup colony in a "laboratory" or zoo setting. Animals in close confinement, as is typical in labs and zoos, tend to become highly acclimated to captivity and animals bred over generations in such settings typically become adapted genetically to conditions in confinement. We have elected to take a different course from other captive breeding programs by temporarily confining animals in large, naturally vegetated enclosures that exclude predators but otherwise provide natural conditions and space to accommodate several territories. To eliminate genetic adaptation to captivity, breeding successive generations of rabbits in captivity is not part of the plan.

Additionally, there was a question about the use these rabbits might make of human-dominated landscapes. These rabbits do occur in the much used Caswell Memorial State Park as is mentioned in the proposal (however, this may be harmful - see response above), most of the agricultural practices which abut the rivers in the San Joaquin Valley have not been conducive to the rabbits as they have removed habitat and applied pesticides, herbicides and rodenticides, all of which may cause harm to the rabbit. Wildlife friendly agriculture by private landowners is a possibility, and is mentioned in the proposal, but still needs to be examined. The long-term monitoring of the Refuge's agricultural practices on the rabbit will provide information on which activities could be incorporated by private landowners for the benefit of the riparian brush rabbit.

Miscellaneous comments: The reviewer questioned whether the rabbit could rebound on their own if more habitat is provided. This very question is the hypothesis for the extant population at Caswell Memorial State Park; "that by providing improvements and expansion the extreme fluctuations in brush rabbit abundance and the threat of population extirpation from wildfire or flooding can be minimized to the extent that the long-term viability of the Caswell population is ensured" (page 3). Unfortunately, with one population (Caswell) at very low numbers and the other population in an area where habitat will need to be destroyed before being recreated (Paradise Cut), we cannot rely only on this strategy.

Dispersal to the Refuge from the population at Caswell is not possible as they are across the river and the Paradise Cut population is too distant (see figure 1).

Budget:

3. The reviewer stated that there was no detail on the component expenses or rate.

Details for The Sacramento River Partners and Hydrologist were not available, estimates were based on information provided to CALFED in the San Joaquin River NWR grants. Additionally, we were provided only with a cost per hour for the laborer who would install the generator. The Endangered Species Recovery Program per hour rate includes 35 percent for benefits and 20 percent for overhead. The Refuge and Sacramento Fish and Wildlife staff use a "Bio-Day Rate", see #7 below. This project, as with other Service proposals, uses the same formula for indirect cost recovery rates for managing and implementing CALFED projects at the Regional and Local level (leased space, telephone, postage, printing, payroll, etc.). The rates are

- 4.5 percent for pass through funding agreements. No Service salaries may be charged to projects established under this rate
- 14 percent for work performed outside of Service leased facilities by Service personnel, or
- 20 percent for work performed in Service leased facilities by Service personnel.

6. The reviewer stated that the budget justification did not adequately explain major expenses and that there may be significant unknown costs related to fee title acquisition and relocation.

The Service land protection policy is to acquire land only when other protective means are not appropriate, available, or effective. The Service acquires or retains the minimum interest necessary to reach management objectives. When the Service acquires land, it acquires fee title (control of all property rights) only if control of lesser property interests, such as easements or leases, will not achieve objectives or will create problems for the landowners. In all cases, the Service is required by law to offer 100 percent of fair-market value for lands to be purchased, as determined by an approved appraisal that meets professional standards and Federal requirements.

On page 7 we state that all funds requested for acquisition are for fee title; acquisition of conservation easement in lieu of fee title (which is our stated preference for lands that will remain in agricultural production - page 6) may reduce the funding required. The price for fee title is based on recent appraisals by our realty office for nearby and adjacent lands. Our land acquisition estimates are based on the acreage within the entire study area. We plan on acquiring less than, and only if necessary up to, that entire area.

With regards to relocation of landowners, we do not anticipate needing to relocate numerous landowners. The nearby conservation easements and fee title negotiated by refuge did not require relocation of landowners. Options to relocation can be negotiated with the landowner, such as life-use of the home site, or excluding the home site from any fee or conservation easement purchase.

7. The reviewer was concerned that there was no component detail of salary cost.
For clarification, the Service uses a "Bio-Day Rate". This is the average cost per day used for estimating project costs for a field station. The rate incorporates a biologist's salary and benefits; supervisory, clerical and biologist support costs; and all other office operating costs which are attributable to the project. This current rate is $81/hour. Salaries for contractors were supplied by the contractor or reflected current CALFED contracts with the Refuges.

In regards to the Selection Panel's recommendations relative to CVPIA program integration, the Service would like to offer the following:

Four proposals submitted through the PSP are being considered for partial funding through our Habitat Restoration Program(HRP) (CVPIA, b(1) "other"). Two proposals, # 4 (Pine Hill Ecological Reserve) and #126 (East Sacramento County Blue Oak Legacy Acquisition Area-Deer Creek Hills Project) have been recommended by the Selection Panel to "Fund As Is." HRP managers have also determined these projects to be high priority undertakings well presented in the proposals. The Service anticipates and looks forward to contributing CVPIA funds toward the completion of these two projects. HRP managers are proposing to contribute $400,000 towards project #4 and $200,000 to project #126.

The two other proposals being considered for funding through the HRP were ranked as "Not Recommended" by the Selection Panel. These include proposal # 76 (Characterization of giant garter snake habitat in the Grassland Wetlands of the northern San Joaquin Valley) and #102 (Wetlands Outdoor Classroom, Habitat Acquisition for Butte County Meadowfoam).
The Service has read CALFED reviewer comments for these two proposals in the context of the current and historical goals of the HRP and would recommend, based on this review, that these two proposals be ranked under the category of "Fund in part, with conditions," rather than "Not Recommended."

Proposal number 76 (characterization of giant garter snake in the Grassland Wetlands of the northern San Joaquin Valley) could be narrowed in scope, and yet still provide valuable data relative to giant garter snake(ggs) populations in this region of the Central Valley. HRP managers have realized a need to obtain more baseline data regarding ggs population status in the San Joaquin Valley in order to assess reasons for the species' decline. Preliminary population status surveys and habitat evaluation will help the Service determine what resources are needed in the future to recover the species in the grassland area. Wetland habitat restoration activities for the ggs and subsequent monitoring in the Sacramento Valley over the last three years, have provided useful data in determining habitat needs and usage for this species. However, habitat conditions are very different in the San Joaquin Valley, so studies such as this are needed. This effort would also complement current ggs studies funded through the HRP in the northern central valley and would help round out statewide data contributing to the overall recovery of a species given a high priority in the HRP. Issues related to administrative cost, as cited by the reviewers, could most likely be negotiated with the applicant. We are therefore proposing that HRP managers work with the project applicant in reducing the scope and administrative overhead of the project while maintaining the project's useful research components.

Proposal 102 (Wetlands Outdoor Classroom, Habitat Acquisition for Butte County Meadowfoam) is considered a crucial project by Service endangered species biologists and HRP managers in regards to recovery of endangered habitats impacted by the Central Valley Project. The land acquisition component of this project would protect northern volcanic mudflow vernal pools, one of the rarer types of vernal pools in the Central Valley. The conservation of northern volcanic mudflow vernal pool habitat is essential in the recovery of the vernal pool fairy shrimp and vernal pool tadpole shrimp, as well as endangered plant species such as Butte County Meadowfoam. Listed vernal pool species have been and continue to be a high priority for the HRP. While the Service agrees that the educational portion of the proposal needs further clarification and substance, the Service considers the benefits of the land acquisition component

of this project as having significant merit when applied to HRP goals. The Service has begun discussions with the project applicant to ascertain ways in which HRP funds can make an effective contribution to the land acquisition component of the proposal.

In summary, the Service would like to emphasize its support for proposal #230, Recovery Implementation for Riparian Brush Rabbit and Riparian Woodrat on the Lower Stanislaus River. The actions outlined in this proposal are central to the goals of the Service's mission to recover species immediately threatened with extinction. The Service's project proponent is open to altering or reducing the project scope to accommodate reviewer concerns and/or funding limitations.

The Service appreciates the opportunity to respond to the Selection Panel's initial recommendations. Should you have questions regarding proposal #230, please contact Heather Bell at 916-414-6529. Questions related the HRP and CVPIA integration should be directed to John Thomson, at 916-414-6735.

Sincerely,

Wayne S. White
Field Supervisor

State of California • The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Gray Davis, *Governor*
Rusty Areias, *Director*

Four Rivers District
31426 Gonzaga Road
Gustine, CA 95322-9737
(209) 826-1197

May 10, 2002

Dan Ray
Cal Fed
1416 Ninth Street, Suite 630
Sacramento, CA 95814

Dear Mr. Ray,

California Department of Parks and Recreation fully supports grant proposal #230 that was submitted to Cal Fed by U.S. Fish and Wildlife Service and titled: Recovery Implementation for Riparian Brush Rabbit and Riparian Woodrat on the Lower Stanislaus River. This proposal was turned down and we would like you to reconsider funding this worthwhile group of projects.

In addition to the riparian brush rabbit and riparian woodrat, this multi-faceted proposal would benefit the entire ecosystem of the lower Stanislaus River. The Department helped the U.S. Fish and Wildlife Service put together the projects for Caswell Memorial State Park. We feel these projects will help us fulfill our mission of preserving the state's extraordinary biodiversity and protecting its valued natural resources. This funding would enable the Department to expand and better protect this small gem from the impacts of intensive agriculture and the growing urban communities surrounding the park, as well as improve the health of the riverine system below the state park.

If you have any questions or need additional information, please contact me or Joanne Karlton, State Park Resource Ecologist, at (209) 826-1197 or the above address. Thank you for reconsidering this proposal.

Sincerely,

Joseph Hardcastle
District Superintendent

cc: Heather Bell, USFWS, Sacramento