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Memorandum

To: Ned M. Gruenhagen, Bureau of Reclamation, South-Central California Area Office
Fresno, California

From: Field Supervisor, Sacramento Fish and Wildlife Office
Sacramento, California *Harold S. ...*

Subject: Formal Consultation on Three Water Transfers to the County of Fresno and Delivery of Water to the Millerton New Town Development, Fresno County, California

This memo is in response to the U.S. Bureau of Reclamation's (Reclamation) January 6, 2015 request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Millerton New Town (MNT) development project (proposed project) in Fresno County, California. At issue are the proposed project's effects on the following threatened (T) and endangered (E) species, and designated critical habitat (CH):

- Conservancy fairy shrimp (*Branchinecta conservatio*) (T)
- vernal pool fairy shrimp (*Branchinecta lynchi*) (T, CH) (VPFS)
- central California distinct population segment of the California tiger salamander (*Ambystoma californiense*) (T, CH) (CTS)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (T) (VELB)
- fleshy owl's clover (*Castilleja campestris* ssp. *succulenta*) (T)
- San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*) (T)
- hairy Orcutt grass (*Orcuttia pilosa*) (T)
- vernal pool tadpole shrimp (*Lepidurus packardii*) (E)
- longhorn fairy shrimp (*Branchinecta lynchi*) (E)
- Greene's tuctoria (*Tuctoria greenii*) (E)
- San Joaquin kit fox (*Vulpes macrotis mutica*) (E)

[illegible]

This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal actions we are consulting on is Reclamation's authorization of three long-term water transfers to Fresno County (County) from the Arvin-Edison Water Storage District, the Lower Tule River Irrigation District, and the Terra Bella River Irrigation District as well as Reclamation's authorization of the County's transfer of Municipal and Industrial water to the Millerton New Town

Specific Plan Area (MNTSPA), for subsequent delivery to the proposed MNT development located within the MNTSPA. In an October 2010 letter (SPK-1999-00726), the US Army Corps of Engineers (Corps) designated Reclamation as the lead federal agency to act on their behalf for the MNTSPA project.

The MNTSPA as referred to in this biological opinion does not include the approximately 88 acres of existing development known as Tract 4870.

Pursuant to 50 CFR 402.12(j), you submitted a biological assessment for our review and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, and is likely to adversely affect, CTS and VPFS and will affect the designated critical habitat of these species. The findings also conclude that the proposed project may affect, but is not likely to adversely affect the conservancy fairy shrimp, VELB, fleshy owl's clover, San Joaquin Valley Orcutt grass, hairy Orcutt grass, vernal pool tadpole shrimp, longhorn fairy shrimp, Greene's tuctoria and San Joaquin kit fox.

In considering your request, we based our evaluation on the following: (1) your February 11, 2014 initial biological assessment for the proposed action; (2) revised biological assessments dated August 22 and December 2, 2014; (3) revised project description information dated October 6, 2014 and January 21 and May 11, 2015.

After reviewing all of the available information, we concur with your determination that the proposed project may affect, but is not likely to adversely affect the conservancy fairy shrimp, VELB, fleshy owl's clover, San Joaquin Valley Orcutt grass, hairy Orcutt grass, vernal pool tadpole shrimp, longhorn fairy shrimp, Greene's tuctoria, and San Joaquin kit fox.

There is one cluster of elderberry shrubs, the host plant for the VELB, within the MNTSPA with stems greater than one inch in diameter. Valley elderberry longhorn beetle was not detected during surveys of the shrubs conducted in 2012 and 2013. There are elderberry shrubs within both of the proposed conservation areas but impacts to these shrubs, and resulting adverse effects to VELB, are not expected to occur during the management of the properties as conservation lands. The applicant has proposed the following avoidance and minimization measures to further reduce the likelihood of adverse effects to the species:

- Temporary construction fencing shall be constructed to provide a minimum setback of at least 20 feet from the single documented potential host elderberry plant. Before the completion of construction activities, permanent exclusion fencing (e.g. post-and-cable fence to prevent vehicle entry and mark the area as sensitive) will be installed to provide at least a 20 foot buffer around the plant.
- A tailgate education program on VELB shall be given to each construction worker and all personnel working within the project area to avoid adverse effects on the beetle.
- Two signs shall be placed along the edge of the exclusion fence to help identify the area as a protected area for VELB and maintained in perpetuity. Restoration and maintenance activities shall be implemented if activities occur within the 20-ft buffer zone. Restoration and maintenance activities include:
 - Restore any damage done to the 20-ft buffer area during construction. Provide erosion control and re-vegetate with appropriate native plants.

- 20-ft Buffer areas must continue to be protected after construction from adverse effects of the Project. Measures such as fencing, signs, weeding, and trash removal will be implemented as described in the Wetlands and Open Space Monitoring Plan.
- No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant shall be used in the buffer areas.
- Mowing of grasses/ground cover may occur from July through April to reduce fire hazard. No mowing shall occur within 5 feet of elderberry plant stems. Mowing must be done in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment).

A San Joaquin kit fox was reported near the community of Friant approximately two miles west of the MNTSPA in the 1990's. Since the time of that unconfirmed incidental sighting, kit fox have not been documented in the vicinity of the MNTSPA either incidentally or during focused surveys. Although it is reasonably unlikely that kit fox occur within the action area, the applicant proposes to implement the avoidance measures contained within the Service's *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance* (Service 2011) during all earth-moving activities. In the unlikely event that kit fox are found on site and they cannot be avoided or known dens must be collapsed, Reclamation will reinitiate consultation.

Surveys conducted within potential habitat in the MNTSPA for the fleshy owl's clover, San Joaquin Valley Orcutt grass, hairy Orcutt grass, and Greene's tuctoria conducted in 1998, 2012, and 2013 did not detect any of these species and the plants are not known to occur within the MNTSPA.

Dry and wet season surveys for vernal pool crustaceans conducted within the MNTSPA did not document vernal pool tadpole shrimp, longhorn fairy shrimp or conservancy fairy shrimp. These species are not known to occur within the MNTSPA.

The remainder of this document provides our biological opinion on the effects of the proposed project on CTS and VPFS and their designated critical habitat.

Consultation History

February 2009	The Service received a draft biological assessment for the <i>Millerton New Town Specific Plan Area Change in the Service Area Under the Water Service Contract Between the United States and the County of Fresno, Service Area No. 34</i> from Reclamation.
June 2009	The Service met with the Corps, Reclamation, the Environmental Protection Agency (EPA), the California Department of Fish and Wildlife, and project proponents.
August 2009	The Service issued a comment letter in response to the draft biological assessment.
February 2010	The Service met with the project proponents to discuss proposed offsite conservation lands.
February 2014	The Service received a biological assessment from Reclamation.
May 2014	The Service issued an insufficiency memo to Reclamation on the biological assessment.

August 2014	The Service received a revised biological assessment from Reclamation
September-October 2014	Meetings between project proponents, the Service and Reclamation.
January 2015	The Service received a revised biological assessment from Reclamation as well as additional project information from project proponent.
August 2015	The Service received additional project information regarding the timing of development and of securing off-site conservation lands.

Description of the Action

Pursuant to an agreement between the Arvin-Edison Water Storage District (Arvin Edison) and the County, Arvin-Edison would annually transfer to the County up to 1,520 acre-feet per year (AFY) of its Friant Division Central Valley Project (CVP) water supply consistent with the terms of Arvin-Edison's 9(d) Repayment Contract. Pursuant to a separate agreement between the Terra Bella River Irrigation District (Terra Bella) and the County, Terra Bella would transfer 770 AFY of Terra Bella's Friant Division CVP water supply to the County, consistent with the terms of Terra Bella's 9(d) Repayment Contract. Should Arvin-Edison be unable to deliver its transferred water in any given year, the Lower Tule River Irrigation District would have the option to transfer 1,520 AFY of their Friant Division CVP water supply to the County as a back-up supply. The cumulative total of transferred water to the County would not exceed 2,290 AFY and would be drawn by the County through existing infrastructure at Millerton Lake.

The federal action also includes the issuance of a permit by the Corps pursuant to Section 404 of the Clean Water Act to authorize the discharge of dredged or fill material into 2.38 acres of waters of the United States associated with construction of the proposed project. The Corps has designated Reclamation as the lead federal agency to act on their behalf for the MNTSPA project.

The approval of water transfers would facilitate the construction of the MNT development project within the MNTSPA. The MNT development comprises 1,273 acres and includes the following development elements:

- 1,850 single family residential lots
- 169 multi-family residential unit
- Modification or construction of roadways
- Storm Water Basins
- Effluent Storage Ponds
- Infrastructure including:
 - Sewer Lift Stations and Force Mains
 - Water storage tank(s) with service road
 - Reclaimed water distribution piping
 - Wet and dry utilities
 - Expansion of existing water treatment plant capacity
 - Expansion of existing wastewater treatment plant capacity
- Propane storage areas
- Clovis Unified School Campus
- California Health Science University Campus

- Government Center including a library, fire station and satellite sheriff station
- Hotel and Conference Center
- Gas Station / Mini Mart and Retail, Business Professional Center
- Mini Storage And Neighborhood Commercial
- Resort village
- Open Space including:
 - White Fox Creek Parkway
 - Other Natural Open Space
 - Tertiary Treated Effluent Spray Disposal Area including:
 - Naturalistic Spray Area
 - Community Parks
 - Cultivated Open Space
 - Memorial Park
 - Walks and Trails

Waste Water Disposal

All tertiary treated effluent from the wastewater treatment plant would be used to irrigate agricultural fields/orchards/vineyards, campus landscaping, roadway plantings, common areas, commercial area landscaping, restoration plantings, and naturalistic spray areas within the MNTSPA, as described in the Millerton New Town Wetlands and Open Space Management Plan included in the biological assessment.

Discharge of waste water to surface waters or surface water drainage courses will be prohibited. Application of treated waste water in a manner or location other than that described above will be prohibited. Effluent will not be applied to any permanent wetland areas that would result in surface water drainage. No liquid or solid chemical waste associated with the university campus and other facilities that would harm humans or the environment will be disposed of in the waste water system or non-controlled solid waste disposal.

Wetlands and Open Space Management

A Wetlands and Open Space Management Plan (WOSMP) would be implemented for portions of the approximately 494-acre open space area within the MNTSPA. The WOSMP provides methods for restoring and maintaining the different types of open space in the MNT, and requires regular monitoring, management, and reporting. The types of open space allowed in the WOSMP include:

- White Fox Creek Corridor,
- Natural Open Space,
- Naturalistic Spray Areas,
- Parks, and
- Cultivated Open Space.

The WOSMP provides for restoration of the White Fox Creek Corridor to a closed-canopy riparian scrub/forest habitat. This will be accomplished by plantings, irrigation, weed control and herbivory prevention, and regular maintenance and monitoring in perpetuity.

The Natural Open Space in the MNTSPA (outside of the White Fox Creek Corridor) will be subject to managed grazing and/or mowing.

The Naturalistic Spray Areas will be subject to irrigation with tertiary treated effluent. They will be managed with grazing and/or mowing, and may be restored via planting and management of native species in order to enhance grassland and oak woodland habitat within the MNTSPA. These areas may also include trails and benches, but will not include non-native landscaping or other high-intensity uses. These areas will be subject to regular management for community open-space values.

Parks in the MNTSPA will include lawns, ball fields, memorials/cemetery, landscape plantings, and other similar features. Agricultural areas within the MNTSPA will be planted with vineyards, row crops, or orchard crops, and managed for agricultural production and community health and scenic/cultural values.

Drainage of the MNTSPA will be designed to utilize natural drainage courses. Runoff will flow to surface collectors and storm drains and onto a series of basins where sediment will settle-out and the flows entering the natural drainage system can be regulated. Off-site flows will not exceed pre-development levels.

Conservation Measures

In total, conservation easements will be placed on approximately 2,800 acres to conserve habitat for CTS and, in part, VPFS and VPFS credits will be purchased at a Service-approved mitigation bank as described below.

- The Jamison Ranch Conservation Easement (JRCE) is an approximately 2,269-acre area that will be conserved as part of the proposed action. The JRCE provides habitat for CTS and VPFS and is located approximately four miles northwest of the MNTSPA.
- The Point Millerton Conservation Area (PMCA) is an approximately 531-acre area that will be conserved as part of the proposed action. The PMCA provides habitat for CTS and is located approximately 3.5 miles north of the MNTSPA.

The development of the MNTSPA is divided into three portions: The Bonadelle Neighborhoods Portion, Clarksfield Company Portion, and Granville/Clovis Unified School District (CUSD) Portion (Figure 1). The Bonadelle Neighborhoods Portion consists of 329.4 acres. The off-site conservation lands associated with the Bonadelle Neighborhoods Portion consist of 801 acres of the JRCE. The Granville/CUSD Portion consists of 574.9 acres. The off-site conservation lands associated with the Granville/CUSD Portion consist of 1,468 acres of the JRCE. The Clarksfield Company Portion consists of 369.5 acres. The off-site conservation lands associated with the Clarksfield Company Portion consist of the 531 acres of the PMCA. In the case of each of these three "Portions", the corresponding off-site conservation lands will be placed under conservation easement and endowments will be funded prior to the start of development work within the Portion. Prior to the start of work within the Bonadelle Neighborhoods Portion, 801 acres of the JRCE will be placed under conservation easement and endowment funded, and prior to the start of work on the Granville/CUSD Portion, 1,468 acres of the JRCE will be placed under conservation easement and the endowment funded. Work in the Clarksfield Company Portion, will begin only after the offsite JRCE mitigation and corresponding endowment for either the Bonadelle Neighborhood portion or Granville/CUSD portion are recorded and funded and 531 acres of the PMCA are placed under conservation easement with appropriate endowment. Whichever of the Bonadelle Neighborhoods or Granville/CUSD portion that begins work first will purchase VPFS credits equivalent to 5.37 acres at a Service-approved mitigation bank prior to the start of development activities.

Avoidance and Minimization Measures for CTS

Prior to future ground disturbance within the MNTSPA (where ground disturbance is defined as major earth work associated with lot leveling, infrastructure construction and street improvements, not construction of individual homes on already-leveled pads), a temporary one-way barrier shall be constructed along the limits of grading and other disturbance. A qualified biologist shall inspect this area prior to installation. The barrier shall consist of a pipeline constructed of 12-inch-diameter polyvinyl chloride (PVC) pipe placed along the limits of grading and other disturbance. The ends of the pipeline will be capped to prevent CTS from entering. On the interior (construction) side of the barrier, a gently-sloping (no more than a 3:1 grade), compacted earthen ramp shall be constructed to allow CTS to climb to the top of the barrier and fall to the outside of the barrier. Since no ramp will be provided on the exterior side, CTS will be precluded from entering the site. The one-way barrier will be installed and left in place over the course of one breeding season (between October 15 and March 31) prior to the commencement of ground-disturbing activities. This corresponds with the period in which CTS are most likely to be foraging above-ground or moving between upland sites and breeding sites. Following the first significant rainfall (>0.25 inches) in October or later, this barrier will be inspected weekly by the on-call biologist and/or construction foreman/manager and maintained and repaired as necessary to ensure that it is functional and not a hazard to CTS on the outside of the barrier. Weekly inspections shall be continued through March 31. Following that initial period, the barrier will be in place whenever ground-disturbing activities will occur between October 15 and March 31 until all development activities have been completed. Weekly inspections of the barrier shall again be conducted per the protocol previously described for the pre-ground-disturbance phase. The barrier may be removed for ground disturbance occurring between April 1 and October 14 but must be re-installed if ground disturbance will occur outside this period.

A Service-approved qualified biologist familiar with the species and with demonstrated experience with safe handling of amphibians shall be available by phone during all activities, including groundbreaking, earthmoving, and construction activities that could result in adverse effects to CTS. The qualified biologist will visit the site weekly during the period that such activities are taking place. The proponents of the MNT development will submit a CTS relocation plan and a list of designated qualified CTS biologists to the Service prior to the onset of ground-disturbing activities. Ground-disturbing activities will not begin until the CTS relocation plan and designated qualified biologists have been approved by the Service.

The qualified biologist(s) shall be given the authority to stop any work that may result in adverse effects to CTS. The biologist shall monitor any translocated animal until it is determined that predators or other dangers do not imperil it. CTS shall be translocated to appropriate habitat for their life cycle. CTS found in burrows shall be translocated to burrows and not to aquatic habitat. If the biologist(s) exercises the authority to stop work or to translocate an animal, the Service shall be notified by telephone and electronic mail within one (1) working day. The on-call biologist will be the contact for any employee or contractor who might unintentionally kill or injure a salamander or anyone who finds a dead, injured, or entrapped salamander. The on-call biologist shall possess a working cellular telephone whose number shall be provided to the Service.

A readily available copy of the Avoidance and Minimization Measures shall be maintained by the construction foreman/manager on the construction site whenever earthmoving and/or ground disturbance is taking place. The name and telephone number of the construction foreman/manager shall be provided to the Service prior to project groundbreaking.

Under direction of the qualified biologist, orange plastic mesh fencing at least four feet in height shall be erected around the portion of any designated open space areas where disturbance is unnecessary in order to avoid unintentional disturbance to such areas during development. Where these areas overlap with the one-way barrier pipeline, only the barrier pipeline shall be required.

Project-related vehicles shall observe a 15 mile-per-hour speed limit in all Project areas, except on County roads. Because CTS are most active on rainy nights, nighttime construction shall be minimized to the maximum extent practicable.

If at any time a CTS is discovered in the development area by the on-call biologist or anyone else, the authorized on-call biologist shall move the animal to a nearby safe location.

Because CTS may take refuge in cavity-like and den-like structures such as pipes and may enter stored pipes and become trapped, all construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the authorized on-call biologist and/or the construction foreman/manager for these animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way.

To prevent unintentional entrapment of CTS during development, the on-call biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than four inches deep are completely covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth fill or wooden planks, and are inspected each morning by the on-call biologist and/or construction foreman/manager. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-call biologist and/or construction foreman/manager.

To eliminate an attraction for the predators of CTS, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site.

An employee education program shall be conducted for contractors and their employees involved in the project. The program shall consist of a brief presentation by persons knowledgeable about CTS. The program shall include the following: a description of the species and its habitat needs, photographs, an explanation of the legal status of the species and its protection under the ESA, and a list of measures being taken to reduce effects to this species during project development. A fact sheet conveying this information shall be prepared for distribution to the above-mentioned people and anyone else who may enter the construction site. Upon completion of training, employees shall sign a form stating that they attended the training and understand all the conservation and protection measures. The original form(s) shall be submitted to the Service.

A representative shall be appointed by MNT development proponents as the contact source for any employee, contractor, or agency personnel who might unintentionally kill or injure a CTS or who finds a dead, injured, or entrapped individual. The representative shall be identified during the employee education program. The representative's name and telephone number shall be provided to the Service and Reclamation.

If a CTS, or any animal that construction personnel believe may be of this species, is encountered during project construction, the following protocol shall be followed:

- All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease.
- The foreman and on-call biologist shall be immediately notified.
- The on-call biologist shall immediately notify the Service and Reclamation via telephone or electronic mail when a CTS is encountered that may be in harm's way.
- The Service authorized on-call biologist shall move the CTS to a safe nearby location and monitor it until he/she determines that predators or other dangers do not imperil the animal(s).

Only tightly woven fiber netting or similar material shall be used for erosion control or other purposes at the project site to ensure that CTS do not get trapped. This limitation shall be communicated to the contractor through use of Special Provisions included in the bid solicitation package. Plastic monofilament netting (erosion control matting) or similar material shall not be used in construction areas because CTS may become entangled or trapped in it.

Insecticides and rodenticides will not be used in construction or development areas during the development process. All herbicide application performed as part of the Millerton New Town project and within the MNTSPA will be performed by an EPA licensed pesticide applicator. The pesticide applicator will traverse the site using an ATV and apply herbicide with a backpack sprayer up to two times yearly. The only herbicides used will be the non-selective herbicide Touchdown (36.5% glyphosate) and the pre-emergent herbicide Prowl (38.7% Pendimethalin). Herbicide application will be restricted to already graded areas, and no herbicides will be used in undisturbed areas, or within wetlands or Waters of the U.S. Best management practices (BMPs) will be used to prevent storm water run-off potentially containing herbicides from entering nearby existing waterways. All herbicide usage shall be consistent with labels and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other appropriate State and Federal regulations.

During all construction in the vicinity of White Fox Creek and its tributaries, BMPs shall be used to minimize erosion and impacts to water quality to protect water quality in downstream areas used by CTS and/or other listed species.

The proposed action includes the avoidance and management of CTS upland habitat, one vernal pool that has been repeatedly documented to support CTS breeding, and two stock ponds that provide potential breeding habitat. These areas will be managed according to the WOSMP. Management activities will include erosion control to protect wetland habitat, and thatch management to maintain vernal pools and grasslands and prevent excessive buildup of non-native grasses.

Avoidance and Minimization Measures for VPFS

One vernal pool that has been documented to support vernal pool fairy shrimp and CTS breeding will be avoided on-site with a greater than 250 feet of buffer from ground disturbing activities and will be contiguous with grassland outside the MNTSPA. A wetland channel and a wetland swale that have been documented to contain *Branchinecta* spp. cysts will be outside the area of ground disturbance, but will be within 30 and 155 feet, respectively, of ground disturbing activities. Although the cysts were not identified to species during surveys, wet season surveys within the MNSTPA have documented only VPFS. Based on this information, the cysts are presumed to be

VPFS. These wetlands shall be protected with a CTS barrier or worker exclusion fence and worker avoidance training as described above in the avoidance and minimization measures for CTS. On-call biologists will be authorized to stop any work which may threaten to damage the pools and swales in question, but no translocation of fairy shrimp will be undertaken.

After the completion of construction-related activities, the avoided on-site VPFS habitat will be managed according to the provisions of the Mitigation and Monitoring Plan for Millerton New Town included in the biological assessment. This management will include erosion control and thatch management provisions to protect vernal pool and swale habitat.

In addition to the on-site avoidance of VPFS habitat, 0.28 acres of documented VPFS habitat and 2.21 acres of potential VPFS habitat will be preserved as part of the JRCE. This habitat will be permanently protected and managed for the benefit of VPFS as well as other species, as described in the Long-Term Management Plan for the JRCE that was included with the biological assessment. The project proponent will also purchase VPFS credits equivalent to 5.37 acres at a Service-approved mitigation bank prior to ground disturbance within the MNTSPA.

Action Area

The action area is defined in 50 CFR § 402.02, as “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” For the proposed action, the Action Area encompasses the entirety of the MNTSPA, JRCE and PMCA (see Figure 6 from biological assessment, attached).

Analytical Framework for the Jeopardy Determination

The following analysis relies on four components to support the jeopardy determination for CTS and VPFS: (1) the *Status of the Species*, which evaluates these species’ range wide condition, the factors responsible for that condition, and their survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of these species in the action area, the factors responsible for that condition, and the role of the action area in the species’ survival and recovery; (3) the *Effects of the Action*, which determines the direct and indirect effects of the proposed Federal action and the effects of any interrelated or interdependent activities on these species; and (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on CTS and VPFS.

In accordance with the implementing regulations for Section 7 and Service policy, the jeopardy determination is made in the following manner: the effects of the proposed Federal action are evaluated in the context of the aggregate effects of all factors that have contributed to the current status of CTS and VPFS. Additionally, for non-Federal activities in the action area, we will evaluate those actions likely to affect the species in the future, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both its survival and recovery in the wild.

The following analysis places an emphasis on using the range-wide survival and recovery needs of the CTS and VPFS, and the role of the action area in providing for those needs as the context for evaluating the significance of the effects of the proposed programmatic Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Analytical Framework Adverse Modification

This biological opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which evaluates the range-wide condition of critical habitat for the CTS and VPFS in terms of primary constituent elements (PCE)s, the factors responsible for that condition, and the intended recovery function of the critical habitat at the provincial and range-wide scale; (2) the *Environmental Baseline*, which evaluates the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the PCEs and how that will influence the recovery role of affected critical habitat units and; (4) *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the PCEs and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on CTS and VPFS critical habitat are evaluated in the context of the range-wide condition of the critical habitat at the provincial and range-wide scales, taking into account any cumulative effects, to determine if the critical habitat range-wide would remain functional (or would retain the current ability for the PCEs to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for CTS and VPFS.

The analysis in this biological opinion places an emphasis on using the intended range-wide recovery function of CTS and VPFS critical habitat and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the adverse modification determination.

Status of the Species

Vernal Pool Fairy Shrimp

For the most recent comprehensive assessment of the species’ range-wide status, please refer to the *Vernal Pool Fairy Shrimp* (*Branchinecta lynchi*) *5-year Review: Summary and Evaluation* (Service 2007). No change in the species’ listing status was recommended in this 5-year review. Threats evaluated during that review and discussed in the final document have continued to act on the species since the 2007 5-year review was finalized, with loss of habitat being the most significant effect. While there have been continued losses of VPFS habitat throughout the various vernal pool core areas, including the Fresno vernal pool core area where the proposed project is located, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species. The Service is in the process of finalizing its most current 5-year review for the species.

For a comprehensive assessment of critical habitat for VPFS, please refer to the *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants* (Service 2006). While there has been loss of VPFS critical habitat since its designation, to date no project has proposed a level of effects for which the Service has issued a biological opinion of adverse modification for VPFS critical habitat.

Throughout the range of VPFS, 597,821 acres were designated as critical habitat. The primary constituent elements (PCE) of VPFS critical habitat include topographic features such as mounds, swales or depressions that hold water or become inundated during winter rains for 18 days providing habitat for incubation, maturation, and reproduction as well as food and shelter for VPFS.

California tiger salamander (Central CA DPS)

For the most recent comprehensive assessment of the species' range-wide status, please refer to the *California Tiger Salamander Central California Distinct Population Segment (Ambystoma californiense) 5-year Review: Summary and Evaluation* (Service 2014). No change in the species' listing status was recommended in this 5-year review. Threats evaluated during that review and discussed in the final document have continued to act on the species since the 2014 5-year review was finalized, with loss of habitat being the most significant effect. While there have been continued losses of CTS habitat throughout the range of the species, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species.

For a comprehensive assessment of critical habitat for CTS, please refer to the *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule* (Service 2005a). While there has been loss of CTS critical habitat since its designation, to date no project has proposed a level of effects for which the Service has issued a biological opinion of adverse modification for CTS critical habitat.

Throughout the range of CTS, 199,109 acres were designated as critical habitat. The PCE's of CTS critical habitat include standing bodies of freshwater that support inundation during winter rains and hold water for a minimum of 12 weeks in a year of average rainfall and upland habitats adjacent to and accessible to and from breeding ponds that contain small mammal burrows or other underground habitat that CTS can use for feeding, sheltering and protection as well as dispersal habitat.

Environmental Baseline

The MNTSPA is predominantly non-native annual grassland and blue oak woodland with seasonal swales and vernal pools, freshwater seeps, and two man-made stock ponds. White Fox Creek and two tributary drainages carry intermittent flows through the area. There is an existing development (Tract 4870) that occupies approximately 88 acres within the MNTSPA that is not part of this consultation. Residential and commercial development, including Brighton Crest and Table Mountain Casino, occur in the vicinity of the Action Area, although the majority of the land remains annual grassland and blue oak woodland used for livestock production.

The JRCE consists of non-native annual grassland and blue-oak woodland with seasonal swales and vernal pools, and man-made stock ponds. Cottonwood Creek and its tributaries flow seasonally through the property. Agricultural production, livestock grazing, and low density residential development occur in the vicinity of the JRCE, although the majority of the land remains annual grassland and blue oak woodland used for livestock production.

The PMCA consists of blue oak woodland, ephemeral drainages and man-made stock ponds. The PMCA is adjacent to 200 acres of land that was preserved as part of the Tract 4870 development. The surrounding land use is largely restricted to grazing and very-low-density residential development.

Threats to the species within and around the Action Area include habitat degradation or elimination resulting from urban development and associated infrastructure as well as the introduction of predator species to occupied habitat.

VPFS

The MNTSPA is almost entirely within the Fresno core area and a portion of the JRCE is within the Madera core area of the Southern Sierra Foothills vernal pool region as described in the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (Service 2005b) (Recovery Plan). These core areas support high concentrations of vernal pool species, are representative of the species' range, and are where recovery actions are focused.

Dry season surveys were conducted in 1997 within the MNTSPA during which *Branchinecta* spp. cysts were identified in three pools on the Clarksfield property, two of which are located within the MNTSPA. *Branchinecta* spp. cysts were found in eight basins during dry season surveys in 2012. In 2013 adult VPFS were found in four pools throughout the MNTSPA during protocol-level wet season surveys. In total within the MNTSPA, VPFS adults were detected in 0.26 acres of wetlands during wet season surveys and *Branchinecta* spp. cysts were detected in an additional 1.00 acres of habitat during dry season surveys. Although the cysts were not identified to species during surveys, wet season surveys within the MNTSPA have documented only VPFS. Based on this information, the cysts are presumed to be VPFS. Vernal pool fairy shrimp were found in approximately 0.28 acres of vernal pools within the JRCE. The species has not been detected and is not expected to occur on the PMCA due to a lack of habitat.

The 1,273-acre MNTSPA includes all PCE's and 1,113 acres, or approximately 28%, of Unit 24B of designated VPFS critical habitat. The PCE's of VPFS critical habitat include topographic features such as mounds, swales or depressions that hold water or become inundated during winter rains for 18 days providing habitat for incubation, maturation, and reproduction as well as food and shelter for VPFS.

CTS

The entirety of the Action Area supports breeding, feeding, dispersing and sheltering habitat of CTS.

CTS breeding has been documented within the MNTSPA at three vernal pools. These three pools represent approximately 0.28 acres of breeding habitat. All three of these pools are small and ephemeral and they may not pond long enough to support larval development during dry years such as 2013 when non-protocol surveys were conducted. The MNTSPA supports two large stock ponds that provide potential habitat for CTS larvae. Multiple burrows have been documented across the MNT, which provide potential upland habitat for CTS.

Surveys conducted between 2011 and 2013 identified larval CTS on the JRCE in two artificial ponds totaling 0.23 acres. Other stock ponds within the JRCE provide potential CTS breeding habitat.

The PMCA and the adjacent existing conservation area contain four stock ponds that provide breeding habitat for CTS; three ponds are within the PMCA and total 0.31 acres. All four stock ponds contained CTS larvae during sampling conducted in 2011.

The 1,273-acre MNTSPA includes all PCE's and 1,261 acres, or approximately 25%, of Unit SSJ-2 of designated CTS critical habitat. The PCE's of CTS critical habitat include standing bodies of freshwater that support inundation during winter rains and hold water for a minimum of 12 weeks in a year of average rainfall and upland habitats adjacent to and accessible to and from breeding ponds that contain small mammal burrows or other underground habitat that CTS can use for feeding, sheltering and protection as well as dispersal habitat. The 2,269-acre JRCE includes 230

acres of unit SSJ-1A of CTS designated critical habitat. This portion of the JRCE that includes designated critical habitat includes the upland habitat PCE.

Effects of the Action

VPFS

The proposed action will result in direct effects to 1.22 acres of VPFS habitat. Project-related activities, such as grading, placement of fill, paving and the use of earth-moving equipment will result in the loss of fairy shrimp habitat and the death of an unknown number of adults and cysts. Adults and cysts will likely be crushed or buried by fill material or equipment.

Indirect effects will occur to 1.40 acres of VPFS habitat outside the footprint of construction activities. Grading and ground disturbance within 250 feet of wetlands that provide habitat for VPFS is reasonably likely to impede the surface and sub-surface hydrology of the wetlands leading to the eventual loss or degradation of the wetlands. Residential development and urban use around VPFS habitat increases the likelihood of edge effects on this habitat resulting in reduced ecological function due to changes in hydrologic conditions and invasion by nonnative plants and invertebrate species.

All known PCE's within Unit 24B and the MNTSPA will be directly or indirectly affected by the proposed action. The loss of approximately 28% of the land area and associated PCE's within Unit 24B will substantially affect the function of the critical habitat unit, however; when comparing the loss of range-wide VPFS critical habitat, the proposed action will result in a reduction of approximately 0.18% of designated VPFS critical habitat. The final designation of critical habitat for VPFS (Service 2006) did not identify Unit 24B as providing any unique function for the species when compared to other critical habitat units. Range-wide, critical habitat is expected to continue to be functional and serve its role in VPFS recovery.

The 0.28 acres of vernal pools within the JRCE that have been documented to contain VPFS will be preserved in perpetuity and managed for the species when the JRCE is implemented. In addition to the preservation of existing habitat, conservation credits equivalent to 5.37 acres will be purchased at a Service-approved bank that includes lands that are managed for the conservation of the species. This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The conserved lands will provide suitable habitat for breeding, feeding, and sheltering commensurate with or better than habitat lost as a result of the proposed project. Providing this compensatory habitat as part of a relatively large, contiguous block of conserved land may contribute to other recovery efforts for the species.

CTS

The proposed action will result in the permanent loss of 1,273 acres of CTS habitat. Project related activities including, but not limited to, grading, clearing and grubbing, excavating and paving will result in the loss of CTS habitat and the death of an unknown number of individuals through the destruction of potential and occupied CTS burrows. Two pools that have been documented to support CTS breeding will be filled as a result of the proposed action. One documented breeding pool and two stock ponds that provide potential breeding habitat will be avoided from direct impacts by a 250-foot buffer but surrounded by residential development. The surrounding residential development will substantially reduce the likelihood that these features will be used by CTS as breeding habitat in the future due to reduced ecological function caused by changes in hydrologic conditions and invasion by nonnative plants and invertebrate species. Should individuals

breed, or attempt to breed, in these pools, the amount of accessible upland habitat available upon exiting the pools will be greatly reduced compared to existing conditions.

Residential development within 1.3 miles of known and potential CTS breeding ponds or near occupied upland habitat could result in harm and harassment of CTS that could wander into developed areas of the Project site. These individuals could be crushed by vehicle traffic or otherwise harmed by ongoing residential activity.

The use of a one-way fence within the construction area as a minimization measure could result in mortality of CTS individuals on the outside of the fence due to desiccation during movement events in search of available burrows. Individuals could travel along the outside of the fence without finding suitable refugia when temperatures get too high and moisture levels too low for above-ground survival.

The relocation of individuals as part of the proposed relocation plan is likely to result in capture, and harassment as well as potential injury or mortality of captured individuals. Shaffer et. al (2008) discussed several stressors that can result from CTS relocation such as that proposed by this project. Potential adverse effects from relocation include the introduction of disease to uninfected areas, and reduced fitness through outbreeding depression and/or maladaptation. Shafer et al (2008) conclude: "(T)he potential risks of moving a single individual, or a small number of individuals, from one breeding site to another will almost invariably outweigh the benefits that might be accrued by supplementing an existing population with that small number of animals.... Except in the trivial case of moving an animal a very short distance (on the order of hundreds of meters or less) from a modified habitat to an adjacent undeveloped area, such animals should probably never be repatriated."

The entire extent of Unit SSJ-2 within the MNTSPA provides all PCE's for CTS and will be directly or indirectly affected by the proposed action. The loss of approximately 25% of the land area and associated PCE's within Unit SSJ-2 will substantially affect the continued function of the critical habitat unit, however; when comparing the loss of range-wide CTS critical habitat, the proposed action will result in a reduction of approximately 0.6% of designated CTS critical habitat. The final designation of critical habitat for CTS (Service 2005a) did not identify Unit SSJ-2 as providing a unique function for the species when compared to other critical habitat units. The JRCE includes approximately 230 acres of Unit SSJ-1A. This portion of Unit SSJ-1A includes the upland habitat PCE of CTS critical habitat. The proposed project will result in the permanent conservation of 230 acres of Unit SSJ-1A and the corresponding PCE which represents approximately 0.1% of designated CTS critical habitat. The loss of habitat within Unit SSJ-2 (1,261 acres) and the conservation of habitat within Unit SSJ-1A (230 acres) will result in an overall reduction of approximately 0.5% of total designated CTS critical habitat. Range-wide, critical habitat is expected to continue to be functional and serve its role in CTS recovery.

The proposed project will contribute to a local and range-wide trend of habitat loss and degradation, the principal reasons CTS and VPFS were listed as threatened. The proposed project will also contribute to a reduction of acreage of remaining habitat for these species. As noted in the Description of the Action section, the project proponent has proposed a set of conservation measures, including the commitment to conserve habitat as a condition of the action. This habitat is intended to minimize the effect on the species of the proposed project's anticipated incidental take, resulting from the permanent loss, modification and degradation of habitat described above. The proposed conserved habitat will be in the form of conservation easements placed on approximately 2,800 acres of habitat for CTS and, in part, VPFS. The JRCE is an approximately 2,269-acre area that provides upland and breeding habitat for CTS as well as 0.28 acres of documented VPFS habitat and 2.21 acres of potential VPFS habitat. The PMCA is an approximately 531-acre area that

provides upland and breeding habitat for CTS. The project proponent will also purchase VPFS credits equivalent to 5.37 acres at a Service-approved mitigation bank. This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The conserved lands will provide suitable habitat for breeding, feeding, or sheltering commensurate with or better than habitat lost as a result of the proposed project. Conserving this habitat as part of a relatively large, contiguous block of conserved land may contribute to other recovery efforts for the species.

The JRCE and PMCA will result in the conservation of 2,800 acres of upland and aquatic CTS habitat. The upland habitat within the annual grassland and blue oak woodland along with the stock ponds that have been documented to provide breeding habitat within these lands will be preserved in perpetuity and managed for the conservation of the species. In total, 0.54 acres of documented CTS breeding habitat will be preserved as part of this project. In addition to the documented breeding ponds, there are additional stock ponds within the JRCE that provide potential breeding habitat for the species. This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The conserved lands will provide suitable habitat for breeding, feeding, and sheltering commensurate with or better than habitat lost as a result of the proposed project. Providing this compensatory habitat as part of a relatively large, contiguous block of conserved land may contribute to other recovery efforts for the species.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. During this consultation, the Service did not identify any future non-federal actions that are reasonably certain to occur in the action area of the proposed project.

Conclusion

After reviewing the current status of CTS and VPFS, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the approval of three water transfers to the County, delivery of water to the MNT development, and the fill of Wetlands of the US, as proposed, is not likely to jeopardize the continued existence of CTS and VPFS. The Service reached this conclusion because the project-related effects to the species, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding recovery or reducing the likelihood of survival of the species. The adverse effects to CTS and VPFS will be, in part, offset by the long-term preservation of habitat that provides feeding, breeding and sheltering opportunities and relative to the entire ranges of the species, are not significant.

After reviewing the current status of designated critical habitat for CTS and VPFS, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the approval of three water transfers to the County, delivery of water to the MNT development, and the fill of Wetlands of the US, as proposed, is not likely to destroy or adversely modify designated critical habitat. The Service reached this conclusion because the project-related effects to the designated critical habitat, when added to the environmental baseline and analyzed in consideration of all potential cumulative effects, will not rise to the level of precluding the function of CTS and VPFS critical habitat to serve its intended conservation role for the species. The effects to CTS and VPFS critical habitat are small and

discrete, relative to the entire area designated, and are not expected to appreciably diminish the value of the critical habitat or prevent it from sustaining its role in the conservation of the CTS and VPFS.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by Reclamation so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. Reclamation has a continuing duty to regulate the activity covered by this incidental take statement. If Reclamation (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Reclamation must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

The incidental take of VPFS anticipated for the proposed project will result from either the grading and destruction of the cysts, or from the ground disturbance and both the temporary and permanent alteration of hydrology directly related to the construction of the proposed project, for a total of 2.62 acres of fairy shrimp habitat. Adult fairy shrimp and cysts, which are embedded in the soil of the vernal pools will be affected by this action. Due to the fact that it is not possible to know how many cysts are in the soil of any wetland feature, or how many cysts will occupy any wetland feature during inundation, the Service cannot quantify the total number of VPFS cysts that we anticipate will be taken as a result of the proposed action. In instances in which the total number of cysts anticipated to be taken cannot be determined, the Service may use the acreage of habitat impacted as a surrogate; since the take of cysts anticipated will result from the destruction or the altered hydrology of the fairy shrimp habitat, the quantification of habitat acreage serves as a direct surrogate for the VPFS that will be lost. Therefore, the Service anticipates take incidental to this project as the 2.62 acres of VPFS habitat that will be destroyed and / or altered by grading activities and surrounding residential use.

It is infeasible for the Service to quantify the exact number of CTS that will be taken as a result of the proposed action because the number of individuals in the action area is unknown and estimates of population density in the action area are unavailable. When this amphibian is not in breeding ponds, or foraging, migrating, or conducting other surface activity, it inhabits the burrows of ground

squirrels or other rodents; the burrows may be located a distance from the breeding ponds; the migrations occur during a limited period during or after rain events or during periods of high relative humidity in the fall, winter, or spring; and finding an injured or dead individual is unlikely because of their relatively small body size. Losses of this species also may be infeasible to quantify due to seasonal fluctuations in their numbers and random environmental events. In instances in which the number of individuals that may be taken cannot be determined, the Service may quantify take in the amount of lost or disturbed habitat as a result of the project action; since take is expected to result from these effects to habitat, the quantification of habitat becomes a direct surrogate for the species that will be taken. Therefore, the Service anticipates that within the action area, all CTS inhabiting the 1,273 acres that will be subject to incidental take in the form of harm, harassment, and capture; CTS using underground refuges within the 1,273 acres of upland habitat in the action area may also be killed or injured. Although it is infeasible to quantify the exact number of CTS that may be killed, injured, harmed, harassed or captured as a result of construction activities and residential use within the MNTSPA, the Service anticipates that the number will be in the hundreds. This is based on the quality and quantity of upland habitat and the presence of three documented and two potential breeding areas within the MNTSPA. The entire 1,273 acres of upland habitat is within 1.3 miles of known or potential breeding habitat with small mammal burrows and other potential upland refugia throughout and is considered occupied by the species.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

All necessary and appropriate measures to avoid or minimize effects on CTS and VPFS resulting from implementation of this project have been incorporated into the project's proposed conservation measures. Therefore, the Service believes the following Reasonable and Prudent Measure is necessary and appropriate to minimize incidental take of CTS and VPFS:

1. All conservation measures, as described in the biological assessment and restated here in the Project Description section of this biological opinion, shall be fully implemented and adhered to. Further, this Reasonable and Prudent Measure shall be supplemented by the Terms and Conditions below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, Reclamation must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

1. Reclamation shall include full implementation and adherence to the conservation measures as a condition of any permit, authorization or contract issued for the project.
2. In order to monitor whether the amount or extent of incidental take anticipated from implementation of the project is approached or exceeded, Reclamation shall adhere to the following reporting requirements. Should this anticipated amount or extent of incidental take be exceeded Reclamation must immediately reinstitute formal consultation as per 50 CFR 402.16.

- a) For those components of the action that will result in habitat degradation or modification whereby incidental take in the form of harm is anticipated, Reclamation will provide monthly updates to the Service with a precise accounting of the total acreage of habitat impacted. Updates shall also include any information about changes in project implementation that result in habitat disturbance not described in the Project Description and not analyzed in this Biological Opinion.
 - b) For those components of the action that may result in direct encounters between listed species and project workers and their equipment whereby incidental take in the form of harassment, harm, injury, or death is anticipated, Reclamation shall immediately contact the Service's Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6600 to report the encounter. If an encounter occurs after normal working hours, Reclamation shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, Reclamation shall follow the steps outlined in the Salvage and Disposition of Individuals section below.
 - c) For those components of the action that will require the capture and relocation of CTS, notification and reporting shall be as described in the CTS relocation plan.
- 3. The qualified biologist that will be conducting the CTS relocation plan shall meet the qualifications necessary to obtain a species handling permit under section 10(a)(1)(A). Take associated with CTS relocation under the relocation plan will not be covered under a section 10(a)(1)(A) permit; it is covered under this biological opinion.
 - 4. The recipient site for CTS individuals relocated as part of the relocation plan shall be the closest land from the capture site that is within the MNTSPA and suitable for CTS but not proposed for development. The selection of recipient site will be made by the qualified biologist undertaking the relocation.
 - 5. To monitor CTS use around the outside of the proposed one-way exclusion fence, the qualified biologist shall monitor the fence for the first three days during and after each rain event. Information recorded during this monitoring should include the location and number of individuals found along the outside of the fence and a qualitative assessment of their health status.

Disposition of Individuals Taken

In the case of injured and/or dead CTS, the Service shall be notified of events within one day and the animals shall only be handled by a Service-approved biologist. Injured CTS shall be cared for by a licensed veterinarian or other qualified person. In the case of a dead animal, the individual animal shall be preserved and held in a secure location until instructions are received from the Service regarding the disposition of the specimen or until the Service takes custody of the specimen. Reclamation must report to the Service within one calendar day any information about take or suspected take of federally-listed species not exempted in this opinion. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal. The Service contacts are Jennifer M. Norris, Field Supervisor, Sacramento Fish and Wildlife Office, at (916) 414-6700 and Rebecca Roca, the Resident Agent-in-Charge of the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee who, during routine operations and maintenance activities unintentionally kills or injures a listed wildlife species must immediately report the incident to their representative at their contracting/employment firm and to Reclamation. This representative must contact the Service within one calendar day in the case of a federally-listed species.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The Service recommends the following action:

1. Reclamation should continue to work with the Service to assist us in meeting the goals of the Recovery Plan for the fairy shrimp as outlined in the *December 2005, Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (Service 2005b).

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on Three Water Transfers to the County of Fresno and Delivery of Water to the Millerton New Town Development in Fresno County, California. As provided in 50 CFR §402.16, reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and:

- (a) If the amount or extent of taking specified in the incidental take statement is exceeded;
- (b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or
- (d) If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Justin Sloan, Senior Fish and Wildlife Biologist, or Thomas Leeman, Chief, San Joaquin Valley Division, at the letterhead address or (916) 414-6600.

Enclosures:

rec'd gm

cc:

Steve Hulbert, California Department of Fish and Wildlife, Fresno, CA

LITERATURE CITED

- Shaffer, H.B., D. Cook., B. Fitzpatrick., K. Leyse., A. Picco., P. Trenham. 2008. Guidelines for the Relocation of California Tiger Salamanders (*Ambystoma californiense*). Unpublished report.
- [Service] U.S. Fish and Wildlife Service. 2005a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population; Final Rule. Federal Register 70:49380-49458.
- _____. 2005b. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon. xxii + 574 pp.
- _____. 2006. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants; Final Rule; administrative revisions. Federal Register 71:7118-7316.
- _____. 2007. Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) 5-year Review: Summary and Evaluation. Sacramento, CA: Sacramento Fish and Wildlife Office.
- _____. 2011. Standard Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance. Sacramento Fish and Wildlife Office.
- _____. 2014. California Tiger Salamander Central California Distinct Population Segment (*Ambystoma californiense*) 5-year Review: Summary and Evaluation. Sacramento, CA: Sacramento Fish and Wildlife Office.

Figure 1. Millerton New Town Development Map



