United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-04-F-0011

8 May 2006

Mr. Clay Gregory
Regional Director
Bureau of Indian Affairs
Pacific Regional Office
2800 Cottage Way
Sacramento, California 95825

Subject: Biological Opinion on the Proposed Mechoopda Tribe of Chico Rancheria Fee-to-Trust and Gaming Complex Project, Butte County, California

Dear Mr. Gregory:

This is in response to the Bureau of Indian Affair's (BIA) October 8, 2003, letter requesting Section 7 consultation for the proposed Mechoopda Tribe of Chico Rancheria Fee-To-Trust and Gaming Complex Project (proposed project) in Butte County, California. Your request was received by the U.S. Fish and Wildlife Service (Service) on October 10, 2003. Your agency requested formal consultation on the threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the endangered vernal pool tadpole shrimp (*Lepidurus packardi*), the endangered Conservancy fairy shrimp (*Branchinecta conservatio*), and the endangered Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*). The Service has determined that in addition to these species, the proposed project is also within the known range of the threatened giant garter snake (*Thamnophis gigas*) and suitable habitat occurs for this species in Clear Creek and its associated upland habitat, which occurs along the northwestern boundary of the proposed construction area. The proposed project is adjacent to, but not within, critical habitat for vernal pool tadpole shrimp (Unit 4c) and Butte County meadowfoam (Unit 4). Therefore, the proposed project would not adversely modify critical habitat for federally-listed species.

The Service has determined that the proposed project is not likely to adversely affect the giant garter snake due to proposed avoidance measures in the January 2003 *Biological Resource Assessment, Chico Casino Fee-to-Trust Acquisition, Butte County, California* and as described in the Proposed Conservation Measures section of this document (Page 4). The Service has determined that the proposed project is not likely to adversely affect Butte County meadowfoam because this species was not detected during protocol-level surveys in 2004 and 2005. Protocol-level wet season surveys for federally-listed vernal pool crustaceans were performed and vernal

level wet season surveys for federally-listed vernal pool crustaceans were performed and vernal pool fairy shrimp were detected, while Conservancy fairy shrimp and vernal pool tadpole shrimp were not detected. The Service has determined that suitable habitat for the Conservancy fairy shrimp is not present onsite because this species typically requires deeper pools that are inundated for the entire wet season, which are not present within the proposed project site. However, suitable habitat for vernal pool tadpole shrimp is present onsite and this species is known to occur adjacent to the proposed project site (CNDDB 2006), so the Service has determined that this species is likely to occur onsite. Therefore, this document represents the Service's biological opinion on the effects of the proposed project on the threatened vernal pool fairy shrimp and the endangered vernal pool tadpole shrimp, in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The findings and requirements in this consultation are based on: (1) the January 2003 *Biological Resource Assessment, Chico Casino Fee-to-Trust Acquisition, Butte County, California*, prepared by Analytical Environmental Services (AES) Consulting, Inc., dated January, 2003; (2) the BIA's October 8, 2003, letter initiating formal consultation; (3) the March 12, 2003, electronic mail correspondence from Karen Harvey of the Service to Sandra Knight of the Mechoopda Tribe; (4) The December 2003, *Mechoopda Indian Tribe, Chico Casino Fee-to-Trust Acquisition Environmental Assessment*, prepared by AES Consulting, Inc.; (5) the February 22, 2005, letter from AES to the Service regarding Butte County meadowfoam surveys performed in the spring of 2004; (6) the April 7, 2005, wetland delineation verification letter from the Corps to Sandra Knight, which is based on the April 6, 2005, map entitled, *Figure 10, Final Wetlands Map*; (7) the April 19, 2005, letter from AES Consulting, Inc., to the Service regarding Butte County meadowfoam surveys performed in the spring of 2005; (8) your March 7, 2006, letter to the Service providing additional information, including the November 11, 2005, *Report of Findings Regarding Federally-Listed Branchiopods for Chico Casino/Mechoopda Tribe Property, Butte County, California* prepared by ECORP Consulting and the January 31, 2006, *Indirect Impacts to Vernal Pool Crustacean Habitat, Proposed Mechoopda Casino Site, Butte County, California*, prepared by the Huffman-Broadway Group; (9) an electronic mail correspondence on March 10, 2006, from David Zweig of AES to Rick Kuyper of the Service regarding compensation measures for indirect effects to vernal pool habitat; and (10) other information available to the Service.

Consultation History

April 3, 2003. John Howe, of AES, sent a letter to Karen Harvey of the Service regarding focused surveys for Butte County meadowfoam on March 28, 2003. Butte County meadowfoam was not detected.

October 8, 2003. The BIA requested initiation of formal consultation pursuant to Section 7 of the Act for the proposed project.

February 10, 2004. Thomas J. Cavanaugh of the U.S. Army Corps of Engineers (Corps) sent a letter to Sandra Knight of the Mechoopda Tribe stating that the submitted wetland delineation did not meet the Corps' standards to accurately make a jurisdictional determination.

March 18, 2004. A site visit was attended by Doug Hampton of the Service and John Miller of AES. Protocol-level Butte County meadowfoam surveys were performed, and the species was not detected.

November 3, 2004. A meeting was attended by representatives of the Service, BIA, the Mechoopda Tribe, and AES Consulting, Inc., regarding the proposed project.

November 11, 2004. Rick Kuyper and Betty Warne of the Service spoke with John Miller of AES Consulting, Inc. by telephone. The Service requested that John Miller provide a survey report for the Butte County meadowfoam surveys performed on March 18, 2004.

February 22, 2005. AES Consulting provided results from focused Butte County meadowfoam surveys performed on March 18, 2004.

April 7, 2005. The Corps provided a wetland delineation verification letter to the BIA for the proposed project.

April 7, 2005. Patrick O'Mallan of the BIA telephoned Rick Kuyper of the Service and requested that the Service prepare a letter that indicated what outstanding information was needed by the Service to complete the Section 7 consultation with the BIA.

April 8, 2005. The Service provided a letter to the BIA stating that the Service required a wetland delineation verified by the Corps, the results of the focused Butte County meadowfoam and Conservancy fairy shrimp surveys from the spring of 2005.

April 19, 2005. AES Consulting provided information to the Service regarding the Corps approval of the wetland delineation for the proposed project and the results of the focused Butte County meadowfoam surveys from the spring of 2005.

April 22, 2005. Rick Kuyper of the Service sent an electronic mail correspondence to David Zweig of AES requesting an analysis of indirect effects to vernal pool crustacean habitat resulting from the proposed project.

March 7, 2006. The BIA provided additional information to the Service, including the January 31, 2006, *Indirect Impacts to Vernal Pool Crustacean Habitat, Proposed Mechoopda Casino Site, Butte County, California.*

March 10, 2006. David Zweig sent an electronic mail correspondence to Rick Kuyper to confirm the Mechoopda Tribe's proposed compensation measures for indirect effects to vernal pool habitat.

March 13, 2006. The BIA requested a draft biological opinion for the proposed project from the Service.

March 27, 2006. The Service provided a draft biological opinion to the BIA.

April 18, 2006. The BIA provided comments on the draft biological opinion to the Service. The Service incorporated comments from the BIA into the final biological opinion.

BIOLOGICAL OPINION

Description of the Proposed Action

The proposed project is located approximately 10 miles southeast of the City of Chico, immediately east of the State Route 149 and State Route 99 intersection, in Butte County. The Mechoopda Tribe of Chico Rancheria has proposed to have approximately 650 acres of property placed in Federal Trust on behalf of the Mechoopda Tribe. Following the fee-to-trust transfer process, a gaming complex is proposed to be developed within a 91-acre southeastern portion of the 650-acre property. The proposed project has been designed to avoid direct effects to all vernal pool crustacean habitat onsite. The project proponent provided the January 31, 2006, *Indirect Impacts to Vernal Pool Crustacean Habitat, Proposed Mechoopda Casino Site, Butte County, California*, to the Service, in which it was determined that the proposed project would indirectly affect 10.25 acres of vernal pool crustacean habitat through changes in hydrology, increases in deleterious substances, increased human intrusion, and increases in non-native vegetation.

Proposed Conservation Measures for Giant Garter Snake

The project is adjacent to Clear Creek, which occurs along the northwestern boundary of the proposed construction area. The creek and associated upland is potential habitat for the giant garter snake. The project applicant has proposed the following conservation measures in the January 2003, *Biological Resource Assessment, Chico Casino Fee-to-Trust Acquisition, Butte County, California*, to avoid adverse effects to this species:

1. A 200-foot buffer will be maintained along Clear Creek during construction of the proposed project. Temporary fencing will be installed outside of the 200-foot buffer prior to any construction, and will remain in place during the entire duration of construction. See the Terms and Conditions of this biological opinion for further requirements (pages 11 to 13).

Proposed Conservation Measures for Vernal Pool Species

The project applicant has proposed the following conservation measures to compensate for the indirect effects to 10.25 acres of habitat for the vernal pool fairy shrimp and the vernal pool tadpole shrimp:

1. Prior to the start of any earth-moving activities at the proposed project site, the project applicant would preserve at least 20.5 acres (10.25 at a 2:1 ratio) of vernal pool wetland habitat. This preservation would be fulfilled by one of the following: (1) credits sufficient to preserve 20.5 acres of vernal pool wetland habitat would be purchased at a Service-approved bank; or (2) the Mechoopda Tribe would preserve 20.5 acres of vernal

pool wetland habitat, and the necessary upland habitat to maintain the vernal pool complex's function and biological integrity. See the Terms and Conditions of this biological opinion for further requirements (pages 11 to 13).

2. The project applicant has proposed avoidance measures, including the use of: (1) protective fencing and signs around all avoided vernal pool habitat; (2) worker education programs; (3) biological monitoring and reporting; and (4) implementation of Best Management Practices to prevent the accidental release of disturbed soils, fuel, oil, or other materials associated with construction activities into sensitive vernal pool and riparian habitats. See the Terms and Conditions of this biological opinion for a detailed description of these requirements (pages 11 to 13).

Status of the Species

Vernal pool fairy shrimp

A final rule was published on September 19, 1994 (Service 1994), to list the vernal pool fairy shrimp as threatened under the Act. The final rule to designate critical habitat for 15 vernal pool species, including the vernal pool fairy shrimp, was published on August 6, 2003 (Service 2003). The most recent final rule was published on February 10, 2006 (Service 2006). Further information on the life history and ecology of the vernal pool fairy shrimp may be found in the final listing rule, the final rule to designate critical habitat, Eng *et al.* (1990), Helm (1998), Simovich *et al.* (1992), and Volmar (2002).

Vernal pool fairy shrimp inhabit alkaline pools, ephemeral drainages, rock outcrop pools, vernal pools, and vernal swales (Eriksen and Belk 1999; Helm 1998). Occupied habitats range in size from rock outcrop pools as small as one square meter to large vernal pools up to 12 acres; the potential ponding depth of occupied habitat ranges from 1.2 inches to 48 inches. The adults of the vernal pool fairy shrimp have been collected from early December to early May.

Vernal pool fairy shrimp have delicate elongate bodies; large, stalked, compound eyes; no hard shell (i.e., no carapace); and 11 pairs of swimming legs. Typically less than one inch long, they swim or glide gracefully upside-down by means of complex, wavelike beating movements while feeding on algae, bacteria, protozoa, rotifers, and detritus. Female vernal pool fairy shrimp carry eggs in a pear-shaped, ventral brood sac until the eggs are either dropped or sink to the pool bottom with the female when she dies. Eggs which remain after pools dry are known as cysts and are able to withstand heat, cold, and prolonged desiccation. When pools refill in the same or subsequent seasons, some, but not all, of the cysts hatch, resulting in a cyst bank in the soil that may include cysts from several breeding seasons (Donald 1983). Vernal pool fairy shrimp develop rapidly and may become sexually mature within two weeks after hatching (Gallagher 1996; Helm 1998). Such quick maturation permits fairy shrimp populations to persist in short-lived, shallow bodies of water (Simovich *et al.* 1992).

All known occurrences of vernal pool fairy shrimp occur in California or southern Oregon. The geographic range of this species encompasses most of the Central Valley from Shasta County to Tulare County and the central coast range from northern Solano County to Santa Barbara County, California; additional disjunct occurrences have been identified in western Riverside County, California, and in Jackson County, Oregon near the city of Medford (CNDDB 2005; Helm 1998; Eriksen and Belk 1999; Volmar 2002; Service 1994, 2003).

The primary historic dispersal method for the vernal pool tadpole shrimp was likely large scale flooding resulting from winter and spring rains which allowed colonization of different individual vernal pools and other vernal pool complexes. This dispersal is prohibited by the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds likely are now the primary dispersal agents for vernal pool fairy shrimp Brusca 1992; Simovich *et al.* 1992). The eggs of these crustaceans are either ingested (Krapu 1974; Swanson *et al.* 1974; Driver 1981; Ahl 1991) and/or adhere to the legs and feathers upon which they are transported to new habitats.

Vernal Pool Tadpole Shrimp

A final rule was published on September 19, 1994 (Service 1994), to list the vernal pool tadpole shrimp as endangered under the Act. The final rule to designate critical habitat for 15 vernal pool species, including the vernal pool tadpole shrimp, was published on August 6, 2003 (Service 2003). A final rule was published again on August 11, 2005 (Service 2005). Further information on the life history and ecology of the vernal pool tadpole shrimp may be found in the final listing rule, the final rule to designate critical habitat, Eng *et al.* (1990), Helm (1998), Simovich *et al.* (1992), and Volmar (2002).

Vernal pool tadpole shrimp inhabit alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands (Helm 1998). Occupied habitats range in size from vernal pools as small as two square meters to large vernal lakes up to 89 acres; the potential ponding depth of occupied habitat ranges from 1.5 inches to 59 inches. Vernal pool tadpole shrimp have large, shield-like carapaces approximately one inch long that covers most of their body; dorsal, compound eyes; and a pair of long cercopods, one on each side of a flat caudal plate, at the end of their last abdominal segment. Vernal pool tadpole shrimp are primarily bottom-dwelling animals that move with legs down while feeding on detritus and living organisms, including fairy shrimp and other invertebrates (Pennak 1989). Females deposit cysts (partially developed embryos encased in an egg-like structure) which settle on the pool bottom. Although some cysts may hatch quickly, others remain dormant to hatch during later rainy seasons (Ahl 1991). When winter rains refill inhabited wetlands, tadpole shrimp hatch from dormant cysts and may become sexually mature within three to four weeks after hatching (Ahl 1991; Helm 1998). Reproductively mature adults may be present in pools until the habitats dry up in the spring (Ahl 1991; Gallagher 1996; Simovich *et al.* 1992).

The vernal pool tadpole shrimp is known from 19 populations in the Central Valley, ranging from east of Redding in Shasta County south to Fresno County, and from a single vernal pool complex located on the San Francisco Bay National Wildlife Refuge in Alameda County. The

species inhabits vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie in Solano County. Vernal pools at Jepson Prairie and Vina Plains (Tehama County) have a neutral pH, and very low conductivity, total dissolved solids, and alkalinity (Barclay and Knight 1984; Eng *et al.* 1990). These pools are located most commonly in grass-bottomed swales of grasslands in old alluvial soils underlain by hardpan or in mud-bottomed claypan pools containing highly turbid water.

The primary historic dispersal method for the vernal pool tadpole shrimp was likely large scale flooding resulting from winter and spring rains which allowed colonization of different individual vernal pools and other vernal pool complexes. This dispersal is prohibited by the construction of dams, levees, and other flood control measures, and widespread urbanization within significant portions of the range of this species. Waterfowl and shorebirds likely are now the primary dispersal agents for vernal pool tadpole shrimp (Simovich 1992). The eggs of these crustaceans are either ingested (Krapu 1974; Swanson *et al.* 1974; Driver 1981; Ahl 1991) and/or adhere to the legs and feathers upon which they are transported to new habitats.

Environmental Baseline

The vernal pool tadpole shrimp and vernal pool fairy shrimp are imperiled by a variety of human-caused activities, primarily urban development, water supply/flood control projects, and land conversion for agricultural use. Habitat loss occurs from direct destruction and modification of pools due to filling, grading, discing, leveling, and other activities, as well as modification of surrounding uplands which alters vernal pool watersheds. Other activities which adversely affect these species include off-road vehicle use, certain mosquito abatement measures, and pesticide/herbicide use.

In addition to direct habitat loss, the vernal pool habitat has been and continues to be highly fragmented throughout the range of the ranges of the vernal pool tadpole shrimp and vernal pool fairy shrimp due to conversion of natural habitat for urban and agricultural uses. This fragmentation results in small isolated vernal pool tadpole shrimp and vernal pool fairy shrimp populations. Such populations may be highly susceptible to extirpation due to chance events, inbreeding depression, or additional environmental disturbance (Gilpin and Soule 1986; Goodman 1987a, 1987b). If an extirpation event occurs in a population that has been fragmented, the opportunities for recolonization would be greatly reduced due to geographical isolation from other source populations.

Holland (1978) estimated that between 67 and 88 percent of the area within the Central Valley of California which once supported vernal pools had been destroyed by 1973. In the ensuing years, threats to this habitat type have continued and resulted in a substantial amount of vernal pool habitat being converted for human uses in spite of federal regulations implemented to protect wetlands. Current rapid urbanization and agricultural conversion throughout the ranges of these two species continue to pose the most severe threats to the continued existence of the vernal pool tadpole shrimp and vernal pool fairy shrimp.

Development and transportation projects within Butte County have reduced the number of vernal pool complexes within the area. These developments and others within the region, have resulted in both direct and indirect effects to vernal pools, and have contributed to the decline in vernal pool fairy shrimp and vernal pool tadpole shrimp. Although the decline of federally-listed vernal pool crustaceans has not been quantified, the acreage of lost habitat continues to grow. Despite these impacts, city and county governments continue to implement development projects within the area.

The action area contains components that can be used by both the vernal pool tadpole shrimp and the vernal pool fairy shrimp for feeding, resting, mating, and other essential behaviors. Focused surveys for vernal pool crustaceans detected vernal pool fairy shrimp within the proposed project site. While these surveys did not detect vernal pool tadpole shrimp, there is a known occurrence of this species immediately northeast of the State Route 149 and State Route 99 intersection, adjacent to Old Road (CNDDB 2006), which is adjacent to the proposed project site. Therefore, the Service believes that the two federally-listed vernal pool crustaceans are reasonably certain to occur in vernal pool habitat throughout the proposed project action area because of the biology and ecology of the species, the presence of suitable habitat in and adjacent to the action area, as well as the recent observations of this listed species within the proposed project site and adjacent to the proposed project site.

EFFECTS OF THE PROPOSED ACTION

Our analysis of the effects of the proposed project is based on the assumption that ground breaking will occur within four (4) calendar years from the date of issuance of this biological opinion.

Direct Effects

The proposed project footprint has been designed to avoid all vernal pool habitat onsite. Therefore, the construction of the proposed project will not result in the direct loss of federally-listed crustacean habitat through the direct filling of vernal pools and vernal swales within the proposed project site.

Indirect Effects

The proposed project would indirectly affect 10.25 acres of vernal pool habitat, which includes all habitat supported by future destroyed upland areas and swales, and all habitat otherwise damaged by loss of watershed, human intrusion, introduced species, and pollution that will be caused by the project. A description of potential indirect effects follows.

Erosion - The ground disturbing activities in the watershed of vernal pools associated with the proposed project action area are expected to result in siltation when pools fill during the wet season following construction. Siltation in pools supporting listed crustaceans may result in

decreased cyst viability, decreased hatching success, and decreased survivorship among early life history stages, thereby reducing the number of mature adults in future wet seasons. The proposed project construction activities could result in increased sedimentation transport into vernal pool crustacean habitats during periods of heavy rains.

Changes in hydrology - The biota of vernal pools and swales can change when the hydrologic regime is altered (Bauder 1986, 1987). Survival of aquatic organisms like the vernal pool fairy shrimp and vernal pool tadpole shrimp are directly linked to the water regime of their habitat. Therefore, construction near vernal pool areas will, at times, result in the decline of local sub-populations of vernal pool organisms, including fairy shrimp and tadpole shrimp.
Introduction of non-natives - There is an increased risk of introducing weedy, non-native plants into the vernal pools both during and after project construction due to the soil disturbance from clearing and grubbing operations, and general vegetation disturbance associated with the use of heavy equipment.

Chemical contamination - The runoff from chemical contamination can kill listed species by poisoning. Oils and other hazardous materials associated with construction equipment could be conveyed into the vernal pool crustacean habitats by overland runoff during the rainy season, thereby adversely affecting water quality. Many of these chemical compounds are thought to have adverse affects on the listed vernal pool crustaceans and/or their cysts. Individuals may be killed directly or suffer reduced fitness through physiological stress or a reduction in their food base due to the presence of these chemicals.

In addition to the adverse effects detailed above, the proposed project will contribute to a local and range-wide trend of habitat loss and degradation, the principal reasons that the vernal pool fairy shrimp and vernal pool tadpole shrimp have declined. The proposed project will contribute to the fragmentation and reduction of the acreage of the remaining listed vernal pool crustacean habitat located in Butte County and throughout the range of these two listed vernal pool crustaceans.

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.

Because the vernal pool tadpole shrimp and vernal pool fairy shrimp are endemic to vernal pools in the Central Valley, coast ranges, and a limited number of sites in the transverse range and Santa Rosa Plateau of California, the Service anticipates that a wide range of activities will affect these species. Such activities include, but are not limited to, urban, water, flood control, highway and utility projects, chemical contaminants, as well as conversion of vernal pools to agricultural use. Many of these activities will be reviewed under section 7 of the Act as a result of the Federal nexus provided by section 404 of the Clean Water Act.

Conclusion

After reviewing the current status of the vernal pool fairy shrimp and vernal pool tadpole shrimp, the environmental baseline for the action area, the effects of the proposed project and the cumulative effects, it is the Service's biological opinion that the project as proposed, is not likely to jeopardize the continued existence of the vernal pool fairy shrimp or the vernal pool tadpole shrimp. The project site is not located within critical habitat for the vernal pool fairy shrimp or the vernal pool tadpole shrimp, and therefore will not result in the adverse modification or destruction of critical habitat for either of these species.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Endangered Species Act of 1973, as amended and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened fish and wildlife species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral 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 this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the action agency so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The BIA has a continuing duty to regulate the activity covered by this incidental take statement. If the BIA (1) 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 National Environmental Policy Act document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates incidental take of the vernal pool fairy shrimp and vernal pool tadpole shrimp will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of a dead specimen unlikely. The species occur in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of individuals that will be taken as a result of the proposed action, the Service is quantifying take incidental to the proposed project as the number of acres of vernal pools/ponded depressions (vernal pool habitat) that will become unsuitable for vernal pool crustaceans due to the proposed

action. Therefore, the Service estimates that all vernal pool fairy shrimp and vernal pool tadpole shrimp inhabiting 10.25 acres of vernal pool habitat will be harassed, harmed, injured, or killed, as a result of the proposed action.

The incidental take associated with the proposed action on vernal pool fairy shrimp and vernal pool tadpole shrimp is hereby exempted from prohibitions of take under section 9 of the Act if the Reasonable and Prudent Measures below are implemented.

Effect of the Take

The Service has determined that this level of anticipated take is not likely to result in jeopardy to the federally-listed species in this opinion or result in destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize the impact of the project on vernal pool fairy shrimp and vernal pool tadpole shrimp:

1. The effects to federally-listed vernal pool crustaceans resulting from habitat modification and habitat loss shall be minimized.

2. The effects to federally-listed vernal pool tadpole shrimp and vernal pool fairy shrimp from project construction shall be minimized.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the project applicant must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

The following terms and conditions implement reasonable and prudent measure one (1) and two (2):

a. The project applicant shall minimize the potential for take of the two listed crustaceans resulting from project-related activities by implementation of the conservation measures, as described in the January 2003 *Biological Resource Assessment, Chico Casino Fee-to-Trust Acquisition, Butte County, California*, the March 10, 2006, electronic mail correspondence from AES to the Service, and as described in the Proposed Conservation Measures (pages 4-5) and the Terms and Conditions (pages 11-13) of this biological opinion.

b. Prior to the start of any earth-moving activities at the proposed project site, the project applicant shall do one of the following:

1. Purchase vernal pool preservation credits sufficient to preserve at least 20.5 acres of aquatic vernal pool habitat within a Service-approved ecosystem vernal pool conservation bank serving the proposed project area; or

2. Preserve at least 30.75 acres of aquatic vernal pool habitat at an off-site or on-site location approved by the Service (10.25 at a 3:1 ratio). The off-site location shall contain upland habitat sufficient to maintain the biological integrity and function of the vernal pool complex within the off-site preserve. In addition, prior to any earth-moving activities associated with the proposed project, the project applicant shall: (1) record a Service-approved conservation easement on the preservation site; (2) have a Service-approved management, operations, and monitoring plan; and (3) have a Service-approved funding mechanism to fully fund the future management, operations, and monitoring of the vernal pool preservation site.

c. Runoff from dust control and hazardous materials shall be retained in the construction site and prevented from flowing into the avoided wetland features or permanent waterways. To control erosion during and after project implementation, the applicant shall implement best management practices (BMP's), as identified by the Central Valley Regional Water Quality Control Board. Erosion control measures and BMP's that prevent soil or sediment from entering the river shall be placed, monitored for effectiveness, and maintained throughout the construction operations.

d. All construction personnel shall receive environmental awareness training prior to working on the proposed project. The program shall provide workers with information on their responsibilities with regard to listed species and an overview of the life-history of the species and description of the avoided areas. Written documentation of the training shall be transmitted to the Sacramento Fish and Wildlife Office within 30 days of completion of training.

e. Adequate high visibility fencing shall be placed around the avoided vernal pool areas and giant garter snake habitat to prevent encroachment of construction equipment and personnel into avoided wetland areas during project work activities. Such fencing shall be inspected and maintained daily until completion of the proposed project.

f. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 250 feet from any riparian habitat or water body or preserve area. The applicant shall ensure contamination of habitat does not occur during such operations. All workers shall be informed of the importance of preventing spills and appropriate measures to take should a spill occur.

g. Stockpiling of construction materials, portable equipment, vehicles and supplies, including chemicals, shall be restricted to the designated construction staging areas and exclusive of the giant garter snake and vernal pool wetland avoidance areas. Refueling of construction equipment and vehicles within the floodplain shall occur only within designated areas not affecting the riparian and wetlands avoidance areas. Any spills of hazardous materials shall be cleaned up

immediately. Such spills shall be reported in the post-construction compliance reports.

h. An on-site biological monitor shall be present during all initial ground disturbance activities associated with the proposed project within 250 feet of vernal pool crustacean habitat or within 200 feet of giant garter snake aquatic habitat.

i. The project applicant shall include a copy of this biological opinion within its solicitations for design and construction of the proposed project making the prime contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. A copy of the solicitations containing the biological opinion also will be provided to the Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Office.

j. The project applicant shall complete the reporting requirements below.

Reporting Requirements

The Sacramento Fish and Wildlife Office is to be notified within three working days of the finding of any dead federally-listed species or any unanticipated harm to the species addressed in this biological opinion. The Service contact person for this is the Chief, Endangered Species Division at (916) 414-6620.

The BIA must require the applicant to report to the Service immediately any information about take or suspected take of federally-listed species not authorized in this opinion. The BIA must notify the Service within 24 hours of receiving such information. Notification must include the date, time, and location of the incident of the incident or of the finding of a dead or injured animal. The Service contact is the Service's Law Enforcement Division at (916) 414-6660.

Any contractor or employee, who during routine operations and maintenance activities, inadvertently kills or injures a federally-listed species must immediately report the incident to their representative. This representative must contact the California Department of Fish and Game immediately in the case of a dead or injured listed species. The California Department of Fish and Game contact for immediate assistance is State Dispatch at (916) 445-0045.

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 that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases. The Service recommends the following conservation measures:

1. The BIA should assist the Service in their implementation of the 2006 *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon.*

2. The BIA should assist the Service in their implementation of the December 1999 *Draft Recovery Plan for the Giant Garter Snake.*

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 the Proposed Mechoopda Tribe of Chico Rancheria Fee-to-Trust and Gaming Complex Project. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Please contact Rick Kuyper or Holly Herod, the Sacramento Valley Branch Chief, of this office at (916) 414-6645, if you have any questions regarding the Proposed Mechoopda Tribe of Chico Rancheria Fee-to-Trust and Gaming Complex Project.

Sincerely,

Kenneth D. Sanchez
Acting Field Supervisor

cc:
Laura Whitney, U.S. Army Corps of Engineers, Sacramento, California
Jason Brush, U.S. Environmental Protection Agency, San Francisco, California
Jenny Marr, California Department of Fish and Game, Redding, California
Sandra Knight, the Mechoopda Tribe of Chico Rancheria, Chico, California
David Zweig, Analytical Environmental Services, Sacramento, California

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