

introduced species such as carp (*Cyprinus carpio*), mosquito-fish (*Gambusia affinis*), and bullfrogs (*Rana catesbiana*) (Fitch 1941).

Reproductive ecology - The breeding season extends through March and April, and females give birth to live young from late July through early September (Hansen and Hansen 1990). Brood size is variable, ranging from 10 to 46 young, with a mean of 23 (Hansen and Hansen 1990). Young immediately scatter into dense cover and absorb their yolk sacs, after which they begin feeding on their own, and reach sexual maturity at about three years of age for males and five years for females.

Movements and habitat use - The giant garter snake inhabits small mammal burrows and other soil crevices above prevailing flood elevations throughout its winter dormancy period (i.e., November to mid-March). Giant garter snakes typically select burrows with sunny exposure along south and west facing slopes. Giant garter snakes also use burrows as refuge from extreme heat during their active period. The Biological Resources Division (BRD) of the USGS (Wyllie et al. 1997) has documented giant garter snakes using burrows in the summer as much as 165 feet (50 meters) away from the marsh edge. Overwintering snakes have been documented using burrows as far as 820 feet (250 meters) from the edge of marsh habitat.

During radio-telemetry studies conducted by the BRD, giant garter snakes typically moved little from day to day. However, total activity varied widely between individuals. Snakes have been documented moving up to 5 miles (8 kilometers) over the period of a few days (Wyllie et al. 1997). In agricultural areas, giant garter snakes were documented using rice fields during 19 to 20 percent of the observations, marsh habitat during 20 to 23 percent of observations, and canal and agricultural waterway habitats during 50 to 56 percent of the observations (Wyllie et al. 1997). Within canal and agricultural waterway habitats, giant garter snakes are likely to prefer drainage rather than delivery canals, because drainage canals are often less heavily maintained and are allowed to become vegetated.

Historic and Current Distribution: Fitch (1940) described the historical range of the species as extending from the vicinity of Sacramento and Contra Costa Counties southward to Buena Vista Lake, near Bakersfield, in Kern County. Prior to 1970, the giant garter snake was recorded historically from 17 localities (Hansen and Brode 1980). Five of these localities were clustered in and around Los Banos in Merced County, and the paucity of information makes it difficult to determine precisely the species' former range. Nonetheless, these records coincide with the historical distribution of large flood basins, fresh water marshes, and tributary streams. Reclamation of wetlands for agriculture and other purposes apparently extirpated the species from the southern one-third of its range by the 1940's to 1950's, including the former Buena Vista Lake and Kern Lake in Kern County, and the historic Tulare Lake and other wetlands in Kings and Tulare Counties.

(Hansen and Brode 1980, Hansen 1980). Surveys over the last two decades have located the giant garter snake as far north as the Butte Basin in the Sacramento Valley.

As recently as the 1970's, the range of the giant garter snake extended from near Burrel, Fresno County (Hansen and Brode 1980), northward to the vicinity of Chico, Butte County (Rossman and Stewart 1987). California Department of Fish and Game (CDFG) studies (Hansen 1988) indicate that giant garter snake populations currently are distributed in portions of the rice production zones of Sacramento, Sutter, Butte, Colusa, and Glenn Counties; along the western border of the Yolo Bypass in Yolo County; and along the eastern fringes of the Sacramento-San Joaquin River delta from the Laguna Creek-Elk Grove region of central Sacramento County southward to the Stockton area of San Joaquin County. This distribution largely corresponds with agricultural land uses throughout the Central Valley.

Current baseline of the species - Surveys over the last two decades have located the giant garter snake as far north as the Butte Basin in the Sacramento Valley. Currently, the Service recognizes 13 separate populations of giant garter snakes, with each population representing a cluster of discrete locality records (58 FR 54053). The 13 extant populational clusters largely coincide with historical riverine flood basins and tributary streams throughout the Central Valley (Hansen 1980, Brode and Hansen 1992): (1) Butte Basin, (2) Colusa Basin, (3) Sutter Basin, (4) American Basin, (5) Yolo Basin--Willow Slough, (6) Yolo Basin--Liberty Farms, (7) Sacramento Basin, (8) Badger Creek--Willow Creek, (9) Caldoni Marsh, (10) East Stockton--Diverting Canal and Duck Creek, (11) North and South Grasslands, (12) Mendota, and (13) Burrel/Lanare. These populations span the Central Valley from just southwest of Fresno (i.e., Burrel-Lanare) north to Chico (i.e., Hamilton Slough). The 11 counties where the giant garter snake is still presumed to occur are: Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo.

Based on current BRD studies (Wyllie et al 1997), the four largest populations of giant garter snake are the American Basin, the Colusa Basin, the Sutter Basin, and the Badger Creek-Willow Creek area. With the exception of the American Basin, these populations are largely protected from many of the threats to the species. The remaining nine population clusters identified in the final rule are distributed discontinuously in small isolated patches and are vulnerable to extirpation by stochastic environmental, demographic, and genetic processes. All 13 population clusters are isolated from each other with no protected dispersal corridors. Opportunities for recolonization of small populations which may become extirpated are unlikely given the isolation from larger populations and lack of dispersal corridors between them.

Reasons for Decline and Threats to Survival: The current distribution and abundance of the giant garter snake is much reduced from former times. Agricultural and flood control activities have extirpated the giant garter snake from the southern one third of its range in

former wetlands associated with the historic Buena Vista, Tulare, and Kern lakebeds. These lakebeds once supported vast expanses of ideal giant garter snake habitat, consisting of cattail and bulrush dominated marshes. Immense tracts of bulrush and cattail floodplain habitat also typified much of the Sacramento Valley historically (Hinds 1952). Prior to reclamation activities beginning in the mid to late 1800's, about 60 percent of the Sacramento Valley was subject to seasonal overflow flooding in broad, shallow flood basins that provided expansive areas of giant garter snake habitat (*ibid.*). These broad flood basins have since been lost and only a small percentage of extant wetlands currently provide habitat suitable for the giant garter snake. The remaining valley floor wetlands are subject to the cumulative effects of upstream watershed modifications, water storage and diversion projects, as well as urban and agricultural development.

A number of land use practices currently threaten the survival of the giant garter snake throughout the remainder of its range. Ongoing flood control and agricultural practices eliminate or prevent the establishment of habitat characteristics required by giant garter snakes and can fragment and isolate available habitat, prevent dispersal of snakes among habitat units, and adversely affect the availability of the garter snake's food items (Hansen 1988, Brode and Hansen 1992). Livestock grazing along the edges of water sources degrades habitat quality in a number of ways: (1) eating and trampling of aquatic and riparian vegetation needed for cover from predators, (2) changes in plant species composition, (3) trampling of snakes, (4) water pollution, (5) and reduction or elimination of fish and amphibian prey populations.

In many areas, the restriction of suitable habitat to water canals bordered by roadways and levee tops renders giant garter snakes vulnerable to vehicular mortality. Fluctuation in rice and agricultural production affects stability and availability of habitat. Recreational activities, such as fishing, may disturb snakes and disrupt basking and foraging activities. Non-native predators, including introduced predatory gamefish, bullfrogs, and domestic cats also threaten giant garter snake populations. While large areas of seemingly suitable giant garter snake habitat exist in the form of duck clubs and waterfowl management areas, water management of these areas typically does not provide summer water needed by giant garter snakes. Although giant garter snakes on NWRs are relatively protected from many of the threats to the species, water quality continues to be a threat to the species both on and off refuges. Because the range of the giant garter snake occurs entirely within the Central Valley of California, this species is at risk of exposure to numerous contaminants due to run-off from agricultural, urban, and industrial/mining projects which are prevalent throughout the area.

Although some giant garter snake populations have persisted at low levels in artificial wetlands associated with agricultural and flood control activities, many of these altered wetlands are now threatened with urban development. Cities within the current range of the giant garter snake that are rapidly expanding include: (1) Chico, (2) Yuba City, (3) Sacramento, (4) Galt, (5) Stockton, (6) Gustine, and (7) Los Banos.

Giant garter snakes seek refuge in habitat at higher elevations where they retreat during the winter dormancy period. Commercial development, agricultural conversion, and levee maintenance along the edges of wetlands have eliminated much of the retreat habitat, forcing giant garter snakes to overwinter in flood-prone (streamside) levee slopes. Most of all giant garter snake populations are vulnerable to adverse affects from flooding. A 100-year flood event represents a threat that could extirpate all remaining populations. Many areas, such as in the rice production districts of the Sacramento Valley, flood more frequently, even during winters with normal levels of rainfall. These flooding events may account, at least in part, for the apparent absence of the giant garter snake in many rice production districts.

The Conveyance Project construction sites include both aquatic and low elevation upland areas on levees that will be temporarily or permanently disturbed. Surveys for the giant garter snake have not been conducted at the project sites. However, site visits by CH2M HILL biologists were conducted in the summer of 1998. Suitable habitat of varying quality for the species exists at all sites. Information on the type and estimated amounts of giant garter snake habitat is included in the Description of the Proposed Action and Project Footprint sections in the Biological Assessment. This biological opinion assumes that the giant garter snake is present in suitable habitat within areas affected by project construction.

All construction site locations provide aquatic habitat that could be occupied by the species during its active period from May 1 through October 1, as well as low to higher elevation upland habitat that could be occupied by the snake during its dormancy period from October 2 through April 30.

Known populations of giant garter snake occur throughout the project area. Giant garter snake populations currently are known to occur at the Sacramento and Colusa NWRs, and sightings have occurred on the Delevan NWR and the Gray Lodge WMA. Snakes also could occupy existing conveyance facilities that provide water to these locations. The GCID Main Canal falls within the Colusa Basin subpopulation of giant garter snake, while conveyance facilities for Gray Lodge WMA are within the Butte Basin subpopulation, and conveyance facilities for Sutter NWR are within the Sutter Buttes subpopulation.

Effects of the Proposed Action

The permanent loss and temporary disturbance of giant garter snake habitat expected to result from the Conveyance Project are quantified in Table 2 on the following page. Construction activities may remove vegetative cover and basking sites necessary for thermoregulation, fill or crush burrows or crevices, and remove prey base. Because giant garter snakes use small mammal burrows and crevices as retreat sites, snakes may be crushed, buried, or otherwise injured from construction activities. Snakes may be run over by construction equipment or other vehicles accessing the construction sites. The

disturbance from construction activities may also cause giant garter snakes to move into areas of unsuitable habitat where they will experience greater risk of predation or other sources of mortality. Silting, fill, or spill of oil or other chemicals could cause loss of prey items on or downstream of the project sites.

For the major structural modifications, effects will be minimized by limiting construction to the period between October 2 and April 30, when snakes are active and better able to avoid areas of habitat disturbance. In addition, work crews will receive environmental awareness training. For the minor structural modifications, which must disturb potential habitat for dormant snakes during their dormant period, effects will be minimized by having all excavation monitored by a qualified Service-approved biologist who can halt construction if a snake is encountered.

All habitat to be temporarily impacted through the Conveyance Project will be restored, and permanent impacts will be offset through habitat preservation, in accordance with the *Mitigation Criteria for Restoration and/or Replacement of Giant Garter Snake Habitat* (attached).

Table 2. Maximum Impact to Giant Garter Snake Habitat for the Conveyance Project¹

	Permanent upland loss	Temporary upland loss	Permanent aquatic loss	Temporary aquatic loss
delivery setbacks (41 sites)	41×0.04 = 1.64 acres	0	41×0.01 = 0.41 acre	0
Flapgate removal, siphon (23 sites)	0	23×0.04 = 0.92 acre	0	23×0.23 = 5.29 acres
Demolish and remove (5 sites)	0	5×0.20 = 1.0 acre	0	0
Rip-rap, wing-wall extn. (8 sites)	8×0.02 = 0.16 acre	8×0.07 = 0.56 acre	0	0
TOTAL MINOR MODIFICATIONS	1.80 acres	2.48 acres	0.41 acre	5.29 acres
Bondurant Slough	0.10 acre	1.4 acres	0	2.0 acres

¹These numbers could overestimate the amount of disturbance by as much as 100% and will be refined as design proceeds and provided to the Service in Appendage Letters prior to construction.

Willows South Drain	0.0	3.1 acres	0	11.4 acres ²
Hunter's Ck Siphon	0.10 acre	0.80 acre	0.2 acre	0.90 acre
Lateral 41-1 Extension	2.2 acres	1.4 acres	5.2 acres	6.0 acres
other 25 major modifications	24.5 acres	0	29.5 acres	0
TOTAL MAJOR MODIFICATIONS	26.9 acres	6.7 acres	34.9 acres	20.0 acres
TOTAL	28.7 acres	9.18 acres	35.31 acres	25.29 acres

Growth-inducing impacts of the project were addressed in the Environmental Assessment (CH2M Hill 1997 a and b) and include impacts by which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Construction activities associated with the project would result in some economic activity in the form of temporary demand for building materials, temporary demand for labor and a limited degree of temporary lodging. This short-term economic activity will not result in growth-inducing impacts or associated indirect effects.

A number of ongoing actions could result in interrelated and interdependent effects with conveyance of refuge water supply. In particular, the effects of taking water from the source from which it is acquired water for refuges is being addressed in the programmatic biological opinion for the Central Valley Project Improvement Act. Additionally, refuge activities that are expected to result from the availability of additional refuge water supply are to be addressed in separate biological opinions on refuge long-term maintenance and operations and refuge conveyance facilities.

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.

An undetermined number of future land use conversions and routine agricultural practices are not subject to Federal permitting processes and may alter the habitat or increase incidental take of giant garter snakes, and are, therefore, cumulative to the proposed project. These additional cumulative effects include: unpredictable fluctuations in aquatic

²A portion of this impact would involve temporary removal of cattail marsh, while the remainder would involve conversion of rice fields (treated as aquatic habitat) to cattail marsh.

habitat due to water management; dredging and clearing vegetation from irrigation canals; discing or mowing upland habitat; increased vehicular traffic on access roads adjacent to aquatic habitat; use of burrow fumigants on levees and other potential upland refugia; and human intrusion into habitat. Specific cumulative effects related to the proposed action include canal maintenance activities, which degrade or destroy habitat or cause unpredictable fluctuations in habitat, and market-driven fluctuations in acres of rice cultivation that may reduce available habitat for giant garter snake.

Conclusion

After reviewing the current status of the giant garter snake, the environmental baseline for the action area, the effects of the proposed Conveyance Project and the cumulative effects, it is the Service's biological opinion that the Conveyance Project, as proposed, is not likely to jeopardize the continued existence of the giant garter snake, and is not likely to destroy or adversely modify designated critical habitat. No critical habitat has been designated for this species, therefore, none will be affected.

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 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 for the giant garter snake are non-discretionary, and must be implemented by Reclamation 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. Reclamation has a continuing duty to regulate the activity covered by this incidental take statement. If Reclamation (1) fails to adhere to the terms and conditions of the incidental take statement, 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 that incidental take of giant garter snakes will occur. Giant garter snakes are secretive, and individual snakes are difficult to detect unless they are observed at a distance, undisturbed. Close-range observations are usually chance encounters, and are difficult to predict. It is therefore difficult to accurately estimate the number of snakes that will be harassed, harmed, or killed during construction activities. In instances where take is difficult to detect, the Service estimates take in terms of the amount of habitat lost as a result of the action. The Service anticipates that the number of snakes occupying up to 64.01 acres of permanently lost habitat (28.7 acres upland and 35.31 acres aquatic), and the number that occupy up to 34.47 acres of temporarily disturbed habitat (9.18 acres upland and 25.29 acres aquatic), may be harassed, harmed, or killed during construction in that habitat.

Effect of the Take

The Service has 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

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize incidental take of giant garter snakes.

1. Take of giant garter snakes during construction activities shall be minimized (refer also to the attached *Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake Habitat*.)
2. Temporary and permanent loss of giant garter snake habitat shall be minimized. Temporarily disturbed habitat shall be restored to a level of quality that is equal to, or greater than, the pre-project condition. Permanent loss shall be compensated through habitat preservation at a 3:1 replacement ratio.

Terms and Conditions

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

1. The following terms and conditions implement reasonable and prudent measure number one, to minimize take of giant garter snakes during construction activities:

- a. For the major structural modification, all construction activity within giant garter snake habitat shall be conducted between May 1 and October 1. This is the active period for giant garter snakes and direct impacts are lessened, because snakes are actively moving and avoiding danger. More danger is posed to snakes during their inactive period, because they are occupying underground burrows or crevices and are more susceptible to direct effects, especially during excavation. Between October 2 and April 30, contact the SFWO to determine if additional measures are necessary to minimize and avoid take. The minor structural modifications can take place between October 2 and April 30, when necessary, if a Service-approved biologist is present on-site to detect any snakes within the impact area and, if giant garter snakes are encountered, to stop construction until the Service is contacted and advises Reclamation on how to proceed.
- b. Any dewatered habitat must remain dry for at least 15 consecutive days prior to excavating or filling of the dewatered habitat.
- c. Construction personnel shall participate in a Service-approved worker environmental awareness program. Under this program, workers shall be informed about the presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the Service shall instruct all construction personnel about (1) the life history of the giant garter snake; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the giant garter snake; (3) the terms and conditions of the biological opinion. Proof of this instruction shall be submitted to the SFWO within two weeks after construction has commenced at each site.
- d. Within 24 hours prior to commencement of construction activities, the site shall be inspected by a qualified biologist who is approved by the Service's SFWO. The biologist shall provide the Service with a field report form documenting the monitoring efforts within 24 hours of commencement of construction activities. The monitoring biologist must be available thereafter during construction; if a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be pursuant to section 10(a)1(A) of the Act. The biologist shall be required to report any incidental take to the Service immediately by telephone at (916) 979-2125 and by written letter addressed to the Chief, Endangered Species Division,

within one working day. The project area shall be re-inspected whenever a lapse in construction activity of two weeks or greater has occurred.

- e. Movement of heavy equipment to and from each construction site shall be restricted to established roadways to minimize habitat disturbance.
 - f. Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Any channel excavation in toe drains shall be accomplished by using equipment located on and operated from the top of the bank, with the least interference practical for emergent vegetation.
2. The following terms and conditions implement reasonable and prudent measure number two, to (a) minimize temporary giant garter snake habitat loss; (b) restore habitat to a level of quality that is equal to, or greater than, the pre-project condition; and (c) offset permanent habitat loss through habitat preservation at a 3:1 ratio.
- a. Habitat disturbance shall be confined to the minimal area necessary for completing each activity associated with the Conveyance Project. When construction has been completed at each site, the exact acreage of temporary and permanent habitat loss shall be quantified and reported to the Service at the SFWO.
 - b. After completion of construction activities, any temporary fill and construction debris shall be removed and any temporarily disturbed areas shall be restored in a manner consistent with the attached *Mitigation Criteria for Restoration and/or Replacement of Giant Garter Snake Habitat*.
 - c. Permanent habitat loss shall be compensated at a 3:1 ratio and meet the criteria listed in the attached *Mitigation Criteria for Restoration and/or Replacement of Giant Garter Snake Habitat*. The preserved habitat shall include both upland and aquatic habitat components, at a ratio of 2 acres upland habitat to each acre of aquatic habitat. The site to be preserved for mitigation shall be subject to Service approval. On-site habitat creation can be counted toward the mitigation requirement, at the Service's discretion, if it can be demonstrated that the habitat will be successfully created, will have long-term value for the giant garter snake, and will be preserved in perpetuity.
 - d. All aquatic and upland mitigation areas provided for the giant garter snake shall be protected in perpetuity by a Service-approved conservation easement or similarly protective covenants in the deed. The conservation

easement shall be recorded at the county recording office prior to any ground breaking for major modifications. The minor structural modifications may proceed prior to recordation of a conservation easement, but the entire preservation acreage for mitigation of all minor and major structural modifications must be in place, with recorded conservation easement, prior to any ground breaking associated with any of the 29 major structural modifications. The easement/deed shall be provided to the Service within 30 days after recordation. Standard examples of deed restrictions and conservation easements are available from the Service upon request.

Reporting Requirements

The Service-approved monitoring biologist shall notify the Service immediately if giant garter snakes are found on site as detailed in term and condition 1D, and will submit a report including date(s), location(s), habitat description, and any corrective measures taken to protect the snake(s) found. The Service-approved biologist shall submit locality information to CDFG, using completed California Native Species Field Survey Forms or their equivalent, no more than 90 calendar days after completing the last field visit of the project site. Each form shall have an accompanying map of the site such as a photocopy of a portion of the appropriate 7.5 minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5' or 15' quadrangle, dates (day, month, year) of field work; number of individuals and life stage (where appropriate) encountered; and a description of the habitat by community-vegetation type.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of ESA 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.

1. As a Recovery Plan for the giant garter snake is developed, the Reclamation should assist the Service in its implementation.
2. Reclamation should incorporate into bidding documents the attached *Standard Avoidance and Minimization Measures for Construction Activities in Giant Garter Snake Habitat* when appropriate.

3. Reclamation, in partnership with the Service, should develop maintenance guidelines for Reclamation projects that will reduce adverse effects of routine maintenance on giant garter snakes and their habitat. Such actions may contribute to the delisting and recovery of the giant garter snake by preventing degradation of existing habitat and increasing the amount and stability of suitable habitat.

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

REINITIATION--CLOSING STATEMENT

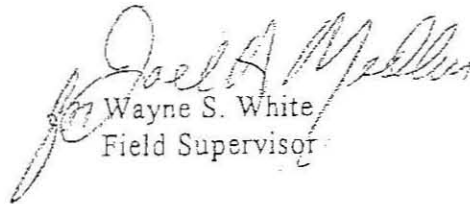
This concludes formal consultation on the action(s) outlined in the (request or reinitiation request). As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) 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.

Project Manager, Bureau of Reclamation

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If you have any questions regarding this biological opinion, please contact Ellen Berryman or Jan Knight of my staff at (916) 979-2120.

Sincerely,



Wayne S. White
Field Supervisor

Attachments

cc: BOR, Mona Jefferies-Soniea
CDFG, Region 2, Rancho Cordova, Jerry Mensch
CH2M Hill, Kathy Freas