

Appendix D

U.S. Fish and Wildlife Service Biological Opinion



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:
1-1-00-F-0245

DEC 10 2004

Mr. Paul Brunner
Senior Environmental Representative
Air Force Real Property Agency
McClellan Air Force Base, AFRPA/DD-McClellan
3411 Olson Street
McClellan, California 95652-1003

Subject: Section 7 Consultation for the Disposal of McClellan Air Force Base,
Sacramento County, California

Dear Mr. Brunner:

This is in response to your May 1, 2002, request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) for the disposal of the former McClellan Air Force Base (AFB), Sacramento, California. The Service has reviewed the biological information submitted by your office describing the effects of the proposed project and otherwise available to us on the endangered vernal pool tadpole shrimp (*Lepidurus packardii*) and Solano grass (*Tuctoria mucronata*) and the threatened giant garter snake (*Thamnophis gigas*), vernal pool fairy shrimp (*Branchinecta lynchi*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle), and Colusa grass (*Neostapfia colusana*). This biological opinion is issued in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

The proposed action is not likely to adversely affect the Colusa grass or Solano grass because the Air Force Real Property Agency (Air Force) and Yolo County have agreed to place a conservation easement on the 173-acre conservation area at the Former Davis Global Communication Site that is habitat for these species upon transfer of the property to civilian ownership. The proposed project is not likely to adversely affect the vernal pool tadpole shrimp and the vernal pool fairy shrimp because the Air Force does not propose to fill vernal pools that provide suitable habitat for the two federally listed vernal pool crustaceans and proposes to protect some occupied habitat by requiring conservation easements on some of the transferred lands. The proposed project is not likely to adversely affect the valley elderberry longhorn beetle because the Air Force has proposed to protect the elderberry (*Sambucus* species) shrubs that

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provide suitable habitat for this listed species at the Main Installation through a conservation easement on the West Nature Area and the Sacramento River boat dock.

The findings and recommendations in this consultation are based on: (1) the November 2002 *Final Supplemental Environmental Impact Report*, prepared by EDAW; (2) the *July 2000 McClellan Air Force Base Draft Final Reuse Plan*, prepared by EDAW for the County of Sacramento; (3) the May 1, 2002, letter and project description from the AFB; (4) the July 1997 *Final Programmatic Environmental Impact Statement (EIS) for Disposal and Environmental Impact Report (EIR) for Reuse of McClellan AFB* and other sources of information (Volumes I and II); (5) the October 1997 *Final 1997 Special Status Species Survey Report Camp Kohler, Gwen Antenna, McClellan Air Force Base, and Lincoln & Davis Communications Facilities*; (6) the *Delineation of Wetlands and Other Jurisdictional Waters of the United States at McClellan Air Force Base, Sacramento, California* prepared by Resource Management International, Inc.; (7) a letter from the Air Force dated October 1, 2004, commenting on the draft biological opinion; and (8) other information available to the Service.

Consultation History

March 13, 1998. The Service sent the Air Force a letter stating that disposal and reuse of McClellan AFB would require formal consultation under section 7 of the Act.

April 1998. Meetings were held between the Air Force and the Service. In an electronic mail correspondence received on April 29, 1998, the Service confirmed that they would use the information in the Base Disposal and Reuse EIR/EIS as the Biological Assessment for the section 7 consultation, and that they would advise the Air Force of any additional information needed to complete formal consultation.

June 12, 1998. The Air Force requested the initiation of formal consultation on the proposed project.

August 7, 1998. The Economic Development Conveyance for disposal of McClellan AFB was signed after incorporating recommended language from the Service to allow for the conveyance of properties that do not contain biologically sensitive areas.

September 1998 to May 2000. The Air Force and the Service discussed the preparation of a restoration plan and Environmental Assessment for habitat damage caused by unauthorized fill of vernal pools and channel cleaning (flood control activities) along Magpie and Don Julio Creeks in October 1997, and a truck that was stuck in a vernal pool in May 1998. In May 2000, it was determined that contaminated sediments in Magpie and Don Julio Creeks posed a potential risk to ecological receptors and that a cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) would need to be conducted prior to restoration of the creek habitats.

August 30, 2000. The Air Force submitted a letter to the Service outlining a proposal to divide the base into three separate study areas for the purposes of a section 7 consultation.

October 12, 2000. The Service sent a letter (Service file # 1-1-00-I-0021) to the Air Force requesting additional information needed to complete formal consultation. The Service also recommended the preparation of one base-wide biological opinion, rather than separating the base into three areas for separate consultations.

November 14, 2000. The Air Force submitted a letter to the Service clarifying the reasons why they believed the base needed to be divided into separate areas for the purposes of a section 7 consultation.

November 28, 2000. A meeting was held between the Air Force and the Service. The Air Force and the Service discussed incremental biological opinions and the Service stated that one biological opinion is most appropriate for the base disposal project.

February 28, 2001. A meeting was held between the Air Force and the Service. The Service requested an updated project description, including a description of the different phases of base disposal and the activities that would occur within each phase, to provide the basis for the biological opinion.

March 2, 2001. The Service sent a letter to the Air Force requesting additional information related to several items, including the section 7 consultation for base disposal and compensation for the potential unauthorized take of the giant garter snake, federally-listed vernal pool crustaceans, and the beetle from unauthorized activities.

March 27, 2001. A meeting was held between the Air Force and the Service regarding the 1997 creek clearing action and the 1998 stuck truck.

April 24, 2001. A meeting was held between the Air Force and the Service. The Air Force and Service discussed items from the Service's March 2, 2001, letter regarding the preparation of the biological opinion for base disposal, and discussed which items were related to other actions.

May 11, 2001. A meeting was held between the Air Force and the Service. The Air Force provided an updated project description.

August 24, 2001. The Air Force proposed a change in the radiological surveys to include *in situ* high purity Germanium (HPGe) sampling for each 100 square meter of vernal pools in the survey area. Additional pools outside the survey area would be surveyed for background information.

October 1, 2001. The Service amended the biological opinion (Service file # 1-1-01-F-0260) for proposed changes to the radiological surveys.

November 28, 2001. The Service sent a letter to the Air Force (Service file # 1-1-02-I-0178) regarding the base disposal biological opinion. The Service's letter stated that issues concerning the 1997 creek clearing action and the 1998 stuck truck incident had not been resolved.

December 6, 2001. The Air Force sent a letter to the Service requesting settlement for the effects of unauthorized creek channel cleaning operations on Don Julio Creek and Magpie Creek, starting in October 1997.

December 18, 2001. The Service sent a letter to the Air Force concurring with the following proposed off-site partial compensation, to be purchased as credits at Service-approved conservation banks: (1) 1.793 acres of giant garter snake aquatic habitat, 3.586 acres of giant garter snake upland habitat, 0.672 acre of seasonal wetland, and 3.046 acres riparian habitat; (2) 0.158 acre of vernal pool creation and 1.58 acres of vernal pool preservation habitat credits; and (3) 585 elderberry seedlings and 585 associated native seedlings (117 beetle credits). The concurrence did not preclude the Air Force's responsibilities to clean up the contamination of the West Nature (creeks area) Area site, or to provide a conservation easement/deed restriction and endowment for the long term protection of listed vernal pool crustacean, giant garter snake, and beetle habitat in the west nature area, or to compensate for the vernal pool damages from the unauthorized truck activities.

February 7, 2002. A meeting was held with the Air Force and the Service. The Air Force confirmed that they were moving forward with Service's recommendations concerning compensation for the two prior unauthorized actions. The Air Force re-submitted the May 11, 2001, project description. The Service stated an incremental biological opinion was not appropriate for this project, and recommended one biological opinion for disposal of all McClellan properties, with subsequent biological opinions for contaminant remediation activities. The Air Force agreed to update the project description based on this approach and to provide additional information concerning the Davis communication site.

February 22, 2002. The Air Force submitted several items as requested by the Service at the February 7 meeting.

May 1, 2002. The Air Force submitted an updated project description based on the most recent approach to preparing the biological opinion and provided additional information on habitat status and consultation history.

August 9, 2002. The Service issued the biological opinion (Service file # 1-1-02-F-254) for airfield mowing effects to the threatened vernal pool fairy shrimp and the vernal pool tadpole shrimp.

April 22, 2003. The Sycamore Environmental Consultants, representing the Sacramento County Department of Economic Development (County), requested that the proposed Serna Village Project be separated from the larger McClellan AFB closure project.

June 30, 2003. The Service reviewed the Serna Village project at the McClellan AFB, and agreed to separate the proposed Serna Village project from the base closure consultation. The Service sent a letter to the Air Force (Service file # 1-1-03-I-2206) stating the proposed project would not conflict with the base-wide conservation strategy because the two vernal pools on the Serna Village site are not part of the identified natural areas that should be preserved at the AFB, and are isolated rather than part of a vernal pool complex.

September 18, 2003. The Service requested, via electronic mail message, clarification on the proposed conservation measures and recommended that the former Davis Global Communication site be placed in a conservation easement.

September 25, 2003. The Air Force sent the Service a copy of their response letter agreeing to condition the transfer with a requirement to preserve the former Davis Communication site under a conservation easement.

October 5, 2004. The Service received comments from the Air Force on the draft biological opinion.

BIOLOGICAL OPINION

Description of the Proposed Action

Main Installation

The proposed action described in this document is the disposal and partial reuses of McClellan AFB, including the Main Installation in Sacramento, California (i.e., the site where the AFB's principal industrial and administrative facilities are located) and two satellite properties -- the Sacramento River Dock property in Sacramento, California, and the former Davis Global Communications site in Davis, California.

The Main Installation is located seven miles northeast of downtown Sacramento, California, and comprises about 3,000 acres bounded by the City of Sacramento on the west and southwest, the unincorporated community of Antelope on the north, the unincorporated area of Rio Linda on the northwest, and the unincorporated community of North Highlands on the east. Portions of the Main Installation are within the City of Sacramento jurisdiction. The Sacramento River Dock is a two-acre parcel located approximately 10 miles southwest of the Main Installation along the Garden Highway. The former Davis Global Communications site is situated on 316 acres of land located approximately two miles south of the City of Davis in Yolo County.

The Sacramento County Board of Supervisors is responsible for the reuse planning of McClellan AFB. The Proposed Action described in this document is based primarily on information contained in the *McClellan Air Force Base Draft Final Reuse Plan* (Reuse Plan) (Sacramento County, 2000). The Reuse Plan will serve as the blueprint by which McClellan AFB will be transitioned from military to civilian uses. The Reuse Plan addresses the Main Installation, as

well as the satellite facilities located within Sacramento County, including the Sacramento River Dock.

The core element of the McClellan Reuse Plan is the Land Use Plan. The Land Use Plan describes the County's strategy for reuse of McClellan AFB, and defines the location, intensity, and distribution of land uses envisioned for the AFB. The Reuse Plan organizes the Main Installation into four distinct planning districts: Core Aviation/Industrial Area, East McClellan, South McClellan, and West McClellan. These districts define areas of similar character within the Main Installation.

The Land Use Plan envisions reuse of the Main Installation as a business and industrial park with aviation industry and industry as its centerpiece uses. The Core Aviation/Industrial District will include aircraft repair and maintenance activities, as well as McClellan's core industrial facilities, which may or may not be aviation related.

West and south of the airfield, existing facilities will generally be reused for their designed uses (i.e., warehouse facilities reused for warehousing and distribution). This area also includes new development opportunities. The Land Use Plan envisions redevelopment of this area into a high quality business park that will include a mix of office, light industrial and heavy industrial uses. South McClellan will be more oriented to office and related uses and West McClellan will be more oriented to industrial uses.

Within East McClellan, reuse of existing facilities and infill development define the primary land use opportunities. This area is buffered from the airfield by heavy and light industrial uses and will primarily contain a mix of business park and community support uses. Community support uses will include recreation, retail, and service uses as well as other community and tenant amenities (e.g., conference facilities, fitness club, etc.). Business park uses will primarily be office oriented and may include certain complementary light industrial uses (e.g., research and development).

The largest single open space component of the main installation of the former McClellan AFB is the open space reserve in West McClellan within the City of Sacramento city limits. This area is approximately 222 acres in size and contains vernal pools, riparian corridors, and other sensitive biological habitats. The County's Reuse Plan proposes to retain the undeveloped portions of this area as open space preserve with the potential for limited public access (e.g., interpretive displays, exhibits, etc.).

Another opportunity to preserve and expand natural habitats exists at the northern end of the main runway (i.e., just south of Elkhorn Boulevard). This area includes vernal pools and other sensitive biological habitats, but is affected by safety zones and is considered part of the airfield. Reuse of the airfield will keep this area undeveloped and preserved with no or very limited public access. However, if at some time in the future this area is no longer constrained by the airfield, Sacramento County may reclassify the area as an Open Space Preserve (or equivalent designation) and provide it with a higher level of public access (e.g., interpretive displays).

Giant Garter Snake Vegetation and Creek Maintenance

Because Robla and Rio Linda Creeks are located within the clear/safety zone of the McClellan Airfield, periodic vegetation maintenance, including pruning/thinning of streamside vegetation, is needed to maintain adequate sight clearance for aircraft and abate bird strike hazards for aircraft. In addition, some level of routine channel maintenance is required along Don Julio, Magpie, Robla, and Rio Linda Creeks to maintain channel capacity and prevent loss of life and property due to upstream flooding. Vegetation maintenance activities generally would be conducted once annually. The following three types of channels requiring maintenance are:

Type A channels (7.55 acres) are natural, unlined channels with significant riparian or wetland vegetation (e.g., Don Julio and Magpie Creeks in the West Nature Area, and the unlined sections of Robla and Rio Linda Creeks in the north airfield area, and a section of Magpie Creek in the West Nature Area that consists of rock-lined, engineered channel);

Type B channels (2.25 acres) are engineered channels and drainage ditches that are partially lined, or unlined, and contain limited wetland vegetation (e.g., creek sections in the central airfield area and on the western side of McClellan, which are connected to natural sections of Magpie or Don Julio Creek via above ground lined channels and/or relatively contiguous areas of upland habitat; and,

Type C channels (2.5 acres) are engineered channels which are fully lined with concrete or gunite and which lack riparian or wetland vegetation (e.g., lined sections of Magpie, Don Julio, and Robla Creeks immediately upstream of natural creek sections and/or which connect to Type B creek sections).

Excavation of accumulated silt, sand, or sediment, may be conducted on a site-specific basis as needed to maintain design capacity of these three channel types. Excavation of accumulated sediment would occur no more than once every five years. All work will be coordinated with the Service prior to initiation. These activities would be performed in accordance with the County's *Memorandum of Understanding (MOU) with the California Department of Fish and Game for Routine Maintenance Activities in Unimproved and Improved Channels (2000-2004)*, which identifies specific measures to minimize effects on giant garter snakes. Additional conservation measures are addressed below in Proposed Conservation Measure # 2.

Sacramento River Dock

Sacramento River Dock is a wooden dock supported by timber pilings and paved with concrete. A warehouse structure is located on top of the dock, on the eastern side. The Sacramento River Dock is envisioned in the Reuse Plan as a public waterfront recreational area to be operated by the City of Sacramento. The City has submitted an application to the National Park Service to use the property for public park or recreation purposes. The City proposes to use the site as a recreation amenity for day and evening use. The site would be used as a rest area for bike trail users, a river observation deck, a meeting place for local youth and community organizations (i.e., the warehouse), and an interpretive center. A small portion of the dock area would be set

aside as a parking area. The U.S. Coast Guard Auxiliary marine band radio station would continue to operate on the dock, with personnel accommodated in the warehouse facility.

Former Davis Global Communications Site

The former Davis Global Communications Site consists of 316 acres of open grassland and a global communications building formerly occupied by the 2049th Communications Group. Five acres of this site, located in the north central portion of the property, has already been transferred to the U.S. Department of Commerce, the National Oceanic and Atmospheric Administration, and the National Weather Service. The remaining 311 acres of the property will be transferred to the National Park Service and then eventually to Yolo County. Yolo County will place a conservation easement on a 173-acre site that contains vernal pools that are occupied by federally listed species and their associated watersheds. The existing open space areas on the property will be used as natural grassland park, with uses limited to those that are consistent with the protection of natural resource values and sensitive habitats (vernal pools and burrowing owls). The building and associated facilities in the central portion of the site will remain and will be utilized by Yolo County for administrative and educational purposes.

Settlement for the Unauthorized Activities

1997 Creek Channel Dredging

In the fall of 1997, the Air Force conducted creek channel dredging activities in McClellan AFB that resulted in damage to approximately 0.158 acre of vernal pool habitat, 1.783 acres of habitat for giant garter snake along Magpie, Don Julio, Robla and Rio Linda Creeks, and 34 elderberry shrubs containing 117 stems at least an inch in diameter at ground level. As compensation for adverse effects to and potential unauthorized take of federally-listed vernal pool crustaceans, the Air Force agreed to purchase 0.158 acre of vernal pool creation credits in a Service-approved habitat conservation bank, and to permanently preserve an additional 1.58 acres of vernal pool habitat in the West Nature Area of McClellan AFB. The purchase of 0.158 acre of vernal pool habitat creation credits and giant garter snake credits was completed in July 2002. The 1.58 acres of vernal pool preservation will be accomplished on-site within the 222-acre West Nature Area, which contains a total of 17.13 acres of vernal pools, wetland swales, and seasonal wetlands.

As compensation for the temporal loss of habitat for the giant garter snake, the Air Force agreed to purchase 1.793 acres of creekbed habitat, 0.672 acre of freshwater wetland habitat, and 3.046 acres of valley foothill riparian habitat in a Service-approved habitat conservation bank. The purchase of these conservation credits was completed in July 2002. In addition, the Air Force agreed to permanently preserve creekbed and streamside habitats associated with the unlined portions of Magpie, Don Julio, Robla, and Rio Linda Creeks, and a 200-foot buffer of upland habitat extending along both sides of these creeks. This habitat preservation will be accomplished within the 222-acre West Nature Area, as well as a 48-acre conservation area that will encompass the unlined portions of Robla and Rio Linda Creeks in the North Runway Area. The habitats will be permanently protected by a conservation easement granted to the Service for

the protection of federally-listed species and their habitats, as described under Proposed Conservation Measures in this biological opinion.

As compensation for the beetle, the Air Force agreed to purchase 117 beetle credits at a Service-approved conservation bank. The beetle credits were purchased in July 2002. Aside from the Air Force's responsibilities to clean up the contamination of the creeks area, the on-site habitat preservation, combined with the purchase of off-site habitat conservation credits fully compensated for the adverse effects of the creek channel activities on the federally-listed vernal pool crustaceans, giant garter snake, and beetle.

1998 Truck Damage to Vernal Pools

In May 1998, a contractor's truck drove off-road in the West Nature Area and was stuck in an area of saturated soils. This action resulted in damage to two small vernal pools. These two pools were determined to be 0.058 acre in total area based on the 1995 wetland delineation of McClellan AFB. In a 2001 base-wide update of the wetland delineation, the affected vernal pools were determined to be hydrologically connected to a larger adjacent pool, and the total area of adverse effect was adjusted to 0.630 acre. As compensation for this habitat damage, the Air Force agreed to permanently preserve an additional 6.3 acres of vernal pool habitat within the 222-acre West Nature Area. Vernal pool creation or restoration was not included as part of the settlement. When added to the vernal pool preservation being conducted for the creek channel cleaning activities, a total of 7.88 acres of the total 17.13 acres of vernal pools and swales in the West Nature Area would be dedicated to compensate for previous unauthorized Air Force actions and would not be available for any future habitat compensation. The preservation of 6.3 acres of vernal pool habitat in the West Nature Area will fully compensate for the adverse effects of the May 1998 truck damage and the potential unauthorized take of federally-listed vernal pool crustaceans.

Future Activities not Covered by this Project.

Although the Air Force's primary goal within the proposed project description is to dispose of surplus property and facilities at McClellan AFB, properties affected or potentially affected by contamination must be retained under Air Force ownership until site conditions can be assessed and remediation strategies developed, implemented, and completed where necessary. Future CERCLA activities, including site cleanup, restoration, monitoring, and corrective actions, are not defined at this time, and, therefore, are not covered by this project and this biological opinion. Future consultation with the Service will occur during preparation of the CERCLA Feasibility Study and Proposed Plan for each site that has the potential to affect a federally-listed species or its habitat. Contaminant removal and restoration activities at the West Nature Area (e.g., dredge spoil removal and creek decontamination) are also not addressed during this consultation. Contaminant removal activities in the West Nature Area will need to undergo separate section 7 consultation(s) or be included in the base wide McClellan AFB CERCLA consultation. Additional compensation for adverse effects to federally-listed vernal pool species and their habitats may be required for some of these future or all of these CERCLA actions.

Furthermore, if Sacramento County, the National Park Service, or any other land transferee proposes future actions on former McClellan AFB lands disposed from the Air Force, those entities may need to consult informally or formally with the Service if those actions may affect any threatened or endangered species. This biological opinion does not address any future activities on transferred lands or provide concurrence or non-concurrence with affect determinations, imply non-jeopardy or jeopardy conclusions, or exempt any take of threatened or endangered species on disposed lands that are not specifically addressed in this biological opinion.

Proposed Conservation Measures

The following conservation measures will be used to avoid and minimize effects to federally-listed species.

1. The Air Force Real Property Agency will require, as a condition of the transfer of property in the West Nature Area or the North Runway Area, that the transferee grant a perpetual conservation easement to the Service on the subject property. The perpetual conservation easements will encompass approximately 222 acres of property in the West Nature Area and approximately 48 acres in the North Runway Area, as generally depicted in enclosed Figure 1. The perpetual conservation easements will run with the land and be binding on all heirs, successors, assigns, lessees, or other occupiers and users. The conservation easement will require that the property remain substantially in its natural condition forever. The perpetual conservation easements will prohibit any use of, or activity on, the protected property that is or may become inconsistent with the protection of federally-listed species, without prior written concurrence from the Service. The following uses are expressly excepted from this paragraph, provided that they are conducted in ways that are protective of federally-listed species and their habitats, and subject to all applicable permitting and conservation (including compensation if necessary) requirements, including but not limited to consultation with the Service regarding potential effects on federally-listed species:
 - A. cumulatively very small effects associated with recreational or educational activities;
 - B. use and maintenance of existing roads, trails, buildings, and other facilities currently existing on the property;
 - C. vegetation maintenance along Robla and Rio Linda Creeks within the flight line of McClellan Airfield, as needed to maintain sight clearance and abate bird strike hazards;
 - D. routine channel maintenance activities along Don Julio, Magpie, Robla, and Rio Linda Creeks, including removal of obstructions as needed to prevent upstream flooding;

- E. implementation of flood projects, including widening and deepening of creek channels and construction of flood control projects, consistent with the regional flood control program; and,
 - F. use of the area for habitat conservation (preservation, creation, and/or restoration).
2. As a condition of the property transfer, the unlined sections of Don Julio, Magpie, Robla, and Rio Linda Creeks within the perpetual conservation easement lands will be designated by the County as "natural streams," and all conservation measures identified for natural streams in the County's *Memorandum of Understanding (MOU) with the California Department of Fish and Game for Routine Maintenance Activities in Unimproved and Improved Channels (2000-2004)* will be implemented. In addition, all the following minimization measures will be required as conditions of the perpetual conservation easement.
- A. Removal of trash, rubbish, flood-deposited woody or herbaceous vegetation, beaver dams, fallen trees, branches, and associated debris that noticeably reduces channel capacity may be removed from within ordinary high water areas of the stream corridor. Debris removal may be accomplished by hand labor, or with a backhoe or excavator. If a backhoe or excavator is used, all work will be conducted in a manner that avoids or minimizes disturbance to the creek bed and banks. Cleared debris will be removed from the site and will not be redeposited within the 100-year floodplain. Large tree limbs or fallen trees may be placed on-site, outside of the 100-year floodplain, provided that they are not placed in vernal pools, seasonal wetlands, fresh emergent wetlands, or other sensitive habitat areas.
 - B. Excavation of accumulated silt, sand, or sediment, as required to maintain the design capacity of the channel, will not exceed 100 linear feet from man-made facilities that obstruct flow (i.e., culverts, bridges, etc.). All excavated silt, sand, and sediment will be removed from the ordinary high water area of the stream and will not be redeposited in the 100-year floodplain. Silt fences, screenings or other measures will be placed in the channels to reduce turbidity caused by the maintenance activity. Silt, sand, and sediment removal operations will be limited to periods when there is low or no stream flow. If stream flow exists, the stream flow will be diverted using gravity flow through temporary culverts/pipes or pumped around the work site with the use of hoses. Dewatered habitat will remain dry for a minimum of 15 consecutive days prior to maintenance activity in the area. Woody growth greater than four inches diameter at breast height (dbh) within the work area will be avoided, or trimmed as needed to gain access for maintenance activities. Any channel slope left barren of vegetation as a result of sediment removal will be restored to its natural state by seeding, or other agreed upon means, with native species of trees, shrubs, and grasses, within 30 days after completion of the maintenance activity.

- C. Control of aquatic vegetation, weeds, grasses, shrubs, and woody growth may be conducted in the channel bottom, from toe of slope to toe of slope, as needed to remove obstructions to flow. Vegetation removal may be accomplished with the use of mechanical devices or by hand labor. If mechanical devices are used, all work will be conducted in a manner that avoids or minimizes disturbance of the creek bed sediments. Control of woody growth may be conducted on lower stream banks, but will be restricted to lower branches (i.e., from ground level to a distance of six feet above ground level) that are less than four inches diameter at breast height (dbh). The exception is woody growth along Robla or Rio Linda Creeks within the flight line of McClellan Airfield. In this area, woody growth that exceeds the top of the creek banks may be trimmed or topped off. Removal of non-native vegetation (bamboo, tree tobacco, castor bean, pampas grass, eucalyptus, acacia, etc.), including stump and root removal, may be conducted from top of bank to top of bank along all creeks. Cleared or trimmed vegetation may be chipped and scattered as mulch at the project site or removed from the project site.
- D. If any wildlife species are encountered during the course of routine maintenance, said wildlife will be allowed to leave the maintenance area unharmed, and will be flushed, hazed, or herded in a safe direction away from the project site. At no time will wildlife be touched or handled. No trees will be disturbed that contain active bird nests until all eggs have hatched and young birds have fledged.
- E. Maintenance activities will be performed at a time and in a manner that minimizes potential adverse effects to giant garter snake. All work must be conducted between May 1 and October 1, when giant garter snakes are more active and are expected to move to avoid danger. Maintenance activities will be conducted on one side of the creek at a time to allow snakes to migrate to the opposite site. If a giant garter snake is encountered during routine maintenance activities, all work in the immediate area will be stopped and the snake will be allowed to move away from the area on its own before work continues. Sightings will be reported to the Service at (916) 414-6620.
- F. Prior to the initiation of channel maintenance activities within the conservation easement lands, ingress and egress routes will be established such that vehicles and equipment can access the work areas without disturbing sensitive habitats, including vernal pools, seasonal wetlands, fresh emergent wetlands, and elderberry shrubs. Sensitive habitats located near the work areas or access routes will be identified, marked, and protected during maintenance activities.
- G. A Worker Environmental Awareness Training Program for equipment operators and other field crew members will be conducted before and during all routine maintenance activities. The program will provide workers with information on their responsibilities with regard to listed species and their habitats. Written

documentation of the training will be transmitted to the Sacramento Fish and Wildlife Office within 30 days of completion of training.

- H. Because channel sediments in Don Julio, Magpie, Robla, and Rio Linda Creeks are known to contain levels of contaminants that are potentially hazardous to human health and the environment, all channel maintenance activities are subject to prior approval from the Air Force in consultation with other regulatory agencies having jurisdiction over CERCLA contaminants. No channel maintenance work will be conducted until all appropriate permits and approvals are obtained to ensure the proper containment, handling, and disposal of contaminated sediments.
3. Provisions will be made for the long-term management of lands under perpetual conservation easements. Land management responsibilities will reside with a resource management agency, qualified non-profit organization, or appropriate private entity, subject to the approval of the Sacramento Fish and Wildlife Office. A sufficient level of funding with acceptable guarantees (e.g., cash endowment, letters of credit, public funding mechanism) will be provided with the perpetual conservation easement to fully ensure the ongoing maintenance and stewardship of the easement lands.
 4. For all remaining lands on the former McClellan AFB (i.e., lands not protected by conservation easements), the Air Force, as a condition of property transfer, will require Sacramento County to ensure that no future activities occur that may affect a federally listed species or its habitat until all appropriate permits and approvals have been obtained, including informal or formal consultation with the Service.

Where avoidance is proposed, the conservation plan will include sufficient information to demonstrate the following:

- A. all existing wetlands and/or riparian habitat will be retained;
- B. adequate watershed will be maintained to ensure preservation of retained wetlands and riparian habitat; and
- C. vernal pools to be retained will be protected from summer watering and urban runoff.

Where compensation is proposed, the applicant will:

- A. provide a detailed plan for the creation of new wetlands or riparian habitat and the specific designated area for the habitat and supporting watershed. No wetland creation/restoration would be conducted in the West Nature Area because of the density of existing wetlands and to minimize adverse effects to sensitive habitats.

- B. provide a monitoring program to include specific vegetative performance standards to assess and determine the success of the created habitat and remedial actions and timeframes to be taken if the performance standards are not met;
 - C. provide for long-term maintenance of the created habitat, including fencing, signing and buffer details;
 - D. execute an agreement with an appropriate entity for long-term maintenance and stewardship of the wetland and/or riparian preserve(s) (the chosen entity will have the legal authority and funding capability to administer, maintain, and monitor the wetland and/or riparian preserve(s), and the agreement will identify how long-term maintenance and monitoring will be funded);
 - E. in lieu of the above habitat creation/restoration/preservation measures, the applicant may purchase conservation credits in a Service-approved conservation bank for each listed species and habitat affected;
 - F. for areas containing jurisdictional wetlands, waters of the United States, and/or riparian habitat, provide evidence of any necessary permits, approvals, or agreements from the U.S. Army Corps of Engineers (USACOE) and California Department of Fish and Game (CDFG) to allow the proposed modifications; and,
 - G. for areas containing habitat for federally-listed species, provide evidence that all required consultations with the Service and/or California Department of Fish and Game (CDFG) have occurred pursuant to the Federal and State Endangered Species Acts. A "no jeopardy" opinion will be required by the Service for federally-listed species that could be affected. A "no jeopardy" opinion will not be issued unless the Service agrees that adequate conservation for the affected species has been provided. If state-listed species could be affected, a written agreement (such as a 2081 agreement) with CDFG will need to be obtained that specifies that adequate conservation has been provided. The proposed development will be consistent with the provisions of any required consultations and associated permits and/or agreements.
5. For the Sacramento River Dock property, the Air Force will require, through conservation easement or other acceptable means, implementation of the following measures:
- A. the City of Sacramento Department of Parks and Recreation will consult with the Service prior to permitting any construction or other ground-disturbing activity within 100 feet of an elderberry shrub (*Sambucus* sp.) located on the property; and,
 - B. protective measures, such as fencing, signs, weeding, and trash removal, will be conducted as needed to protect the shrub from adverse effects of ongoing use of the dock and adjacent property. No insecticides,

herbicides, fertilizers, or other chemicals that might harm the beetle will be used within 100 feet of the elderberry shrub (its host plant). Mowing of grasses/ground cover may occur from July through April to reduce fire hazard; however, no mowing will occur within five feet of elderberry shrub stems. Mowing must be conducted in a manner that avoids damaging plants (e.g., stripping away bark through careless use of mowing/trimming equipment). Trimming of the elderberry shrub, as needed to maintain access to the walkway between the river and the upper dock, will be restricted to branches less than one inch diameter at ground level.

6. For the former Davis Global Communications Site, the Air Force will require, as a condition of the transfer of the site to the National Park Service (NPS), that the NPS will stipulate in the subsequent land transfer document that the transferee (Yolo County or other entity) must record a perpetual conservation easement on that site. The perpetual conservation easement will apply to an approximately 173-acre area, as generally depicted on enclosed Figure 2 that encompasses all of the vernal pools on the Davis site and those portions of their adjacent upland watersheds that lie within the Davis site property boundaries. The perpetual conservation easement will require that the land be retained forever in a natural condition and will prohibit any use of the property that will significantly impair or interfere with the conservation values of the property. The easement will further require the transferee to consult with the Service prior to the initiation of any use, activity, facility, or improvement within the conservation area, with the exception of any activity identified in a natural resource management plan or program of utilization previously reviewed and approved in writing by the Service. Standard enforcement language will be incorporated into the perpetual conservation easement, and will include either property reversion or other remedies to provide for compliance with the requirements of the easement.
7. The Air Force will complete a Feasibility Study and Proposed Plan for remediation of contaminated soils and sediments in environmentally sensitive areas at the former McClellan AFB. The alternatives, including any habitat restoration requirements, will be developed and analyzed in consultation with the Service to ensure that the selected remedy is consistent with the protection of federally-listed species and their habitats. The selected remedy will incorporate measures to conserve habitat for federally-listed species, and will be implemented by the Air Force in accordance with these measures.

The conservation measures as proposed above and in the project materials reviewed by the Service are considered part of the proposed actions evaluated by the Service in this biological opinion. Any changes in these plans or their implementation that might adversely affect listed species, either directly or indirectly, require reinitiation of consultation with the Service, as set forth in the final paragraphs of this letter.

Status of the Giant Garter Snake

The Service published a proposal to list the giant garter snake as an endangered species on December 27, 1991 (56 FR 67046). The Service reevaluated the status of the animal before adopting the final rule. The giant garter snake was listed as a threatened species on October 20, 1993 (58 FR 54053).

The giant garter snake is one of the largest species of garter snakes and it may reach a total length of at least 160 cm (64 in). Females tend to be slightly longer and proportionally heavier than males. The weight of adult female snakes is typically 500-700 kg (1.1-1.5 pounds (lbs)). Dorsal background coloration varies from brownish to olive with a checkered pattern of black spots, separated by a yellow dorsal stripe and two light-colored lateral stripes. Background coloration and prominence of a black-checkered pattern and the three yellow stripes are geographically and individually variable (Hansen 1980). The ventral surface is cream to olive or brown and sometimes infused with orange, especially in northern populations.

The giant garter snake formerly occurred throughout the wetlands that were extensive and widely distributed in the Central Valley. Fitch (1941a) described the historical range of the snake 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 snake was recorded historically from 17 localities (Hansen and Brode 1980). Five of these localities were clustered in and around Los Banos, Merced County. 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. Destruction of wetlands for agriculture and other purposes apparently extirpated the species from the southern one-third of its range by the 1940s-1950s, 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 found the snake as far north as the Butte Basin in the Sacramento Valley. As recently as the 1970s, the range of the snake extended from near Burrell, Fresno County (Hansen and Brode 1980), northward to the vicinity of Chico, Butte County (Rossman and Stewart 1987). California Department of Fish and Game studies (Hansen 1988) indicate that 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.

The giant garter snake is endemic to wetlands in the Sacramento and San Joaquin Valleys, inhabiting marshes, sloughs, ponds, small lakes, low gradient streams, and other waterways and agricultural wetlands, such as irrigation and drainage canals and rice fields, and the adjacent uplands. The snake feeds on small fishes, tadpoles, and frogs (Fitch 1941b; Hansen 1980; Hansen 1988). Essential habitat components consist of: (1) wetlands with adequate water during the snakes' active season (early-spring through mid-fall) to provide food and cover; (2) emergent,

herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) upland habitat with grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for escape cover (vegetation, burrows) and underground refuges (crevices and small mammal burrows) (Hansen 1980). Snakes are typically absent from larger rivers and other bodies of water that support introduced populations of large, predatory fish, and from wetlands with sand, gravel, or rock substrates (Hansen 1980; Rossman and Stewart 1987; Hansen 1988). Riparian woodlands do not provide suitable habitat because of excessive shade, lack of basking sites, and absence of prey populations (Hansen 1980).

The breeding season of the giant garter snake 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 individual young, with a mean of 23 individuals (Hansen and Hansen 1990). At birth, young average about 20.6 cm (8.11 in) snout-to-vent length and 3-5 grams. Young immediately scatter into dense cover and absorb their yolk sacs, after which they begin feeding on their own. Although growth rates are variable, young typically double in size by one year of age, and sexual maturity averages three years in males and five years in females (58 FR 54053).

The giant garter snake typically inhabits small mammal burrows and other soil crevices through its winter dormancy period (i.e., November to mid-March). The snake also uses burrows as refuge from extreme heat during their active period. While the snakes usually remain in close proximity to wetland habitats, the Biological Resources Division of the U.S. Geological Survey documented snakes using burrows as much as 50 m (165 ft) away from the marsh edge to escape extreme heat (Wylie *et al.* 1997). Over-wintering snakes have been documented utilizing burrows as far as 250 m (820 ft) from the edge of marsh habitat. Snakes typically select south- and west-facing burrows as hibernacula (58 FR 54053).

In studies of marked snakes in the Natomas Basin, snakes moved about 0.4 km to 0.8 km (0.25 mi to 0.5 mi) per day (Hansen and Brode 1993, Wylie and Cassaza 2002a, 2002b). The total activity varies widely between individuals, however, and individual snakes have been documented moving up to 8 km (5 mi) over the period of a few days in response to dewatering of habitat (Wylie *et al.* 1997).

In agricultural areas, snakes were documented using rice fields in 19-20 percent of the observations, marsh habitat in 20-23 percent of the observations, canal and agricultural waterway habitats in 50-56 percent of the observations (Wylie 1999). Telemetry studies have also shown that active snakes use uplands extensively; more than 31 percent of the observations were in uplands (Wylie 1999). Almost all snakes observed in uplands during the active season were near vegetative cover, where cover exceeded 50 percent in the area within 0.5 m (1.6 ft) of the snake; less than 1 percent of the observations were of snakes in uplands with less than 50 percent cover nearby (Wylie 1999).

Giant garter snakes are fed on by a variety of predators including raccoons, striped skunks (*Mephitis mephitis*), opossums (*Didelphis virginiana*), hawks, crows (*Corvus branchyrhynchos*),

ravens (*Corvus corax*), egrets (*Casmerodius albus*, *Egretta thula*), and great blue herons (*Ardea herodias*).

The current distribution and abundance of the giant garter snake is much reduced from former times. Loss of habitat due to agricultural activities and flood control have extirpated the 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 snake habitat, consisting of cattail and bulrush dominated marshes. Vast expanses of cattail and bulrush floodplain habitat also typified much of the Sacramento Valley historically (Hinds 1952, Katibah 1984). Prior to reclamation activities beginning in the mid- to late-1800s, about 60 percent of the Sacramento Valley was subject to seasonal overflow flooding in broad, shallow flood basins that provided expansive areas of snake habitat (Hinds 1952, Katibah 1984). Valley flood wetlands are now subject to cumulative effects of upstream watershed modifications, water storage and diversion projects, as well as urban and agricultural development; all natural habitats have been lost and an unquantifiable but small percentage of semi-natural wetlands remain extant (Frayer *et al.* 1989). Only a small percentage of extant wetlands currently provides habitat suitable for the snake (Conrad *et al.* 1977, Kondolf *et al.* 1996, McGill 1975, Roberts 1977).

Ongoing maintenance of aquatic habitats for flood control and agricultural purposes eliminate or prevent the establishment of habitat characteristics required by snakes and can fragment and isolate available habitat, prevent dispersal of snakes among habitat units, and adversely affect the availability of the snake's food items (Hansen 1988; Brode and Hansen 1992). In many areas, the restriction of suitable habitat to water canals bordered by roadways and levee tops renders 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. Nonnative predators, including introduced predatory game fish, bullfrogs, and domestic cats, can also threaten snake populations. While large areas of seemingly suitable snake habitat exist in the form of duck clubs and waterfowl management areas, water management of these areas typically does not provide the summer water needed by the species. Although snakes on national wildlife refuges are relatively protected from many of the threats to the species, degraded water quality continues to be a threat to the species both on and off refuges (Gilliom 1999).

The snake is currently known from a small number of populations. A number of land use practices and other human activities currently threaten the survival of the snake throughout the remainder of its range. Although some 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. Rapidly expanding cities within the current range of the snake include Chico, Yuba City, Sacramento, Galt, Stockton, Gustine, and Los Banos.

Currently, the Service recognizes 13 separate populations of snake, with each population representing a cluster of discrete locality records (Service 1999). The 13 extant population 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) Burrell-Lanare. These populations span the Central Valley from just southwest of Fresno (Burrell-Lanare) north to Chico (Hamilton Slough).

The draft recovery plan for the snake subdivided its historic range into four recovery units (Service 1999). These are: (1) the Sacramento Valley unit, extending from the vicinity of Red Bluff south to the confluence of the Sacramento and Feather Rivers; (2) the Mid-Valley unit, extending from the American and Yolo Basins south to Duck Creek near the City of Stockton; (3) the San Joaquin Valley unit, extending south from Duck Creek to the Kings River; and (4) the South Valley unit, extending south of the Kings River to the Kern River Basin.

Currently, only the Sacramento Valley Recovery Unit, at the northern end of the species' range, is known to support relatively large, stable populations of the snake. This unit contains three populations: Butte Basin, Colusa Basin, and Sutter Basin, which includes the Gilsizer Slough and Robbins area subpopulations. This recovery unit includes a large amount of suitable habitat, in protected areas on state refuges and refuges of the Sacramento National Wildlife Refuge Complex in the Colusa and Sutter Basins, and along waterways associated with rice farming (Service 1999). While populations within the unit have some protection on refuge and other public lands such as the Sacramento National Refuge Complex lands of Colusa National Wildlife Refuge, Delevan National Wildlife Refuge, and the Sutter National Wildlife Refuge, snakes are subject to flooding and mortality from predatory fish and birds, vehicular traffic, agricultural practices, and maintenance of water channels. The populations within this unit are widely distributed and mostly restricted to unnatural agricultural water delivery and drainage facilities associated with rice fields and habitat corridors connecting populations or subpopulations are not present and/or protected (Wylie *et al.* 2000a, 2000b, 2002, 2003).

The Mid-Valley Recovery Unit, directly to the south of the Sacramento Valley Recovery Unit, includes seven populations: American Basin, Yolo Basin-Willow Slough, Yolo Basin-Liberty Farms, Sacramento Area, Badger Creek/Willow Creek, Caldoni Marsh, and East Stockton. The status of the seven snake populations in the Mid-Valley Recovery Unit is very uncertain. Five of the remaining six populations within the recovery unit are very small, highly fragmented and isolated, and, except for the Badger Creek/Willow Slough population, are also threatened by urbanization. This latter population is within a small isolated area. Within the Mid-Valley unit, only the American Basin population supports a sizeable snake population which is dependent largely upon rice lands. The American Basin population, although threatened by urban development, has been included in the Metro Air Park habitat conservation plan and the Natomas Basin habitat conservation plan, which share a regional strategy to maintain a viable snake population in the basin.

The remaining two recovery units are located to the south in the San Joaquin Valley, where the best available data indicate that the snake's status is precarious. The San Joaquin Valley Recovery Unit contains three historic snake populations: North and South Grasslands; Mendota Area; and Burrell/Lanare Area (Service 1999). This recovery unit formerly supported large snake populations, but numbers have declined severely in recent decades, and recent survey efforts

indicate numbers are very low compared to Sacramento Valley populations. No surviving snake populations are known from the fourth recovery unit, the South Valley Recovery Unit, at the southern end of the snake's historic range; this unit includes only extirpated populations, including the historic but lost habitats of Tulare Lake and Buena Vista Lake.

Recent sightings of the giant garter snake have occurred in and adjacent to the action area; numerous recent sightings of the giant garter snake have been reported in the Natomas Basin, approximately 8.045 kilometers (5 miles) west of the McClellan AFB (Hansen 2002, California Department of Fish and Game 2004; Service files). Individual snakes have been documented to move about 0.4 to 0.8 kilometers (0.25 to 0.5 miles) per day. The total activity varies widely between individuals, however, and individual snakes have been documented moving up to 8 km (5 mi) over the period of a few days in response to dewatering of habitat. The Biological Assessment and other information available to the Service have found suitable habitat for this cryptic and secretive species in and adjacent to the action area. The action area contains components that can be used by the giant garter snake for feeding, resting, mating, a movement corridor, and other essential behaviors. Therefore, the Service believes that the giant garter snake is reasonably certain to occur within the action area because of the biology and ecology of the animal, the presence of suitable habitat in and adjacent to the project site as well as the recent observations of this listed.

Environmental Baseline

In 1994, the Biological Research Division (then the National Biological Survey [NBS]) began a study of the life history and habitat requirements of the giant garter snake in response to an interagency submittal for consideration as an NBS Ecosystem Initiative. Since April of 1995, the BRD has further documented occurrences of giant garter snakes within some of the 13 populations identified in the final rule. The BRD has studied populations of giant garter snakes at the Sacramento and Colusa National Wildlife Refuges within the Colusa Basin, at Gilsizer Slough within the Sutter Basin, and at the Badger Creek area of the Cosumnes River Preserve within the Badger Creek-Willow Creek area. These populations, along with the American Basin population of giant garter snakes, represent the largest extant populations. With the exception of the American Basin, these populations are largely protected from many of the threats to the species. Outside of these protected areas, giant garter snakes in these population clusters are still subject to all threats identified in the final rule. 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 is unlikely given the isolation from larger populations and lack of dispersal corridors between them.

At the former McClellan AFB, suitable habitat for giant garter snake is restricted to the unlined sections of Magpie and Don Julio Creeks in the West Nature Area, and Robla and Rio Linda Creeks in the North Runway Area. In the West Nature Area, Magpie Creek and Don Julio Creek are contained in natural streambeds with fresh emergent wetland and riparian woodland/scrub vegetation growing along the bed and banks. No confirmed sightings of giant garter snake have

been documented in this area; however, the two creeks and the contiguous fresh emergent wetlands provide suitable habitat for the species. The unlined sections of Robla and Rio Linda Creeks, which cross the northern portion of the McClellan Airfield, are also suitable for giant garter snake. One sighting of a garter snake occurred near Robla Creek in 1999 during a site reconnaissance with Air Force and Service staff. The snake was tentatively identified as a giant garter snake. However, because the giant garter snake overlaps in range with the common garter snake (*Thamnophis elegans*), and because coloration in both species is highly variable, these two garter snakes cannot be positively identified to species without having the snake in hand. In addition, numerous recent records of giant garter snake sightings from the Natomas Basin have been made and are five miles to the west of the McClellan Airfield. These Natomas Basin occurrences are connected to the McClellan Airfield by Magpie Creek and other water ways. Therefore, based on the biology and ecology of the snake, including its dispersal abilities, the presence of suitable habitat, the near-by current records in the Natomas Basin, the location of McClellan AFB within its current range, the unlined sections of Magpie Creek, Don Julio Creek, Robla Creek, and Rio Linda Creek likely are inhabited by this species.

Effects of the Proposed Action

The unlined sections of Magpie, Don Julio, Robla, and Rio Linda Creeks, and their adjacent uplands, which provide suitable habitat for the federally threatened giant garter snake, also will be permanently protected within a conservation easement.

Periodic, intermittent temporary effects to giant garter snakes could occur as a condition of the perpetual conservation easement. The unlined sections of Don Julio, Magpie, Robla, and Rio Linda Creeks will be designated by the County as "natural streams," and all minimization measures identified in the MOU for natural streams will be applied. Implementation of the MOU requirements, as well as the additional measures specified herein under Proposed Conservation Measures, will minimize potential effects to giant garter snake.

Periodic, intermittent temporary (short term or less than one year) effects to giant garter snakes or their habitat could occur along the unlined and lined portions of Don Julio, Magpie, Robla and Rio Linda Creeks from periodic vegetation (pruning/trimming of streamside vegetation) and channel maintenance activities that are required to maintain airfield safety and flood control. Although lined portions of creeks and canals are less ideal for the snake because they usually lack the vegetative cover, snakes may use these portions of the creeks as dispersal corridors and for foraging. Approximately 12.3 acres of potential habitat, including 7.55 acres of natural, unlined creek channels, 2.25 acres of engineered and/or partially lined channels, and 2.5 acres of engineered, fully-lined channels, would be affected by future short term maintenance activities.

Vegetation pruning and trimming may reduce the density and amount of cover for the snake. Burrows and crevices existing along creeks may be crushed by maintenance crews that are cleaning the channels and vehicle passage. These proposed project activities will likely directly affect the snake through harassment, harm, injury, or death. Some examples of possible sources of take include: (1) noise produced by pipe installation activities could cause snakes to flee and become subject to predation; (2) construction equipment could kill or injure snakes by running

over them; and (3) the exclusion fence at the remote facility site could trap snakes, and result in their injury or death

Cumulative Effects

Cumulative effects are those effects of future State, Tribal, county, local agency, and private actions that are reasonably certain to occur. 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.

Sacramento County is the designated local redevelopment authority, and responsible for the reuse planning of the former main installation at McClellan AFB. Their land use plan envisions reuse for aviation industrial, heavy and light industrial, warehouse facilities, offices/business park, open space preserve, and parks. The reuse of the AFB would contribute to cumulative losses of habitat for federally-listed vernal pool crustaceans across their range. However, it is unknown at this time, if Sacramento County will be planning to submit any applications to the U.S. Army Corps of Engineers for fill of any vernal pool crustacean habitat on the former Main Installation.

Conclusion

After reviewing the current status of the giant garter snake, the environmental baseline for the Sacramento River boat dock, the Former Davis Global Communication Site, the former Main Installation covered by this biological opinion, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that disposal of the former main installation of McClellan AFB and its satellite properties are not likely to jeopardize the continued existence of the giant garter snake. Because no critical habitat has been proposed or designated for the giant garter snake, 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 significantly 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 Air Force so that they become binding conditions of any grant, lease, permit, or assignment issued to Sacramento County or other transferee, as appropriate, in order for the exemption in section 7(o)(2) to apply. The Air Force, Sacramento County, and all other transferees, as applicable, have a continuing duty to regulate the activity covered by this incidental take statement. If the Air Force (1) fails to assume and implement the terms and conditions, or (2) fails to require National Park Service, Sacramento County, and other transferees to adhere to the project description and terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit, grant, or assignment document, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

Because the Air Force is proposing to transfer federal lands to other public government entities and is not proposing to be directly responsible for fill of vernal pools that are suitable habitat for federally-listed vernal pool crustaceans or eliminate elderberry shrubs that are habitat for the beetle, no incidental take of the listed vernal pool crustaceans or the beetle is anticipated in association with land transfer. Therefore, no incidental take of vernal pool crustaceans or the beetle is exempted in this biological opinion as a result of Federal land transfers to Sacramento County or the National Park Service.

The Service anticipates and exempts incidental take of the giant garter snake in the action area of the former main installation of McClellan AFB. The Service anticipates take of giant garter snake will be difficult to detect or quantify for the following reasons: the animals are cryptically colored, secretive, and known to be sensitive to, and therefore, evasive of, human activities. Snakes may avoid detection by retreating, to burrows, soil crevices, vegetation, or other cover. Individual snakes are difficult to detect unless they are observed, undisturbed, at a close distance. Most close-range observations represent chance encounters that are difficult to predict. It is not possible to make an accurate estimate of the number of giant garter snakes that will be harassed or subject to harm during project activities. In instances when take is difficult to detect, the Service may estimate take of species per acre of habitat lost or degraded as a result of the proposed action. Therefore, the Service regards that all giant garter snakes habiting 7.55 acres of natural, unlined creek channels, 2.25 acres of engineered and/or partially lined channels, and 2.5 acres of engineered, fully-lined channels (12.3 acres total) would be subject to harassment and harm by the action. Upon implementation of the following reasonable and prudent measure, incidental take of the giant garter snake inhabiting 12.3 acres in the form of harassment and harm will become exempt from the prohibitions described under section 9 of the Act for direct and indirect effects associated with the proposed McClellan AFB disposal project.

Effect of the Take

In the accompanying biological opinion, the Service has determined that this level of anticipated take is not likely to result in jeopardy to the giant garter snake; critical habitat for this species has not been designated or proposed, therefore, none will be adversely modified or destroyed.

Reasonable and Prudent Measure

The following reasonable and prudent measure is necessary and appropriate to minimize the effect of take on the giant garter snake.

1. Incidental take of the giant garter snake associated with the proposed project shall be minimized.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Air Force shall ensure the County of Sacramento and/or any lessee or transferee complies with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are nondiscretionary.

The following terms and conditions implement Reasonable and Prudent Measure One (1):

1. The Air Force, Sacramento County, or other transferee, as applicable, shall implement the proposed conservation measures described in the Air Force's May 1, 2002, letter and on pages 10-15 of this biological opinion.
2. The final determination of whether specific actions carried out in pursuant to 1A, 1B, 1C, 1D, 1E and/or 1F of the *Proposed Conservation Measures* of this biological opinion are exempt from the restrictions in the conservation easement shall be made solely by the Service.

Reporting Requirements

Injured giant garter snakes should be cared for by a licensed veterinarian; dead individuals of any of this listed species shall be preserved according to standard museum techniques and held in a secure location. The Air Force, Sacramento County, or other transferee, as applicable, will report within one (1) working day to the Service any information about take or suspected take of listed wildlife species not authorized in this biological opinion, or any unanticipated harassment or harm to giant garter snake. Notification must include the date, time, and location of the incident of the incident or of the finding of a dead animal. The Service contact persons are Chris Nagano, Chief of the Endangered Species Division (Central Valley) at 916/ 414-6600 or Scott Heard, 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 inadvertently injures a listed wildlife species must immediately report the incident to their representative. This representative must immediately contact the California Department of Fish and Game. The California Department of Fish and Game contact for immediate assistance is State Dispatch at 916/ 445-0045.

CONSERVATION RECOMMENDATIONS

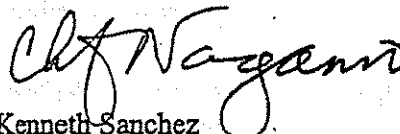
Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and data bases. We do not have any conservation recommendations at this time.

REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the disposal of McClellan Air Force Base and its satellite properties. 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 retained (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 action is subsequently modified in a manner that causes an effect to 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 Ken Fuller or Chris Nagano, Chief of the Endangered Species Program, of this Field Office at the letterhead address or at 916/414-6600, if you have any questions or comments on this biological opinion for the closure of McClellan AFB.

Sincerely,


fr Kenneth Sanchez
Acting Field Supervisor

cc:

CDFG, Region 2, Rancho Cordova, CA (Attn: Terry Roscoe)
EPA, Region 9 (SFD-8B), San Francisco, CA (Attn: Ned Black)
McClellan AFB, AFBCA/DD-McClellan, CA (Attn: Molly Enloe)
County of Sacramento Local Reuse Authority, McClellan, CA (Attn: Jeanette Musil)
National Park Service, Oakland, CA (Attn: Gary Musterman)
Yolo County Planning, Woodland, CA (Attn: Linda Fiack)

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