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:
81420-2008-F-0195-R003
81420-2009-F-0890-R001

FEB 3 2010

Mr. Francis C. Piccola
Chief, Planning Division
U.S. Army Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814

Subject: Re-initiation of Section 7 Programmatic Formal Consultation on the Natomas Levee Improvement Program Phase 2 and 3, Landside Improvements Project, Sacramento and Sutter Counties, California

Dear Mr. Piccola:

This is in response to your December 3, 2009, request to re-initiate formal consultation with the U.S. Fish and Wildlife Service (Service) on the Natomas Levee Improvement Program, Landside Improvements Project in Sacramento and Sutter Counties, California. Your request was received in our office on December 4, 2009. These changes to the Phase 2 and Phase 3 biological opinions address changes to the project description including additional elderberry shrub transplantation, archeological surveys, and changes to the construction schedule, which were not previously analyzed. These amended biological opinions address effects to two threatened species: the giant garter snake (*Thamnophis gigas*) and the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). These amended biological opinions are issued under the authority of section 7(a)(2) the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

On October 9, 2008, the Service issued a programmatic biological opinion (81420-2008-F-0195-5) on the Landside Improvements Project. Effects of the Phase 2 portion of the proposed project were analyzed within the programmatic. The U.S. Army Corps of Engineers (Corps) has re-initiated consultation on Phase 2 twice due to project description changes. We have provided updated biological opinions for Phase 2 on May 6, 2009, (81420-2008-F-0195-R001) and on October 2, 2009 (81420-2008-F-0195-R002). On September 28, 2009, the Service tiered off the

programmatic biological opinion and issued a biological opinion (81420-2009-F-0890-1) for Phase 3. Because the Corps is proposing changes to both the Phase 2 and Phase 3 project descriptions, we are providing a response to both in these amended biological opinions.

This amendment is based on: (1) your December 3, 2009, letter requesting re-initiation under section 7; (2) the memo prepared by AECOM dated November 20, 2009; (3) the December 9, 2009, e-mail from the Corps and the January 12, 2010 e-mail, from AECOM including information regarding the valley elderberry longhorn beetle; and (4) other information available to the Service.

Therefore, the Phase 2 (81420-2008-F-0195-5) biological opinion is now amended as follows:

Page 35, Add following paragraphs after 2nd paragraph under *Phase 2 Construction on New GGS/Drainage Canal:*

Proper drainage of standing water in the vicinity of the Sacramento International Airport is necessary to ensure minimization of hazardous wildlife attractants, especially waterfowl. In order to ensure that proper drainage from the excavated upper GGS/Drainage Canal is accomplished until the final connection is made in the summer of 2010, a gravity-drained pipe would be installed between the northern terminus of the excavated GGS/Drainage Canal and the south bank of the North Drainage Canal (NDC). The drainage would require excavation of a "slot" in the berm/road separating the NDC and the newly excavated GGS/Drainage Canal. Installation of the gravity fed pipe would consist of hand excavation of a 3-foot wide by 9-foot deep slot on the face of the NDC's south bank to a horizontal depth of 4 feet and continuing to a maximum depth of 15 feet. Once this is complete, an excavator, situated on the berm/road would use a 36-inch bucket to excavate south to north beginning at the GGS/Drainage Canal until it reaches the hand-excavated area. An 18-inch pipe would be placed at the bottom of the slot and fill would be placed on top of it until the original height of the berm/road is restored. Rock for energy dissipation and erosion protection from the flowing water would be placed directly into the water to an approximate height of 14 feet (not higher than the halfway point of the pipe height).

On December 21, 2009, a biologist from AECOM and an engineer from SAFCA staked a 24-foot by 9-foot area with the fewest potential hibernacula. This area included the 3-foot by 9-foot area for the trench plus a 1-foot buffer and 10 feet on either side of the selected trench area. Six cavities were identified within the staked area. Each cavity was inspected. Five of the six cavities terminated within 3 to 6 inches and the final cavity ended about 8 inches from the soil surface. None of the cavities was occupied by giant garter snakes.

Page 39, Add following paragraph after 2nd paragraph under Airport North Borrow Sites:

Airport Borrow Site 1 requires the realignment of Canal 2A. Realignment of the canal would take about 4 days. A new canal would be constructed between January and April 2010 in fallow ruderal and annual grassland habitat. Tie-ins for the new canal would occur in two locations: the

northern embankment of the existing Pullman Canal and the southern embankment of the existing 2A canal. Both tie-in locations have been identified as suitable giant garter snake aquatic habitat. The SAFCA has proposed that all work would occur at least 200 feet from existing canals during the giant garter snakes inactive season. Tie-ins would be constructed after May 1, 2010. To provide drainage from Borrow Site 3 seven culverts would be installed along the western and southern sides of the site and drain to existing drainage ditches or newly created ditches. Rock protection would be included for erosion control where culverts terminate into ditches. Created and existing ditches did not have water in them during the summer of 2009. The culverts would be placed between January and April 2010.

Page 50, Change 2nd paragraph under Phase 2 Construction Giant Garter Snake Effects section from:

The SAFCA has proposed to conduct some of the Phase 2 construction outside of the giant garter snake active season (between May 1 and October 1). These include: 1) relocation of power poles, relocation of private irrigation pipelines, canals, and wells; 2) the removal, transplantation, and/or planting of trees and elderberry shrubs that are located in the Phase 2 footprint; 3) construction of pipes from the Elkhorn Pumping Plant to the Elkhorn Reservoir, Sacramento River east levee Reaches 2-4B, upper Elkhorn Canal and Upper GGS/Drainage Canal construction; and 4) a new sedimentation basin. To reduce the likelihood of disturbing or killing a giant garter snake that may be overwintering in uplands that would be affected during the inactive season (October through April), SAFCA has proposed to erect exclusionary fencing prior to October 1 around areas where snakes would be likely to overwinter. This fence would be monitored daily prior to and during construction to insure that there are no breaches that a snake could get through. This should lessen the chance that project construction would kill overwintering giant garter snakes. Many of the canals have been without water this year, which would make the areas that SAFCA proposes to construct in the winter less attractive to the giant garter snake due to their use of aquatic features for feeding and movement. Additionally, for the construction of pipes from the Elkhorn Pumping Plant to the Elkhorn Reservoir, Sacramento River east levee Reaches 2-4B, upper Elkhorn Canal and Upper GGS/Drainage Canal construction, and new sedimentation basin construction at these sites would begin prior to October 1, 2009 which is when the snakes begin to search for sites suitable for overwintering. Disturbance of these areas prior to snakes finding them for overwintering would likely cause them to seek other areas.

To:

The SAFCA has proposed to conduct some of the Phase 2 construction outside of the giant garter snake active season (between May 1 and October 1). These include: 1) relocation of power poles, relocation of private irrigation pipelines, canals, and wells; 2) the removal, transplantation, and/or planting of trees and elderberry shrubs that are located in the Phase 2 footprint; 3) construction of pipes from the Elkhorn Pumping Plant to the Elkhorn Reservoir, Sacramento River east levee Reaches 2-4B, upper Elkhorn Canal and Upper GGS/Drainage Canal construction; 4) a new sedimentation basin; 5) canal realignment within Borrow Site 1; 6)

drainage culverts within Borrow Site 3; and 7) a temporary connection between the Upper GGS/Drainage Canal and the NDC. To reduce the likelihood of disturbing or killing a giant garter snake that may be overwintering in uplands that would be affected during the inactive season (October through April), the SAFCA has proposed to erect exclusionary fencing prior to October 1 around areas where snakes would be likely to overwinter. This fence would be monitored daily prior to and during construction to insure that there are no breaches that a snake could get through. This should lessen the chance that project construction would kill overwintering giant garter snakes. Many of the canals have been without water this year, which would make the areas that the SAFCA proposes to construct in the winter less attractive to giant garter snakes due to their use of aquatic features for feeding and movement. Additionally, for the construction of pipes from the Elkhorn Pumping Plant to the Elkhorn Reservoir, Sacramento River east levee Reaches 2-4B, upper Elkhorn Canal and Upper GGS/Drainage Canal construction, and new sedimentation basin construction at these sites will begin prior to October 1, 2009 which is when the snakes begin to search for sites suitable for overwintering. Disturbance of these areas prior to snakes finding them for overwintering would likely cause them to seek other areas. The SAFCA is avoiding areas where overwintering snakes may be within Borrow Site 1 by delaying construction until after May 1. It is unlikely snakes would be overwintering in the uplands along the canals in Borrow Site 3 because these canals did not have water in them during the summer of 2009. A portion of the area proposed for excavation between the Upper GGS/Drainage Canal and the NDC was not fenced off with exclusionary fencing due to the slope of the canal. The SAFCA has surveyed the area and have not found suitable hibernacula within the area proposed for excavation. The remaining area, which will be excavated, was fenced with exclusionary fencing prior to October 1, 2009, and snakes would not have been able to access these uplands for overwintering.

Therefore, the Phase 3 (81420-2009-F-0890-1) biological opinion is now amended as follows:

> Page 5: Change 3rd paragraph under *Site Preparation (Tree Removal, Clearing, Grubbing, and Stripping)* from:

Vegetation, primarily trees and elderberry shrubs, would be removed within the partial conceptual footprint of the Phase 4 footprint of the Sacramento River east levee (Reaches 10-12A), as needed, during the annual dormant season (November 1 to February 15). Removal of vegetation from the future Phase 4 footprint will allow this to occur during the elderberry dormant season and when migratory birds are not nesting, lessening the effects to these species. This footprint consists of the adjacent setback levee, a seepage berm that may be up to 500-feet-wide, depending on site conditions, a 50-foot-wide operations and maintenance corridor, and 20-foot-wide utility corridor, resulting in a total flood control footprint that is approximately 670 feet wide. In addition, vegetation would also be removed in the partial conceptual footprint of the relocated Riverside Canal, which is directly adjacent to the landside edge of the flood control footprint. This operation will require removal of some trees and relocation/removal of elderberry shrubs, which occur mostly adjacent to existing roads. Large trees would be felled and disposed of as described above. Small trees, where feasible, and elderberry shrubs currently existing on the Cummings Preserve would be relocated to 0.5-acre area onsite. Other elderberry

shrubs and small trees would be relocated to the woodland corridor. A minimal amount of ground disturbance in specific areas would occur.

To:

Vegetation, primarily trees and elderberry shrubs, would be removed within the partial conceptual footprint of the Phase 4 footprint of the Sacramento River east levee (Reaches 10-15), as needed, during the annual dormant season (November 1 to February 15). Removal of vegetation from the future Phase 4 footprint will allow this to occur during the elderberry dormant season and when migratory birds are not nesting, lessening the effects to these species. This footprint consists of the adjacent setback levee, a seepage berm that may be up to 500-feet-wide, depending on site conditions, a 50-foot-wide operations and maintenance corridor, and 20-foot-wide utility corridor, resulting in a total flood control footprint that is approximately 670 feet wide. In addition, vegetation would also be removed in the partial conceptual footprint of the relocated Riverside Canal, which is directly adjacent to the landside edge of the flood control footprint. This operation will require removal of some trees and relocation/removal of elderberry shrubs, which occur mostly adjacent to existing roads. Large trees would be felled and disposed of as described above. Small trees, where feasible, and elderberry shrubs currently existing on the Cummings Preserve would be relocated to 0.5-acre area onsite. These shrubs are providing compensation for effects from a previous project. The SAFCA proposes to compensate for effects to these transplanted shrubs by planting an additional 14 elderberry seedlings (one seedling for every shrub that was planted as compensation, which has to be transplanted). Other elderberry shrubs and small trees would be relocated to the woodland corridor. A minimal amount of ground disturbance in specific areas would occur. Four elderberry shrubs are located on a steep bank of a canal, and it is not physically possible to safely transplant them. The SAFCA proposes to cut the branches and place them with the other transplanted shrubs and to compensate 4 times the ratios described in the *Conservation Guidelines*.

Page 15: Add the following after 2nd paragraph under **Reconstruction of Pumping Plant 2**:

Prior to the construction of the new RD 1000 Pump Plant 2, excavation of the new footprint must occur to replace the sandy materials susceptible to underseepage. A high groundwater table due to underseepage (both because of the proximity to the Sacramento River and the NDC) requires substantial dewatering prior to and during excavation activities. Groundwater will be pumped from a series of perimeter wells around the excavation site and discharged via a gravity pipe or shallow ditch into the NDC's western end. In order to meet water quality standards, an earthen barrier or "plug" must be constructed within the NDC between the excavation area and the discharge site, about 75 feet long and would span the width of the NDC. This plug will keep the excavated material from entering the NDC.

The water level of the NDC at the location of the proposed plug fluctuates due to agricultural operations and was at its maximum depth of 18 feet in early October through mid-November

2009. This coincides with when the giant garter snakes are looking for upland overwintering sites. A sandbag cofferdam would be used to allow the contractor to dewater the section with pumps. Initially, fill would be placed in the area by excavator, located above the bank of the NDC and then completed by hand once the majority of fill is placed. The portion of the face of south bank of the NDC that would potentially have giant garter snake burrows is the area above the height of 18 feet that was not submerged during the active season. In order to avoid placing fill over any potential burrows on the faces, the construction of and fill of the plug will not extend past the 18-foot height of inundation. The SAFCA would have a biologist on-site during construction of the plug to ensure no fill is placed above the maximum water level of 18 feet where potential giant garter snake overwintering habitat occurs. Access to the site would avoid areas of existing potential overwintering habitat.

Page 18: Add the following to Project Description:

Phase 4 Archeological Surveys

Archeological surveys are required to guide the design of the proposed project and satisfy project requirements under Section 106 of the National Historic Preservation Act. The required archeological surveys entail shovel testing several sites within and adjacent to the proposed Phase 4 footprint. All excavation work would be conducted with hand tools, such as shovels and trowels. Excavation involves digging shovel test pits (20 inches in diameter and up to 8 feet deep); these pits would be immediately backfilled.

Surveys would be conducted every 100 feet spaced in a grid pattern on the Alleghany 50 and Cummings properties. Test sites at Alleghany 50 would occur in an agricultural field that is actively cultivated. Irrigation canals are presently adjacent to the Cummings property. Exclusionary fencing was erected along the western and northern edges of the canals prior to October 1, 2009, in order to prevent giant garter snake from entering an area where elderberry shrubs were going to be removed. Six of the proposed test sites are located outside of the exclusion fencing and within 200 feet of aquatic giant garter snake habitat.

Page 36: Change Table 1. from:

Table 1. Elderberry Stem Sizes and Compensation

Location	Stems (maximum diameter at ground level)	Exit Hole on Shrub (Yes or No)	Elderberry Seedling Ratio	Associated Native Plant Ratio	Number of Stems Observed	Required Elderberry Plantings	Required Associated Native Plant Plantings
Riparian	stems ≥1" & ≤3"	No	2:1	1:1	8	16	16
		Yes	4:1	2:1	14	56	112
Riparian	stems > 3" & <5"	No	3:1	1:1	3	9	9
		Yes	6:1	2:1	3	18	36
Riparian	stems > 5"	No	4:1	1:1	4	16	16
		Yes	8:1	2:1	4	32	64
Non-riparian	stems ≥1" & ≤3"	No	1:1	1:1	204	204	204
		Yes	2:1	2:1	37	74	148
Non-riparian	stems > 3" & <5"	No	2:1	1:1	43	86	86
		Yes	4:1	2:1	9	36	72
Non-riparian	stems > 5"	No	3:1	1:1	31	93	93
		Yes	6:1	2:1	15	90	180
Elderberry replacements for Cummings Preserve						14	14
Total replacement plantings						744	970
Total Elderberry shrubs to be transplanted						77	
1,714 /10 = 171.4 valley elderberry longhorn beetle credits or 7.08 acres							

To:

Table 1. Elderberry Stem Sizes and Compensation

Location	Stems (maximum diameter at ground level)	Exit Hole on Shrub (Yes or No)	Elderberry Seedling Ratio	Associated Native Plant Ratio	Number of Stems Observed	Required Elderberry Plantings	Required Associated Native Plant Plantings
Riparian	stems ≥1" & ≤3"	No	2:1	1:1	8	16	16
		Yes	4:1	2:1	18	72	144
Riparian	stems > 3" & <5"	No	3:1	1:1	3	9	9
		Yes	6:1	2:1	3	18	36
Riparian	stems > 5"	No	4:1	1:1	4	16	16
		Yes	8:1	2:1	7	56	112
Non-riparian	stems ≥1" & ≤3"	No	1:1	1:1	210	210	210
		Yes	2:1	2:1	37	74	148
Non-riparian	stems > 3" & <5"	No	2:1	1:1	43	86	86
		Yes	4:1	2:1	9	36	72
Non-riparian	stems > 5"	No	3:1	1:1	31	93	93
		Yes	6:1	2:1	15	90	180
Non-transplant riparian	stems ≥1" & ≤3"	No	8:1	1:1	11	88	88
		Yes	16:1	2:1	11	176	264
Non-transplant riparian	stems > 3" & <5"	No	12:1	1:1	4	48	48
		Yes	24:1	2:1	2	48	96
Non-transplant riparian	stems > 5"	No	16:1	1:1	1	16	16
		Yes	32:1	2:1	0	0	0
Elderberry replacements for Cummings Preserve						14	14
Total replacement plantings						1,166	1,648
Total Elderberry shrubs to be transplanted						78	
2,814 /10 = 281.4 valley elderberry longhorn beetle credits or 11.63 acres							

On page 40, change 2nd paragraph of Giant Garter Snake Effects section from:

Components of Phase 3 work which would occur outside of the giant garter snake's active season include relocation of power poles; relocation of private irrigation pipelines, canals, and wells; the removal, transplantation, and/or planting of trees and elderberry shrubs that are located in the Phase 3 and 4 footprint; and construction of the lower GGS/Drainage Canal and the Elkhorn Canal. Giant garter snakes have been observed to overwinter as far as 250 meters from aquatic habitat. Given that giant garter snakes are generally inactive during the winter months, SAFCA's

working during the inactive season would kill giant garter snakes that may be overwintering within the construction footprint. To reduce disturbing and/or killing giant garter snakes that may be overwintering in uplands that would be affected this winter and construction would not begin prior to October 1, SAFCA has proposed to place exclusionary fencing erected prior to October 1 in areas that may have overwintering giant garter snakes. The fencing would exclude giant garter snakes from entering the area where SAFCA would be constructing during the winter. This fence would be monitored daily prior to and during construction to insure that there are no breaches that a snake could get through. Areas that are unlikely to have overwintering giant garter snakes include areas which have active construction or agricultural activities occurring on them. The construction of the lower GGS/Drainage would begin after October 1, however the construction footprint is within active agriculture (alfalfa and row crop) which has been disturbed by typical agricultural practices and it is unlikely that giant garter snakes would use it for overwintering habitat. Effects likely due to this work being constructed during the inactive season includes crushing of snakes within their burrows and crushing snakes which are out of the burrow to bask or move short distances but are slower moving due to the temperature.

To:

Components of Phase 3 work which would occur outside of the giant garter snake's active season include relocation of power poles; relocation of private irrigation pipelines, canals, and wells; the removal, transplantation, and/or planting of trees and elderberry shrubs that are located in the Phase 3 and 4 footprint; construction of the lower GGS/Drainage Canal and the Elkhorn Canal; archeological surveys; and placement of a plug in Pump Plant 2. Giant garter snakes have been observed to overwinter as far as 250 meters from aquatic habitat. Given that giant garter snakes are generally inactive during the winter months, SAFCA's working during the inactive season would kill giant garter snakes that may be overwintering within the construction footprint. To reduce disturbing and/or killing giant garter snakes that may be overwintering in uplands, SAFCA has proposed to place exclusionary fencing erected prior to October 1 in areas that may have overwintering giant garter snakes. The fencing would exclude giant garter snakes from entering the area where SAFCA would be constructing during the winter. This fence would be monitored daily prior to and during construction to insure that there are no breaches that a snake could get through. Areas that are unlikely to have overwintering giant garter snakes include areas which have active construction or agricultural activities occurring on them. The construction of the lower GGS/Drainage would begin after October 1, however the construction footprint is within active agriculture (alfalfa and row crop) which has been disturbed by typical agricultural practices and it is unlikely that giant garter snakes would use it for overwintering habitat. Six sites proposed for archeological surveys could have overwintering snakes within the area. The SAFCA has proposed to conduct the surveys with hand tools and have a biological monitor on site during the surveys. Test pits would be 20 inches in diameter and up to 8 feet deep. Conservation measures, such as having a biological monitor, should reduce effects to overwintering snakes. Effects likely due to this work being constructed during the inactive season includes crushing of snakes within their burrows and crushing snakes which are out of the burrow to bask or move short distances but are slower moving due to the cooler temperature.

On page 46, change Valley Elderberry Longhorn Beetle Incidental Take Statement from:

The Service expects that incidental take of the valley elderberry longhorn beetle will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of an injured or dead specimen unlikely. The species occurs in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of beetles that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of elderberry stems one inch or greater in diameter at ground level (beetle habitat) that will become unsuitable for beetles due to direct or indirect effects as a result of Phase 3 construction. Therefore, the Service estimates that all beetles inhibiting 63 elderberry plants containing stems 1 inch or greater at ground level (165 stems between 1-3 inches, 50 stems between 3 and 5 inches and 50 stems $\geq$5 inches; see Table 1 in the text) will become unsuitable as a result of the proposed action.

To:

The Service expects that incidental take of the valley elderberry longhorn beetle will be difficult to detect or quantify. The cryptic nature of these species and their relatively small body size make the finding of an injured or dead specimen unlikely.. The species occurs in habitats that make them difficult to detect. Due to the difficulty in quantifying the number of beetles that will be taken as a result of the proposed action, the Service is quantifying take incidental to the project as the number of elderberry stems one inch or greater in diameter at ground level (beetle habitat) that will become unsuitable for beetles due to direct or indirect effects as a result of Phase 3 construction. Therefore, the Service estimates that all beetles inhibiting 82 elderberry plants containing stems 1 inch or greater at ground level (295 stems between 1-3 inches, 64 stems between 3 and 5 inches and 58 stems $\geq$5 inches; see Table 1 in the text) will become unsuitable as a result of the proposed action.

This concludes formal consultation with the Corps on the Natomas Levee Improvement Project Phases 2 and 3. As provided in 50 CFR 402.16, re-initiation 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 proposed action 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 listed species or critical habitat that was not considered in this opinion; or (4) a new species or critical habitat is designated that may be affected by the proposed action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending re-initiation.

If you have any questions regarding this biological opinion on the Natomas Landside Improvements Project, please contact Jennifer Hobbs at (916) 414-6541 or Jana Affonso, Chief, Sacramento Valley Branch at (916) 414-6645.

Sincerely,

Susan K. Moore
Field Supervisor

cc:
Elizabeth Holland, Corps, Sacramento, CA
Patrick Moeszinger, CDFG, Sacramento, CA
Peter Buck, SAFCA, Sacramento, CA
Kelly Holland, EDAW, Sacramento, CA