United States Department of the Interior

FINDING OF NO SIGNIFICANT IMPACT

GOODWIN CANYON GRAVEL ADDITION PROJECT
STANISLAUS RIVER
PHASES 1 and 2

Recommended:

Regional Engineer — Date: 7/11/97

Concur:

Regional Environmental Officer — Date: 7/14/97

Approved:

ACTING FOR

Regional Director — Date: 7/28/97

FONSI NO. 97-10-MP July 28, 1997

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In accordance with the National Environmental Policy Act of 1969, as amended, and based on the following, the Bureau of Reclamation (Reclamation) has determined that addition of spawning gravel to the Stanislaus river in Goodwin Canyon would not result in a significant impact on the human environment. An environmental impact statement, therefore, is not required for this project.

The purpose of the proposed action is to increase and improve chinook salmon, steelhead, and native rainbow trout spawning habitat by restoring spawning gravels to an otherwise suitable spawning area in the Lower Stanislaus River. The need derives from the severe declines of salmonid stocks attributable, in part, to loss of spawning habitat through curtailment of gravel recruitment due to blockage of the river channel by various dams. Replacement of gravel is a high priority action for the Stanislaus River under the U.S. Fish and Wildlife Service's (Service) May 30, 1997, *Revised Draft Restoration Plan for the Anadromous Fish Restoration Program.*

The project will consist of the emplacement of 2,000 tons of spawning gravel in the Stanislaus River below Goodwin Dam in an 0.8 mile reach from river mile 58.0 to river mile 58.8. Existing access roads will be use over a period of several days. Approximately 168 truck loads of gravel will be delivered.

An Environmental Assessment (EA) was prepared for this project in July 1997. This Finding of No Significant Impact is based on that EA and the following:

1. Equipment parking and staging, gravel disposal and equipment access sites will be identified in consultation with the Service and California Department of Fish and Game (DFG) personnel prior to project construction to prevent impacts to sensitive species or habitats.

2. Construction activities will be monitored by DFG personnel to ensure environmental compliance.

3. Construction specifications will prohibit any equipment in the river which might affect water quality.

4. The project will not permanently affect existing riparian vegetation. Any removal will be done with DFG and U.S. Corps of Engineers' guidance. Sensitive areas and individual plant will be flagged and avoided.

5. Should any plant species of concern be observed before or during construction, they will be flagged and avoided, and consultation with the Service and the DFG will be initiated.

6. Impacts to socio-economic aspects of the environment, including both cultural resources and Indian Trust Assets, would be absent.

7. There would be no disproportionate adverse impacts on any economic or ethnic groups.

8. There would be no effects on federally-listed threatened or endangered species.

ENVIRONMENTAL ASSESSMENT

GOODWIN CANYON GRAVEL ADDITION PROJECT
STANISLAUS RIVER
PHASES 1 AND 2

Prepared by

U.S. Department of the Interior
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Mid-Pacific Region
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ENVIRONMENTAL ASSESSMENT
GOODWIN CANYON GRAVEL ADDITION PROJECT, STANISLAUS RIVER, PHASES 1 AND 2

INTRODUCTION

Water storage projects on the Stanislaus River have reduced much of the historic salmonid spawning and rearing habitat through alteration of hydrologic patterns, decreased gravel recruitment, and increased vegetative encroachment. Added to the overall deterioration of the habitat and low water flows associated with water diversions and altered land uses, the cumulative effect has been to increase mortality for salmonids.

The lower Stanislaus River still supports populations of fall-run chinook salmon, steelhead and wild rainbow trout, but the numbers are well below the recorded historic highs. The fall run of Chinook salmon contained 35,000 fish in 1953, declined to 13,000 fish in 1985, and reached a low of 254 fish in 1992. Numbers rose to 1,079 in 1994 and may be recovering slightly or stabilizing, but are still quite low. The average escapement (i.e. population returning to spawn) has been 529 fish in the first half of the 1990's, and the escapement for 1995 was estimated to be 611 fish.

A small, but viable, steelhead trout population remains in the Stanislaus River below Goodwin Dam, which was constructed in 1913, but only very limited chinook salmon spawning activity occurs in Goodwin Canyon from Goodwin Dam downstream to Two Mile Bar (Mesick et. al. 1996, Baumgartner, 1996). Water quality data, geomorphological characteristics, and observations of salmonid activity indicate that this reach would provide valuable salmon spawning habitat except for the known lack of suitable spawning gravel (Figure 1).

Gravel restoration on the Stanislaus is designated as a high priority action under the Service's May 30, 1997, *Revised Draft Restoration Plan for the Anadromous Fish Restoration Program.* Gravel restoration has also been designated as such in the DFG's 1993 report *Restoring Central Valley Streams: A Plan for Action.*

PURPOSE AND NEED FOR ACTION

The purpose of Reclamation's proposed action is to increase and improve chinook salmon, steelhead and native rainbow trout spawning habitat by restoring, at minimal cost, spawning gravels to an otherwise suitable spawning area in the Lower Stanislaus River. The need for the gravel addition derives from the severe declines of salmonid stocks attributable, in part, to loss of spawning habitat through curtailment of gravel recruitment by dams throughout the Central Valley. The need for Reclamation involvement as the project manager derives from cost considerations, with Reclamation's lead being the least costly administrative alternative.

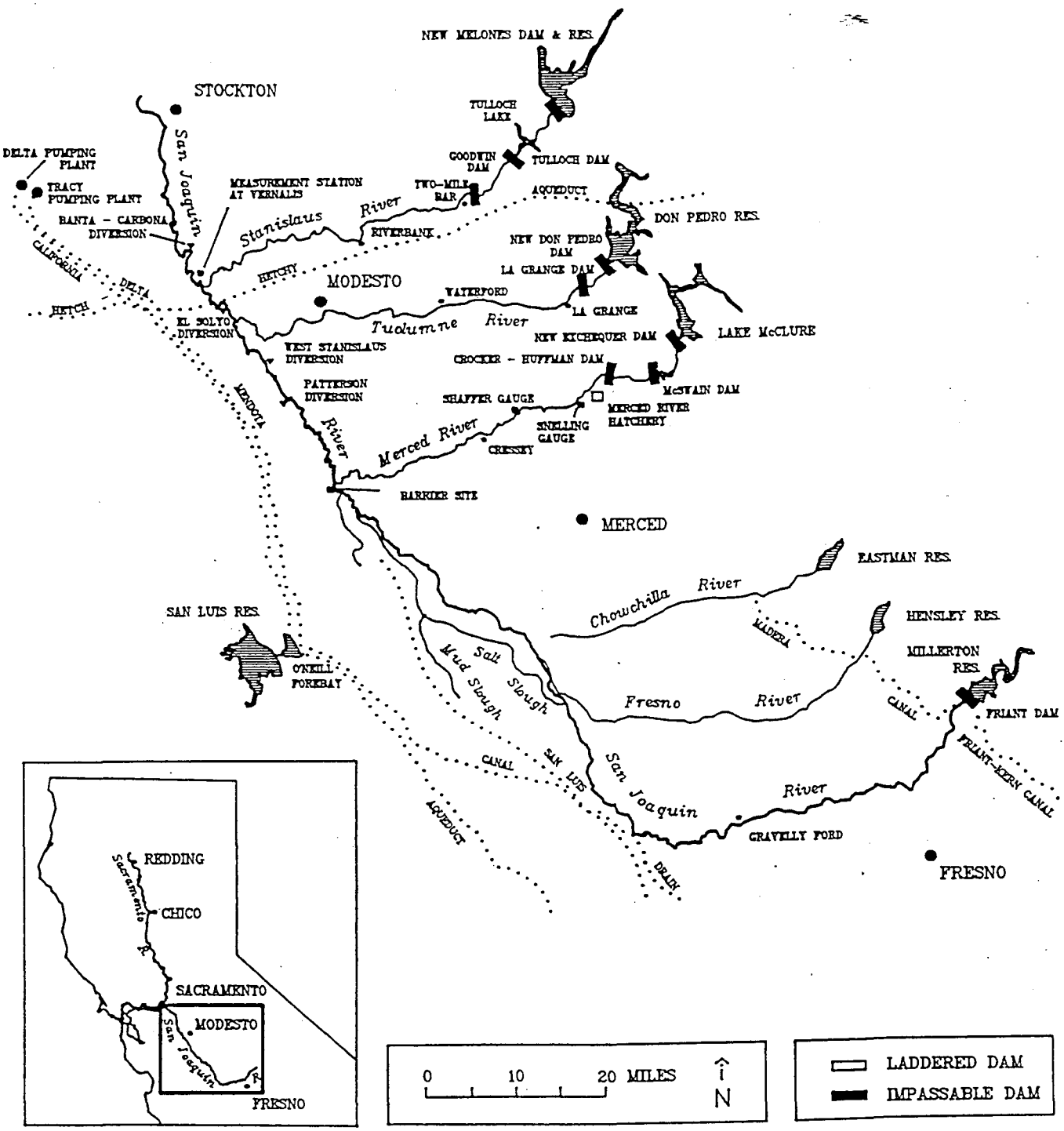

Figure 1. Map of The San Joaquin basin showing the locations of the Stanisslaus River and and Goodwin and Two-Mile Bar Dams. (Source: DFG, 1993, *Restoring Central Valley Streams: A Plan for Action*).

PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The project would add a total of 2,000 tons of gravel (size 1/8 to 5 inch) to several locations in an 0.8 mile reach of the Stanislaus River below Goodwin Dam, from river mile 58.0 to river mile 58.8. Access to this reach, which is in Goodwin Canyon, would be by way of Tulloch Road at the Oakdale Irrigation District (OID) turn out, which also serves as the Army Corps of Engineers' (COE) Goodwin Canyon public access. Access to the immediate site would be by way of an existing OID maintenance road. The gravel would be placed in early- to mid-August 1997, and require approximately 3 weeks. Revegetation of the project site, if necessary, would be conducted by the DFG and would take place in the December or January following construction. DFG would also be responsible for monitoring the success of any revegetation efforts.

The work would be performed by a contractor selected under a competitive bidding process, and Reclamation would serve as the project manager with technical guidance from the DFG and the Service. Gravel would also be obtained through a competitive bidding process, and presumably would come from existing, near-by mines. The project would be funded by State and Federal funds. Projects similar to the one described here were constructed and evaluated on the upper Sacramento River below Keswick Dam (Service Report No. AFF1-FRO-94).

The project would be completed in two distinct phases, which may be completed concurrently.

Phase 1:

In Phase 1, 300 to 350 tons (1,000 tons total) of gravel would be placed at three sites along a reach 1/2 mile below Goodwin Dam (Figure 2). Site 1 is directly downhill from the OID canal bridge. Site 2 is located 1/4 mile downstream at the OID cable crossing as identified on the Knights Ferry Quadrangle map. Site 3 is located approximately 1/4 downstream of Site 2. Also, 10-yard dump trucks would deliver clean, sized spawning gravel to the project site, and off-load in staging areas approximately 100 feet from the river. Some slight improvements to an existing OID maintenance road would be made in order to support this traffic. Minor disturbance to existing vegetation in the immediate area is expected. Once off-loaded, a skip loader or conveyer belt would be used to pile the gravel on the riverbank and place in the river itself. Each site's physical parameters would dictate exactly what machinery would be used, and where the gravel would be placed. Gravel placement at Site 1 would be done with a skip loader and dozer. Sites 2 and 3 are less accessible, and a conveyer belt and skip loader would be used. In all cases, gravel placement would be done in a manner least disturbing to riparian vegetation and the overall biological health of the area.

Phase 2:

In Phase 2, an additional 450 to 500 tons (1,000 tons total) of gravel would be placed at two locations 1/4 mile upstream of the Phase 1 (Figure 3). Different contractors may be used to constructed Phase 1 and Phase 2, but both projects would be constructed concurrently, if possible. The Phase 2 site is heavily wooded without any useable access road. Unless an access road is constructed, the terrain precludes conventional heavy equipment (skip loader, dozer, or other equipment) from placing gravel into the river. Gravel placement must be done by a specialized hydraulic pumping system or helicopter which makes Phase II more complex and costly than Phase I.

If hydraulic pumps were to be used to place gravel during Phase 2, the following procedures would be used. The spawning gravel would be graded, mixed, cleaned and placed in hydraulic pumping trucks at the contractor's plant or a staging area near the river. These loaded trucks would proceed to the site and unload by pumping the gravel through hoses into the river. These hoses would remain at the site--unloading trucks-- until all the gravel has been placed. The hoses can be easily moved to facilitate exact placement of gravel in-river. Some vegetation would be trimmed to facilitate the pumping system, but no vegetation would be removed or destroyed. This method of gravel placement has been used successfully on the Carmel River for steelhead trout spawning habitat enhancement by the Monterey Peninsula Water Management District in 1994 and 1996. If this system were to be used during Phase 2, all 1,000 tons of spawning gravel could be placed in the river in 3 weeks.

If a helicopter were to be used to place the gravel during Phase 2, the following procedure would be used. The spawning gravel would be trucked and unloaded at a staging area near the project site. A skip loader would fill a haul bucket suspended from a hovering helicopter. The helicopter would then take and place the gravel into the selected sites of the river. The helicopter would return to the staging area and the process would be repeated. The helicopter would only land to refuel. The refueling site would be an open field approximately 1 mile from the staging site. If a helicopter were to be used during Phase 2, all 1,000 tons of gravel could be placed in the river in 3 days.

Once Phase 1 and Phase 2 gravel has been placed in or near the river, controlled water releases from Goodwin Dam would be increased to distribute the newly placed gravel throughout the reach. Even though this section of river is mainly bedrock, there exist many areas capable of holding the gravel deposits and creating salmonid spawning habitat. Gravel deposits at the steepest grade would move quickly downstream and enhance spawning habitat in lower areas. Over time, all the artificially placed gravel of this project would be moved downstream by the flows of the Stanislaus River, mimicking natural processes. As it moves, it should continue to enhance salmonid spawning habitat.

Spawning gravel used in this project would be purchased from nearby vendors. The following washed, river-run, gravel mix would be used. A +/- 5 percent error in the mix will be acceptable.

Gravel Size	% by Weight	% Passing
1/8 to 1/2 inch	5%	1/8" - 0%
1/2 to 2 inch	30%	1/2" - 0 to 5%
2 to 4 inch	55%	2" - 30 to 35%
4 to 5 inch	10%	4" - 85 to 90%
		5" - 100%

Monitoring:

Tracer gravel (gravel visibly different than natural gravel) would be added to the gravel mixture at both the most upstream and most downstream sites of the project in order to better identify gravel movement within the reach.

Once all equipment had left, the area would be "cleaned" to the satisfaction of COE park rangers. Some minor revegetation in the area would be completed in January 1998 and consist of planting native willow, cottonwood, valley oak, and other riparian species. Gravel movement and channel morphology would be monitored under the direction of a fisheries biologist at several cross sections in the project area. Measurements would be taken (1) prior to gravel placement to establish baseline data, (2) approximately 1 year after gravel , and (3) approximately 2 years after gravel placement. Monitoring would consist of cross sectional and longitudinal surveys, pebble counts, bulk sampling and/or visual observations. Historically, DFG Region 4 personnel have documented chinook salmon spawning activity in this reach as part of their annual escapement survey. This biological monitoring would continue. The information gathered would provide additional data in determining the project's success or failure.

Several monitoring programs have been proposed by private consultants in conjunction with this gravel replenishment project. It is likely that more intense monitoring of this river reach would be conducted by these consultants.

No Action

Gravel would not be placed in the stream reach below Goodwin Dam, leaving the stream in poor condition as spawning habitat for salmonids. Further declines in habitat quality would be likely, leading to eventual loss of all spawning activity in this reach. This alternative would result in no impacts except to allow the present pattern of habitat degradation to continue, at best inhibiting recovery of anadromous fish populations in the Stanislaus River. It is, therefore, not discussed further in this EA.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Geology and Hydrology

The project would have no impact on surface water flows or groundwater availability or use. The only effects on landforms would be the restoration of dynamic features such as gravel bars and shoals to the streambed.

Water Quality

Turbidity downstream from the project site would be minimal because the gravels to be added would be washed and sorted gravels of fairly large dimensions. Only slight temporary increases in turbidity are, therefore, expected as equipment moves gravel into the river. River flows at the time of construction would be low enough (200 to 500 cfs.) to allow disturbed sediment to quickly settle out of the water column as well as allow the equipment to operate in-river.

Upland and Riparian Vegetation

The upland vegetation adjacent to the project area is classified as a Blue Oak-Digger Pine community using the California Wildlife-Habitat Relationship (WHR) classification system. Steep hillsides support a mix of hardwoods, conifers and shrubs. Blue oaks and digger pines dominate the overstory of the project site. Interior live oak and California buckeye are also present in good numbers. The shrub component is typically clumped with interspaced patches of annual grasses. Most common shrub species include California coffeeberry, California redbud, poison oak, gooseberry, bush lupine, and several ceonothus and manzanita species.

The riparian vegetation of the project area itself is composed largely of cottonwoods, buttonbush, and several willow species. Sandbar willows have become extremely dense in some locations because of a lack of flushing flows.

There would be minimal disturbance to the staging area and river bank, and minor trimming of riparian vegetation could be expected. However, all appropriate permits and access agreements would be obtained prior to construction, and COE park officials would be consulted on all activities within park boundaries or involving riparian vegetation. The site would be revegetated by DFG if necessary.

Fisheries and Wildlife

As noted , this is a salmonid spawning stream and the surrounding uplands contain typical foothills oak woodland habitat. Construction activities would not affect wildlife in the project area because construction noise levels would not exceed existing noise levels, and activities would occur outside the breeding season of most if not all species. Complete biological inventories of the project area can be found in the *Biological Inventory of the USCOE Stanislaus River Park System.*

Measures have been incorporated in the proposed project to avoid significant adverse effects on sensitive plants and wildlife habitats and to ensure no net loss to existing vegetation or wildlife habitat. Surveys would be conducted for species such as Swainson's hawk, the western pond turtle, and the valley elderberry longhorn beetle to locate individuals or habitat occurrences, which would then be marked to ensure avoidance during operations. Overall, this project would result in a net benefit to the environment by increasing salmonid spawning habitat in the lower Stanislaus River.

Sensitive Species

A search of the California Natural Diversity Data Base (NDDB) was performed for the Copperopolis, New Melones Dam, Knights Ferry and Keystone Quads. The following discusses the findings of this search.

Steelhead trout (*Oncorhynchus mykiss*), Federal Candidate--Steelhead have one of the more complex life histories of the salmonid species. They typically migrate to marine waters after spending 2 years in freshwater, and then typically return 2 to 3 years later to spawn as 4 or 5 year olds. They are capable of spawning more than once, but rarely spawn more than twice. Typically spawning in the Central Valley typically occurs from late December into April, and the eggs then incubate for 1.5-4 months. Juveniles then rear in fresh water for 1 to 4 years and migrate to the ocean as smolts. There is essentially one continuous run of steelhead in the Central Valley with peaks in September and February. The proposed action would not affect steelhead apart from restoration of spawning gravel, an essential habitat element, because the action would be confined to the late summer and early fall which would be well before the spawning season and well after the incubation period.

Pale Big Eared Bat (*Plecotus townsendii pallescens*), DFG Species of Special Concern and California Mastiff Bat (*Eumops perotis californicus*), DFG Species of Special Concern --These bats occur in the Goodwin Dam area but are nocturnal and roost during the day in areas relatively free from human disturbance. Their most likely roost in the area is the dam structure, while construction activity for the project would be centered in or near foraging, not roosting habitat. Because the project activities would be confined to periods of inactivity by the bats, the foraging habitat would not be affected. The project activities are not expected to create noises greater than those associated with routine maintenance at the dam or outdoor recreation; therefore, project activities would not affect these species.

Tricolored Blackbird *(Agelaius tricolor*), Federal Candidate--The tricolored blackbird is a colonial nesting species that frequents fresh emergent wetlands, preferably with tall, dense cattails or tules, but also uses willow, blackberry, wild rose or other tall herbaceous plants. Because no emergent wetlands exist at the project site, and because construction activity for the project would not cause permanent damage to existing vegetation, project activities would not affect this species.

Yellow Breasted Chat *(Icteria virens*), DFG Species of Special Concern--This chat is an uncommon summer resident and migrant in coastal California and the foothills of the Sierra Nevada, although it may be found in the riparian habitat of the lower mountains during

migration. Seasonally, the chat arrives in April, and departs by late September for wintering grounds in Mexico. The bird frequents thick understory in riparian woodlands. Breeding occurs from early May into August with peak activity in June. This species requires thickets of willow and other brushy tangles near watercourses for cover, and loss and degradation of riparian habitat has been identified as a significant contributor to its population decline. Although the proposed project site is in the normal summer range for the yellow breasted chat, the project would be constructed after normal mating months, and would be preceded by a site survey by DFG personnel to identify any nesting birds in the area. Should a nest be found, construction activity would either be altered or rescheduled, pending appropriate consultation with DFG environmental staff. The project would have no permanent damage to existing vegetation and would not affect future nesting activities. Therefore, project activities would not affect this species.

Swainson's Hawk (*Buteo swainsoni*), DFG Threatened--Swainson's hawks breed in California and winter in South America as far south as Argentina. The diet of the Swainson's hawk is varied with the California vole (*Microtus californicus*) being the staple in the Central Valley of California, although a variety of birds and insects are also eaten. Swainson's hawks often nest near the riparian systems of the valley as well as utilizing lone trees or groves of trees in agricultural fields. Valley oak (*Quercus lobata*), Fremont cottonwood (*Populus fremontii*), and walnut (*Juglans hindsii*) are also used. Swainson's hawks require large, open grasslands with abundant prey in association with suitable nesting trees. Suitable foraging habitat includes native grasslands or lightly grazed pastures, alfalfa, hay crops, and certain grain and row crops. The species decline is generally attributed to land use changes and loss of riparian and associated habitat complexes, and the direct and indirect effects of pesticides. Swainson's hawks are known to be in the general vicinity of the project activity, and may nest and forage on or near the project site. Before construction of the proposed project, DFG staff would conduct a site survey to identify any nesting birds in the area. Should a Swainson's hawk nest be found, construction activity would either be altered or rescheduled, pending appropriate consultation with DFG environmental staff.

California Tiger Salamander (*Ambystoma californiense*), Federal Candidate--In California, the tiger salamander is most commonly found in annual grass habitat, but also occurs in grassy understory of valley-foothill hardwood habitats, and uncommonly along streamcourses. Most populations occur at elevations of less than 1000 feet but have been recorded up to 4,500 feet. Their diet includes earthworms, snails, insects, fish and even small mammals. Adults spend most of the year in subterranean refugia, especially ground squirrel borrows. Tiger salamanders breed and lay eggs primarily in vernal pools or other temporary ponds. Streams are rarely used for reproduction. Prime habitat in California is annual grass, but seasonal ponds or vernal pools are crucial to breeding. The project would not affect this species because (1) there are no vernal pools at the project site, (2) the seasonal wetlands present would not be affected by construction, and (3) only minor improvements to existing roads are planned and would not affect any subterranean habitat,.

Western Spadefoot (*Scaphiopus hammondii*), Federal Species of Concern--The western spadefoot ranges throughout the Central valley and adjacent foothills and is usually quite common where it occurs. Elevations of occurrence extend from sea level to 4,500 feet. This species

occurs primarily in grassland situations, but occasional populations also occur in valley-foothill hardwood woodlands. Adults eat insects, worms, and other invertebrate and the tadpoles consume planktonic organisms, algae, and the dead aquatic larvae of amphibians. The western spadefoot is rarely found on the surface. Most of the year is spent in underground burrows up to 36 inches deep which they construct, although some individuals use rodent burrows. Breeding and egg laying occur in winter through March, almost exclusively in shallow, temporary pools formed by heavy winter rains. Grasslands with shallow temporary pools are optimal habitats for the western spadefoot. Because there are no vernal pools at the project site and the seasonal wet areas that are present will not be affected by construction, and because only minor improvements to existing roads are planned that would not affect any subterranean habitat, the project would not affect this species life cycle.

Western Pond Turtle *(Clemmys marmorata)*, DFG Species of Special Concern--The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest, and is the only abundant native turtle in California. The species is associated with permanent or nearly permanent water in a wide variety of habitat types including ponds, lakes, streams, and irrigation ditches. Pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks, and slip form basking sites to underwater retreats at the approach of potential predators. Nesting takes place during spring or early summer, hatchlings may be subject to rapid death by desiccation if exposed to hot, dry conditions. The literature suggests that two distinct habitats may be used for reproduction. Along large, slow-moving streams, eggs are deposited in nests constructed in sandy banks, but along foothill streams, the females may climb hillsides, sometimes moving considerable distances to find a suitable nest site. Nests must have a relatively high internal humidity for eggs to develop and hatch properly. Marginal habitat for the western pond turtle may exist near the proposed project site; however, the proposed project would not affect any pond turtle habitat because construction activity would be limited to minor improvements to existing roads. Moreover, before construction, DFG staff would conduct a site survey to identify the presence of individuals and potentially affected habitat. Construction activity would be altered to ensure no damage to individuals or habitat.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus*), Federal Threatened--The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) was declared a threatened subspecies by the Service in 1980. It can be distinguished from the non-threatened subspecies (*D. c. californicus*) by the males only. They have light colored hair at the base of the antennae and the dark coloration of the elytra (forewing) is reduced to either two or four oblong spots. Intergrades exist between the two subspecies. Females cannot be identified to subspecies. Elderberries (*Sambucus* spp.) are the obligate host plant for valley elderberry longhorn beetle larvae. Adult valley elderberry longhorn beetles lay their eggs on elderberry stems, cracks in bark, or at the base of leaf petioles. The eggs hatch and the larvae bore into the pith where they feed for 1 or 2 years. Adults emerge from stems or trucks ranging from 1 to 8 inchs diameter, but more commonly form 1.5- to 3-inch-diameter stems. Several emergence holes usually occur on a tree from ground level to 10 feet in height. Adult beetles feed on elderberry flowers and have been collected on elderberry foliage. Collection dates for the *D. c. californicus* subspecies adults range from February to October, but are commonly between March and May. Although no

elderberry bushes have been currently identified at the proposed salmon restoration site, this plant is known to be in the area. Prior to construction of the proposed project, DFG personnel would conduct a site survey to identify and flag any elderberry bushes for avoidance during construction activity. Construction activity would then be altered to ensure no damage to individual plants. Therefore, project activities would not affect existing plants or their future offspring, and hence would not affect the beetle.

Vernal Pools and associated species--The project site does not support any vernal pools. Therefore, listed species associated with vernal pools would not be affect by this project.

Dam Operations

No impacts on dam operations are expected.

Noise and Air Quality

Approximately 168 truck trips would be required to move the 2,000 tons of gravel at 12 tons/load. However, the noise and air emissions fall well within the levels of existing activities, and are not expected to cause adverse affects in this rural setting.

Land Use and Recreation

The project will occur within a moderately used, summer recreational area. The major recreational use at the project site is kayaking and rafting, but fishing and hiking also occur. The most probable impacts would be on rafting since construction will be in late summer/early fall, but duration and geographic extent of conflicts would be small. Kayaking may still be taking place but it generally is confined to periods of higher flows. Again, the potential for conflicts is small and localized.

Gravel would be obtained by a competitive bid process and the location of the source is thus unknown, but economics would strongly favor existing, local sources.

Cultural Resources/Indian Trust Assets

Full archeological reviews were conducted at or near the project site during preparation of the COE Stanislaus River Parks Operational Management Plan. These reviews indicate no archeological or historical resources occur within the project area. Nor would the proposed action affect any Indian Trust Assets.

Environmental Justice

The area is unpopulated with equal access to all economic and ethnic groups. Therefore, minority and low-income populations and communities would not be disproportionately affected.

Growth-Inducing Impacts

The project would not affect human settlement or significantly increase use of the area, so no growth-inducing impacts are expected.

Cumulative- Impacts

This project would, in combination with other actions required by the Central Valley Project Improvement Act, lead to a partial restoration of the salmonid populations in the Central Valley. The cumulative impacts of these Congressionally mandated actions are being assessed in a Programmatic Environmental Impact Statement being prepared by Reclamation and the Service.

CONSULTATION AND COORDINATION

This proposed project was planned by the Service and DFG, who enlisted Reclamation's support to minimize administrative and overhead costs.

REFERENCES CITED

Baumgartner, S., 1996. Personnel Communication.

Mesick, C., et. al., 1996. Spawning Habitat Limitations for the Fall-Run Chinook Salmon in the Stanislaus River between Goodwin Dam and Riverbank. Report to Stockton East Water District.

USFWS Report #AFF1-FRO-94, 1994. Evaluation of the Sacramento River Spawning Gravel Restoration Project and Winter-Run Chinook Salmon Redd Study.

ENVIRONMENTAL COMMITMENTS

1. A site survey by DFG staff would be conducted for the Yellow Breasted Chat *(Icteria virens)* to identify any nesting birds in the area. Should a nest be found, construction activity would either be altered or rescheduled, pending appropriate consultation with DFG environmental staff.

2. A site survey by DFG staff would be conducted for the Swainson's Hawk (*Buteo swainsoni*) before construction of the proposed project to identify any nesting birds in the area. Should a Swainson's hawk nest be found, construction activity would either be altered or rescheduled, pending appropriate consultation with DFG environmental staff.

3. A site survey by DFG staff would be conducted for the Western Pond Turtle *(Clemmys marmorata)* before construction to identify the presence of individuals and potentially affected habitat. Construction activity would be altered to ensure no damage to individuals or habitat.

4. A site survey by DFG staff would be conducted for the Valley Elderberry Longhorn Beetle (*Desmocerus californicus*). Although no elderberry bushes have been currently identified at the proposed salmon restoration site, this plant is known to be in the area. Prior to construction of the proposed project, DFG personnel would conduct a site survey to identify and flag any elderberry bushes for avoidance during construction activity. Construction activity would then be altered to ensure no damage to individual plants.