Knights Landing Boat Launch
Environmental Assessment

Project Identification: Knights Landing Boat Launch

Lead Agency: U.S. Fish and Wildlife Service
Wildlife and Sportfish Restoration Program

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Environmental Assessment
Knights Landing Boat Launch Facility
Yolo County, California

INTRODUCTION

The U.S. Fish and Wildlife Service is proposing to grant funds to the California Department of Fish and Wildlife (CDFW) under the Sport Fish Restoration Boating Access program for the Knights Landing Boat Launch Project (proposed project). Authorization for CDFW to expend grant funds for the proposed construction activity described in their grant application is a federal action and subject to compliance with federal environmental regulations including the National Environmental Policy Act (NEPA). Yolo County has prepared this Environmental Assessment (EA) for the proposed project, pursuant to Title 24, Section 58.40 of the Code of Federal Regulations (CFR) and U.S. Fish and Wildlife Service Manual (505 FW 2) to facilitate the Service's decision-making.

The proposed construction also requires federal permitting by the USACE and is/was separately analyzed for compliance with NEPA by the agency for jurisdictional permitting. The USACE is also assuming the lead federal agency role for consultations and compliance with the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and Section 106 of the National Historic Preservation Act.

Project Background

In 1958, the Wildlife Conservation Board (WCB) acquired the Knights Landing River Access and Boat Launch Facility (Site) for the California Department of Fish and Wildlife (CDFW) as a wildlife area and managed the Site as a river access point. A permanent one-lane boat ramp was installed in 1970.

Yolo County began managing the Knights Landing Boat Launch/River Access Facility in 1978, after the Wildlife Conservation Board (WCB) granted a long-term lease agreement to the County. Although the WCB maintains ownership of the facility, the long-term lease agreement between the County and WCB allows the County to operate the facility until at least 2023. On March 21, 2006, the Yolo County Board of Supervisors adopted a resolution allowing the Yolo County Parks Division to apply for grant funds from the California State Department of Boating and Waterways' Local Assistance Grant Program. The grant application sought funds for the improvement of the existing facility. In April 2006, in complying with the California Environmental Quality Act (CEQA), the Parks Division of the Yolo County General Services Department prepared an Initial Study/Negative Declaration (IS/ND) for the County's proposal to renovate the existing Boat Launching facility. A Notice of Determination was issued by the Yolo County Parks Division for the IS/ND on March 24, 2009. In response to the County's application, the WCB awarded the County grant funding for the proposed project.

Applications for various permits from several agencies were submitted following the award of grant funds from the WCB in 2009. Permitting and approval agencies previously involved in the project included the California Department of Transportation (Caltrans), the Yolo County Building Department, the Knights Landing Community Services District, Yolo County Local Agency

Formation Commission, the Central Valley Flood Protection Board, the Central Valley Regional Water Quality Control Board, the California Department of Fish and Wildlife, the California State Lands Commission, the U.S. Army Corps of Engineers (USACE), and the WCB. Although permit applications were previously submitted, and design plans were completed, the former improvement project was not implemented.

On February 23, 2017, the WCB awarded the County of Yolo a $1.4 million grant to implement the improvement plans that were previously developed for renovation of the Knights Landing Boat Launch Facility.

On August 16, 2017, CDFW submitted a grant application to the U.S. Fish and Wildlife Service seeking assistance from the Sport Fish Restoration Act's Boating Access program in order to assist WCB and Yolo County with the renovation of the existing boat launch facility. The Sport Fish Restoration Act (SFR) collects federal excise taxes on fishing equipment and motorboat fuels and apportions those revenues to the State Wildlife Agencies for the purposes of conserving fisheries resources, providing access for boating, and educating the public about aquatic resources, among others. CDFW and WCB propose to pass through SFR federal grant funds to reimburse 75 percent of the expenses associated with the renovation proposed at Knights Landing Boat Launch Facility.

On September 21, 2017 the County made public an Initial Study/Mitigated Negative Declaration (IS/MND), prepared pursuant to CEQA, which analyzed the potential impacts of the project on local environmental resources (SCH #2017092057). On April 24, 2018, the Yolo County Board of Supervisors adopted the IS/MND and mitigation monitoring and reporting program, and approved the proposed project.

While previous plans were subjected to permitting scrutiny, the current project is undergoing permitting with the following agencies:

- USACE Section 404 Clean Water Act (CWA) Permit;
- USACE Section 408 CWA Permit;
- Section 401 Water Quality Certification;
- Section 1602 Streambed Alteration Agreement;
- Central Valley Flood Protection Board Encroachment Permit;
- U.S. Fish and Wildlife Endangered Species Act Section 7 consultations;
- National Marine Fisheries Service Endangered Species Act Section 7 consultations;
- National Marine Fisheries Service Magnuson-Stevens Fishery Conservation and Management Act consultation;
- National Historic Preservation Act consultations with the California State Historic Preservation Office and Tribal Historic Preservation Offices
- State Lands Commission Land Use Agreement;
- Yolo County Flood Hazard Permit;
- Yolo County Building Permit;
- Yolo County Grading Permit;
- Pacific Gas & Electric (PG&E) Service Agreement;
- Sewer Service Agreement; and

- Water Well Permit from the Environmental Health Division of Yolo County.

All mitigation measures included in the IS/MND have been adopted as part of the proposed project and would be implemented upon construction of the proposed project.

On August 20, 2019, the U.S. Army Corps of Engineers (USACE) issued its Letter of Permission to the Central Valley Flood Protection Board authorizing the project to proceed pursuant to the Clean Water Act and the Rivers and Harbors Act. The USACE assumed the lead federal agency role for consultations under the Endangered Species Act, the Magnuson Stevens Fishery Conservation and Management Act, and Section 106 of the National Historic Preservation Act. Conservation Measures and Recommendations resulting from those consultations were incorporated into conditions in the Letter of Permission. Those conditions will be made conditions on the grant award.

Project Location and Setting

The project site is located on an approximately four-acre parcel, to the northwest of the community of Knights Landing in northeastern Yolo County, California (see Figure 1). The site address is 9350 State Route (SR) 45, Knights Landing, CA 95645, Assessor's Parcel Number 056-160-001.

The confluence of the Sycamore Slough and the Sacramento River is approximately 200 feet northeast of the project site (see Figure 2).

The County's General Plan designates the site as Open Space (OS), and the site is zoned as Public Open Space (POS). SR 45 and County Road 108 provide access to the project site.

Although mostly paved, the facility is immediately surrounded by a narrow band of valley foothill riparian habitat. Surrounding land uses include agricultural land to the north and west, and single-family residential uses associated with the community of Knights Landing to the south across Sycamore Slough. The Sacramento River is located to the north and east of the project site. Further upstream of the proposed project, approximately 767 feet southwest, is the Knights Landing Outfall Gates. Constructed in the early 1900's, this concrete structure spans the entire width of the slough, standing approximately 30 feet above the stream channel.

PROJECT DESCRIPTION

The proposed federal grant project entails the renovation of the existing boat launch facility, including the following improvements (Figure 3):

- Installing two fiberglass boarding floats anchored with concrete deadman (no pilings);
- Re-paving the existing parking lot, re-striping, and re-curbing the existing parking lot;
- Landscaping parking area with sustainable vegetation;
- Constructing a permanent 350 sf vaulted restroom;
- Completing utility services for a camp host (electrical, phone, potable water, water well);

- Replacing existing iron-ranger self-pay station with a small automated pay station on a pedestal;
- Constructing a new monument sign and an educational/informational kiosk;
- Installing security cameras;
- Constructing a water well to serve the project site;
- Stabilizing the slough banks with cellular confinement fabric, riprap, and planting vegetation to stabilize the slopes against boat wake erosion, and to increase wildlife habitat; and
- Expanding the existing launching ramp to accommodate two launching lanes

Figure 1
Regional Project Location

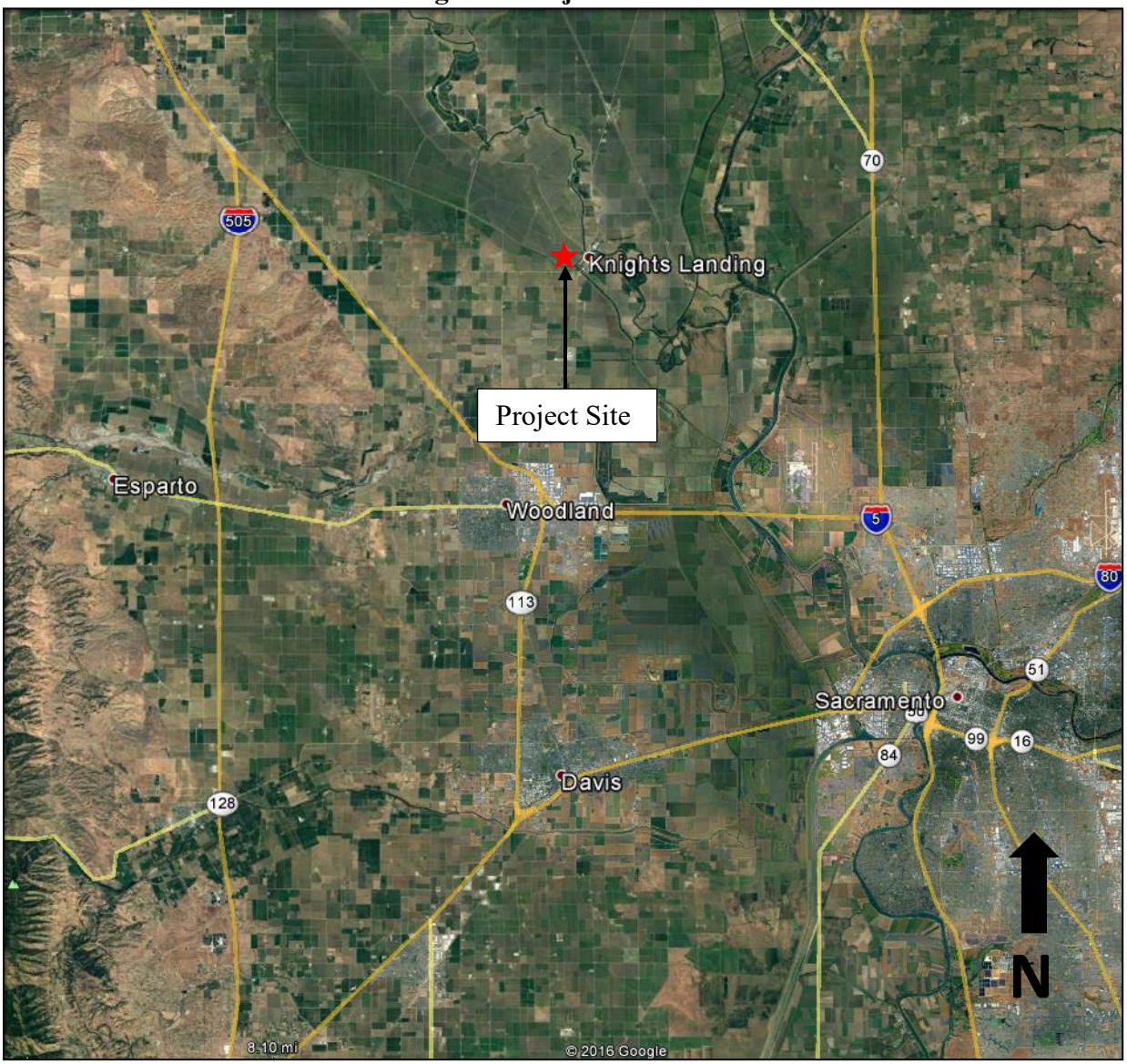
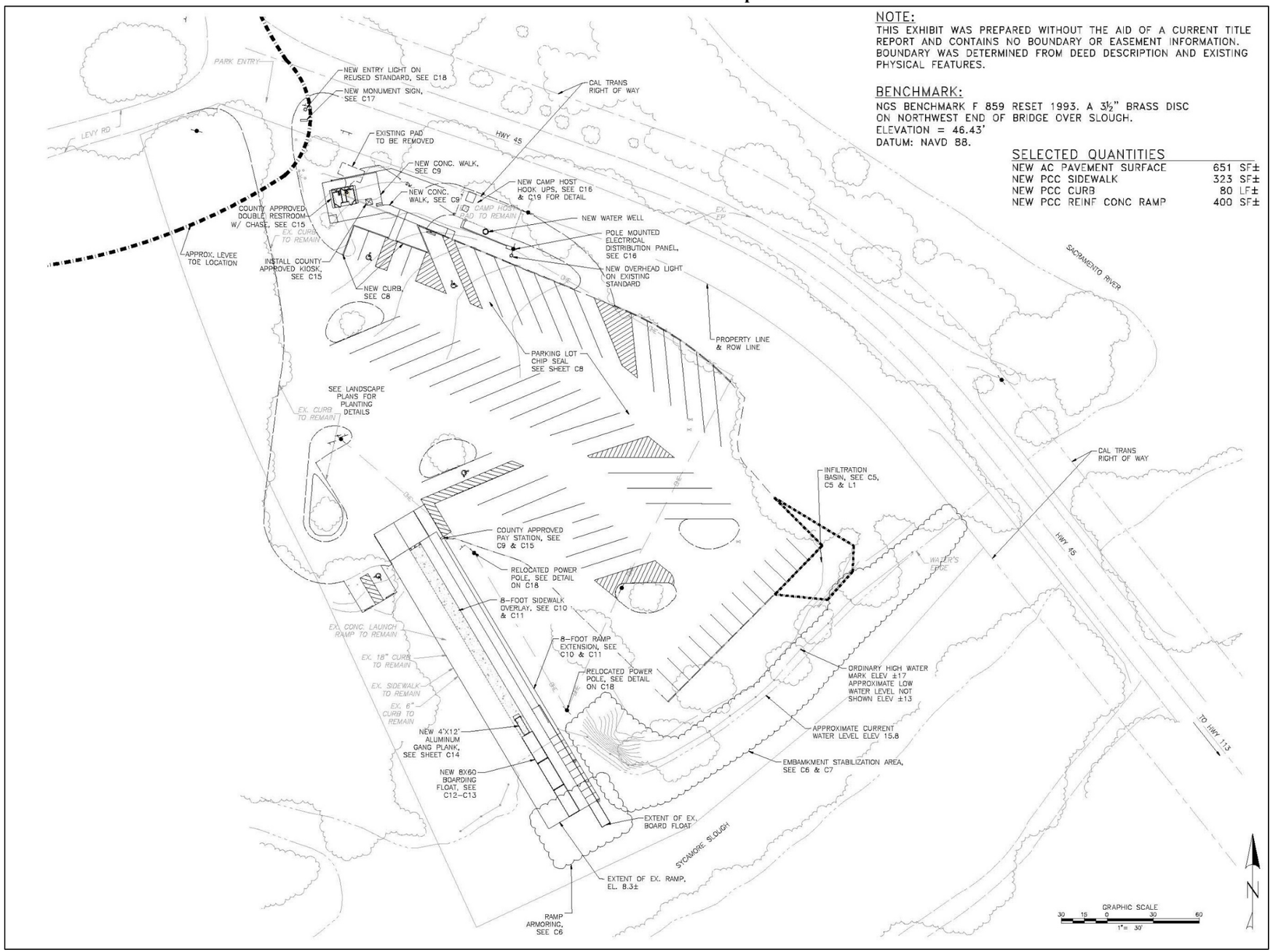


Figure 2
Project Area Map

Figure 3
Boat Ramp Site Plan



Following completion of construction activity (the grant), the Parks Division of the Yolo County General Services Department, will be responsible for the long-term management of the site and project. While the scope and duration of the SFR grant is focused on the renovation of the facility, the grant recipient is committed to maintain the facilities for their useful life well beyond completion, at least 25 years. The facility will be maintained based on the following factors:

- Maintain the site to a standard that attracts boaters to the boat launch facility;
- Meet current and long-range needs of the community and of boaters in the region;
- Maintain the boat launch facility infrastructure; and
- Capture accurate revenue generated by launch utilization in order to fund additional features.

To facilitate the long-term maintenance and management plan, Yolo County proposes the following management plan, broken into five categories:

- Regular Maintenance: Park host would reside on the property to perform daily observation of the site, and full-time park maintenance staff would visit the site on a regular basis to perform maintenance;
- Major Maintenance: Park host would reside on the property to perform daily observation and report potential issues to division staff. Full-time park maintenance staff would visit the site on regular basis and perform annual inspections to identify facilities that require repair and/or replacement.
- Staff: Park maintenance staff would visit the site on a regular basis to clean and inspect the facility. Park maintenance staff would wear a standard County-issued uniform, and be professional in appearance and manner in which they interact with the public. Park host would reside on site to assist the public.
- Operations and Administration: The site is open year-round, from dawn to dusk, except during periods of high water when the site is closed for public safety. The Parks Division has a staff of five and one park host that can respond to complaints. The project would improve traffic circulation at the site, which should increase usage and reduce calls for staff assistance.
- Security: Yolo County Sheriff's Department regularly patrols the site as part of their routine patrol. Future resident park hosts would provide additional oversight at the site. The project site would be lit at night. Security cameras will be installed as part of the project.

Although the proposed improvements would expand the existing facility, such as enlarging the boat launch ramp, the facility expansions are intended to provide safer and more efficient service to existing patrons. Proposed expansion activity is not anticipated to increase patronage of the facility. While the proposed project would involve alterations to an existing recreational facility in the County, the proposed project would not be anticipated to result in impacts to recreational facilities that would require further analysis.

Project design includes various measures to control potential sources of water pollution both during project construction, and throughout project operation. In particular, construction of the proposed project would include installation and maintenance of silt curtains and/or turbidity

barriers. Silt curtains and turbidity barriers would restrict any turbidity plumes caused by in-water project construction activity, thus protecting water quality during project construction.

CEQA Process Mitigation Measures

The following section summarizes the resource areas where the proposed project would have the potential to result in impacts. The areas with potentially significant impacts were analyzed during the CEQA process and included in the IS/MND. The mitigation measures presented below would reduce any impacts to less than significant levels.

Vegetation and Wildlife

The following measures would ensure that potential impacts to wetlands are reduced to less than significant levels.

Mitigation Measure 1 *A Section 404 Permit and a Water Quality Certification from the Regional Water Quality Control Board, under Section 401 of the Clean Water Act, must be obtained prior to issuance of any grading permits. The County shall acquire a Section 404 permit for fill of jurisdictional wetlands, and mitigation for impacts to jurisdictional waters that cannot be avoided shall be provided in conformance with the USACE "no-net-loss" policy. Potential portions for mitigating the loss of wetland habitat include restoration of on-site wetland habitat, restoration of off-site wetland habitat, or the purchase of mitigation credits. The mitigation for the proposed project shall conform with guidance from the USACE.*

Special Status Species

The following measures would ensure that potential impacts to the following special-status species are reduced to less than significant levels.

Giant Garter Snake and Northern Western Pond Turtles

Mitigation Measure 2(a) *A USFWS-approved biologist shall conduct a pre-construction survey of the project site (including the mixed riparian forest lying within the larger project site, but outside of proposed work areas) for giant garter snakes and northern western pond turtles within 15 days prior to the onset of construction. The information collected from this pre-construction survey shall serve primarily to alert the biologist and construction crews of the general level of giant garter snake and northern western pond turtles activity at the site. Following the pre-construction survey and prior to initiating any in-water work, an exclusion fence shall be installed along both sides of the boat launch access. The fence shall be constructed with non-*

climb material (e.g., silt fence) to provide an additional barrier to detour wildlife from entering the work area. Placement and installation shall be supervised by a qualified biologist. The exclusion area shall be flagged as a Sensitive Resource Area. Construction personnel shall be directed to avoid entering the exclusion area, except as needed to construct the project. Plans for the exclusion fencing shall be prepared by a qualified biologist, and such plans shall be submitted for approval to the Yolo County General Services Department prior to initiation of any in-water work.

Mitigation Measure 2(b) *If in-water construction occurs anytime between September 9th and October 1st, a USFWS-approved biological monitor shall be on-site. The biologist shall conduct a daily pre-construction survey of the project site (morning). Any wildlife, including giant garter snakes and northern western pond turtles, observed in the project area shall be allowed to relocate prior to the initiation or re-commencement of construction.*

Mitigation Measure 2(c) *Prior to issuance of a grading permit for the project, the General Services Department of Yolo County shall inspect grading and other relevant improvement plans to ensure that the area of vegetation clearing has been limited to the extent feasible. In particular, clearing of vegetation shall be limited to those areas necessary to facilitate construction activity.*

Chinook Salmon, Steelhead Juveniles, White Sturgeon, and Green Sturgeon

Mitigation Measure 3 *Should project construction commence at a time of year when juvenile salmon, steelhead smolts, or juvenile sturgeon could be present in Sycamore Slough (i.e., between February 1st and September 1st), the County shall develop in consultation with the National Marine Fisheries Service (NMFS) and the CDFW a Water Quality Protection Plan the provisions of which would be in effect whenever work must occur within the aquatic environment. Such a plan may employ the use of a turbidity curtain or some other type of sediment barrier that would confine suspended sediment to the immediate vicinity of the project-related work. Such a plan must be approved by NMFS and the CDFW prior to initiating work on the project.*

Mitigation Measure 4 *A certified biologist shall be present to monitor all in-water work related to the proposed project. The biologist shall ensure compliance with the project-specific Water Quality Protection Plan through on-going monitoring during in-water work. If the monitoring biologist determines that in-water work is being*

conducted in violation of the Water Quality Protection Plan, in-water work shall cease until such time as the certified biologist and the General Services Department of Yolo County have addressed and rectified the identified issues to the satisfaction of the NMFS and the CDFW

MBTA Covered Species and Nesting Raptors

Mitigation Measure 5(a) *If project construction activities must occur during the nesting season (i.e., February 1 through August 31), a qualified biologist shall conduct preconstruction surveys for active raptor and migratory bird nests within 30 days prior to the onset of construction activities. The survey shall include the proposed work area(s) and surrounding lands within 500 feet for all nesting raptors and migratory birds. If nesting pairs are not found within the survey area, further mitigation would not be required. Results of the survey shall be submitted to the General Services Department of Yolo County for review and approval.*

Mitigation Measure 5(b) *Should any active nests be discovered near proposed work areas, a qualified biologist shall determine appropriate construction setback distances based on applicable CDFW guidelines and/or the biology of the affected species. Construction-free buffers shall be identified on the ground with flagging, fencing, or by other easily visible means, and shall be maintained until the biologist has determined that the young have fledged.*

Cultural Resources

The following measures would ensure that potential impacts to cultural resources are reduced to less than significant levels.

Mitigation Measure 6. *If any prehistoric artifacts or other indications of archaeological resources (such as chipped chert and obsidian tools and tool manufacture waste flakes; grinding and hammering implements; bones; ceramic; glass; metal; at some sites locally darkened soils that generally contain abundant archaeological specimens; structure foundations; or pits) are found during grading and construction activities, all work within 100 feet of the find shall cease and the General Services Department of Yolo County shall retain a qualified archaeologist to evaluate the find(s). If the resource is determined to be eligible for inclusion in the California Register of Historical Resources [or the National Register of Historic Places] and project impacts cannot be avoided, data recovery shall be undertaken. Pursuant to CEQA Guidelines Section*

15126.4(b)(3)(C), a data recovery plan, which makes provisions for adequately recovering the scientifically consequential information from and about the resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation. The language of this mitigation measure shall be included on any future grading plans approved by the County for the proposed project site.

Mitigation Measure 7. *In the event of the discovery or recognition of any human remains, further excavation or disturbance of the find or any area within 100 feet of the find that is reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the County Coroner has been notified to determine if an investigation into the cause of death is required. If the coroner determines that the remains are Native American, then, within 24 hours, the Coroner must notify the Native American Heritage Commission, which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. If the Native American Heritage Commission is unable to identify a most likely descendant or most likely descendant fails to make a recommendation within 24 hours after notification by the Native American Heritage Commission, or the County rejects the recommendation by the most likely descendant and mediation by the Native American Heritage Commission fails to provide a measure acceptable to the County, then the County shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further disturbances. Should human remains be encountered, a copy of the resulting County Coroner report noting any written consultation with the Native American Heritage Commission shall be submitted as proof of compliance to the Yolo County Department of General Services.*

Mitigation Measure 8. *The General Services Department of Yolo County shall submit grading details to tribes who have requested consultation on this project under Public Resources Code Section 21080.3.1. The grading details can be submitted in the form of a grading plan and*

shall set forth the plan and methodology for grading, including a timeline, grading locations, and other pertinent details including but not limited to the types of equipment to be used. At least 10 business days prior to project grading, the County shall contact the tribe(s), who have requested consultation, to notify the tribe(s) of grading. Tribe(s) shall be allowed access to the site for monitoring purposes during ground disturbing activities only, if they so desire.

For any resources identified as meeting the definition of tribal cultural resources set forth in Public Resources Code Section 21074, significance determinations shall be measured in terms of criteria for inclusion on the California Register of Historical Resources (Title 14 CCR, §4852[a]). The evaluation of the tribal cultural resource(s) shall include culturally appropriate temporary and permanent treatment, which may include avoidance of tribal cultural resources, in-place preservation, and/or re-burial on project property so the resource(s) are not subject to further disturbance in perpetuity. Any reburial shall occur at a location predetermined between the County and tribe.

The County shall relinquish ownership of all sacred items, burial goods, and all archaeological artifacts that are found on the project area to the tribe for proper treatment and disposition.

Water Quality and Wetlands

The following measure would ensure that potential impacts to wetlands are reduced to less than significant levels.

Mitigation Measure 9 *Implement Mitigation Measure 1.*

PURPOSE AND NEED

Yolo County has a need to maintain boater access to the Sacramento River. The Yolo County Open Space Master Plan identified the need and recommended the expansion of the existing Knights Landing Boat Launch Facility as a preferred approach to meet that objective. The following section discusses the need for the proposed action and the scope of analysis and public participation in the process.

Purpose for Proposed Action

The Yolo County Parks Division, in partnership with CDFW and WCB, proposes to renovate and upgrade the existing boat launch facilities located at the Knights Landing Boat Launch in order to provide a safer and more efficient boat launch for existing patrons.

Need for Proposed Action

The County has operated the Knights Landing Boat Launch Facility since the County entered into a management agreement with the WCB in 1978. Upon entering the management agreement, the County constructed improvements to the existing facility first in 1978, and additional improvements in 2000. Improvements included extending the boat ramp with precast concrete sections and installing aluminum boarding floats.

The existing facility serves as one of only three public river access points along the Sacramento River managed by Yolo County. The following amenities are currently offered to the public: 120-foot long concrete boat ramp (30 feet wide), 50 feet of sectioned boarding floats (6 feet wide), two portable restrooms, parking for 26 vehicle/boat trailers and 10 single vehicles, minimal site lighting, iron ranger fee collection and trash receptacles, and a camp host pad (unoccupied). The current day use fee is $10/vehicle and is collected via an honor system Iron Ranger.

The County has recently completed a year-long usage study that indicates a 70 to 80 percent seepage from the nonpayment of user fees. Although five-year revenue trends analyzed by the County lead to an estimated usage of 2,100 vehicle visits per year, this figure most likely underrepresents actual use. The County's study, conducted in 2015-2016, indicated that there is a 70-80 percent seepage from the non-payment of user fees throughout the park system. Adjusted for the estimated non-payment rate, the existing facility likely serves approximately 7,200 vehicles annually, and between 14,400 to 28,000 visitors. The heavy visitation, limited availability of alternative sites, and limited existing facilities, leads to high demand on the existing facilities. The Sacramento River is identified as the number one most used waterway in The California Boating Facilities Needs Assessment of 2000. The Knights Landing Facility is a vital river access point on a popular portion of the Sacramento River. Most boaters in the area come from the cities of Sacramento, Woodland, Yuba City, and Marysville, but several visitors come from throughout California (see Table 1). During peak demand, from March through December, the single lane boat ramp is often in constant use, which can create hazards as vehicles vie for access.

Providing new and improved amenities at the site would increase site safety and convenience, and help alleviate existing congestion during high-use periods. In addition, the proposed improvement to the self-pay system is anticipated to capture lost revenue from existing site patronage and enhance the County's ability to maintain the facility.

Table 1
Nearby Population Centers

Name of City or Community	Distance to Site (miles)	Population
Woodland	8	57,000
Davis	15	66,000
West Sacramento	19	50,000
Dixon	32	19,000
Vacaville	42	92,000
Napa	51	140,000
Yuba City/Marysville Urban Area	35	92,000
Sacramento	25	480,000

Table 1 Nearby Population Centers		
Other Sacramento Urban Area Cities and Unincorporated Areas	20-45	1,200,000
	Population Sub-Total	2,196,000
Source: Yolo County General Services Department. 2017.		

Scoping and Public Participation

This EA serves to describe the environmental resources in the project area and evaluate the effects of the proposed project on these resources. The information and analysis presented in this document are organized in accordance with NEPA, and will support USFWS decision-making to fund construction activities under the grant. If supported, the decision will be documented with a Finding of No Significant Impact.

The Yolo County Department of General Services, as CEQA lead agency, released an IS/MND for public review beginning on September 21, 2017 and ending on October 20, 2017 pursuant to CEQA Guidelines Section 15105. On September 21, 2017, a Notice of Availability and Notice of Intent to Adopt a Mitigated Negative Declaration was distributed to Public Agencies and local property owners. The IS/MND and supporting documents were made available at the Yolo County Department of General Services office, 120 West Main Street, Suite D, Woodland, CA 95695, and on the Yolo County website. The County received five comment letters in response to the IS/MND. Responses to the comments received were provided to and considered by the Board of Supervisors prior to adoption of the IS/MND at a public meeting.

The US Army Corps of Engineers published a public notice (18598) seeking comments on the proposed project during December and January of 2018. Public responses to that notice informs the Corps permitting decisions, and influence the proposed project plan.

This EA is being published on the Web Pages of the US Fish and Wildlife Service's Southwest Pacific Region and Yolo County, and is inviting public comment. Public responses to the EA will be weighed in final decision-making by the USFWS.

ALTERNATIVES

The objective of the grant is to update the existing facilities at Knights Landing by June 30, 2021.

Alternatives Not Considered Further

The proposed project consists of renovations and improvements to the existing Knights Landing Boat Launch Facility. Although other areas within Yolo County could be used for the construction of new boat launch facilities, the environmental impacts of new construction would likely be more intense than the environmental impacts related to continued use of the existing facility. Furthermore, the funding available for the project is meant for the renovation and improvement of

the existing facility, not construction of a new facility. As such, an off-site alternative for the proposed project was not considered feasible or environmentally advantageous.

No Action Alternative

Under the No Action Alternative, the USFWS would not issue grant funding for construction of the proposed project, and the County of Yolo may choose not implement the proposed renovation work at the Knights Landing Boat Launch Facility using SFR grant funds. However, the existing boat launch facility would continue to operate at current conditions.

Knights Landing Boat Launch Improvement Project Construction Alternative (Proposed Action)

The proposed action would grant funds necessary to assist in the renovation and improvement of the Knights Landing Boat Launch Facility. Renovations would focus on improving the existing facilities, and ensuring that the facility can continue to meet local demand for the next 40-50 years. The specific improvements are discussed within the Project Description section of this EA.

AFFECTED ENVIRONMENT

The following sections will analyze the proposed project's potential to affect environmental resources.

Air Quality

Yolo County is located within the Sacramento Valley Air Basin (SVAB) and under the jurisdiction of the Yolo-Solano Air Quality Management District (YSAQMD). The federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) require that federal and State ambient air quality standards (AAQS) be established, respectively, for six common air pollutants, known as criteria pollutants. The CAA requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). Adopted YSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans.

Emissions of greenhouse gases (GHGs) contributing to global climate change are attributable in part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. The thresholds of significance established by Sacramento Metropolitan Air Quality Management District (SMAQMD), and used by YSAQMD, were developed to identify emissions levels for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions.

Biological Resources

The existing four-acre site slopes slightly from north to south on a gradient that corresponds to the gently sloping banks of Sycamore Slough. The elevation of the site on the north at the parking lot

from SR 45 is approximately 44 feet above sea level. Ordinary high water of Sycamore Slough (the site's southern boundary) is at an elevation approximately 17 feet.

Water Quality and Wetlands

The proposed project site is located near the confluence of Sycamore Slough and the Sacramento River. Areas of Sycamore Slough and the Sacramento River, below the ordinary high-water mark (OHWM) are considered federally protected waters of the United States as defined by Section 404 of the Clean Water Act. In addition, the waters of the Sacramento River are identified as Essential Fish Habitat for Pacific Salmon in the National Fisheries Management Service's (NMFS) Pacific Coast Salmon Management Plan.

Because the majority of the project site is covered by impermeable pavement, most of the stormwater falling on the project site currently runs off to Sycamore Slough. Runoff flowing over the pavement of the project site would pick-up pollutants on the pavement such as fuels, oils and other pollutants from vehicles and boats operated in the parking lots. Such pollutants, as well as any litter or loose waste, are then transported directly to Sycamore Slough.

Fisheries

Sycamore Slough provides potential habitat for a large number of primarily warm water fish species, many of which are not native to the Sacramento River and its tributaries. Fish species that have been collected near the project site include three lamprey species, white and black crappie, green sunfish, bluegill, and largemouth and smallmouth bass, among others. The facility provides access to the Sacramento River for recreational boating and fishing. Activities conducted at the project site include shore fishing from the current embankment. As noted above, the Sacramento River is identified as Essential Fish Habitat for Pacific Salmon.

Vegetation and Wildlife

Four land use types/biotic habitats exist within the project site (see Figure 4). The habitat/land use types include a paved parking area that makes up a majority of the site, Great Valley mixed riparian forest, aquatic habitat of Sycamore Slough, and ruderal (disturbed) areas around the margin of the parking area.

Figure 4
Biotic Habitats/Land Uses

Among the plant types and habitats present in the project area are native and non-native trees, mixed riparian forest, and understory shrubs. Within the habitats of the project site are species such as western toads, Pacific chorus frogs, California alligator lizard, Pacific gopher snakes, and a variety of bird species. The mixed riparian habitats of the Sacramento Valley provide habitat for several mammal species, including Virginia opossums, striped skunks, and raccoons.

Threatened and Endangered Species

A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. The *Biotic Evaluation* prepared for the proposed project concluded that 26 special status species would have the potential to occur at the project site.[1]

Among the special status species is the Giant Garter Snake (federally threatened), which is known to occur in the general project vicinity, especially in rice fields to the north and northwest, and one or more individuals may enter the site during project construction.

The northern western pond turtle, a California species of special concern, also has the potential to occur in the project site. Northern western pond turtles are known to occur in the general project vicinity, particularly along the banks of the Sacramento River and its tributaries, and one or more individuals may enter the site during project construction.

Many special-status fish species have the potential to appear in Sycamore Slough. The Chinook Salmon (Sacramento River winter run ESU – a federally endangered species; Central Valley spring-run ESU – a federally threatened species) has the potential to migrate up the main channel of the Sacramento River to spawning habitat in rivers and creeks tributary to it. While not likely that the salmon would stray into Sycamore Slough, the possibility exists. Similarly, Steelhead

Juveniles (California Central Valley DPS – a federally threatened species), White Sturgeon (a California species of special concern), and Green Sturgeon (Southern DPS – a federally threatened species) migrate up the main channel of the Sacramento River to spawning habitat and may occur in the slough prior to onset of their outmigration to the Delta, and eventually to the ocean. While one individual Delta Smelt (a federally listed threatened species) has been caught at Knights Landing, the individual was a waif. Breeding populations of Delta Smelt occur approximately 12 miles downriver from the project site.

The Project Site is located adjacent to and is hydrologically connected to the Sacramento River, which has been designated as critical habitat for Central Valley spring-run Chinook salmon and Central Valley Steelhead. Critical habitat has not been designated for other species within or adjacent to the project site.

The project site also provides nesting habitat for numerous bird species protected under the Migratory Bird Treaty Act (MBTA). Should trees in the area be removed, some protected species could be affected if removal occurs during the nesting season.

[1] Live Oak Associates, Inc. *Biotic Evaluation Knights Landing Boat Launch Improvements Project*. July 18, 2017.

Cultural Resources

The area of potential effect (APE) is approximately four acres and consists mostly of gently sloping terrain. A portion of the Sycamore Slough is included in the APE (See Figure 5). The Sacramento River is approximately 40 meters east of the APE. Levees surround the APE except the portion of the APE within the drainage canal. Project plans do not include alterations to any portion of the levees.[2] The geology of the APE is Holocene alluvium and fan deposits, which date to the current geologic epoch and encompasses the period for human occupation in America. Archaeological evidence indicates that human occupation of California began at least 11,000 years ago. At the time of European settlement, the APE was situated within the area controlled by the Wintun, also known as Patwin.

Archival research was conducted for the proposed project, which included files from Tom Origer & Associates, the National Register of Historic Places, California Historical Landmarks, California Register of Historical Resources, California Points of Historical Interest, review of historical maps of the area, and a records search at the Northwest Information Center. The nearest potential historic resource to the project site is railroad trestles, which were identified and analyzed by Tom Origer & Associates. As discussed in the Cultural Resources Study prepared for the project, the railroad trestle is not considered eligible for listing in the National Register of Historic Places or the California Register of Historical Resources.[3] Additionally, the proposed project does not currently include alterations to the railroad trestle. Because other historic resources or potential historic properties do not exist at the project site, and the railroad trestles would not be altered during implementation of the proposed project, the proposed project is not anticipated to result in any significant degradation of existing historical resources.

Sycamore Slough is a natural watercourse that has had minimal modification within the APE. The cultural modifications within the APE comprise the existing launch facilities and the trestle remains discussed above. As a natural watercourse, the slough within the APE would not be considered a cultural resource. Because the features of the Slough within the APE do not appear eligible for listing on the National Register of Historic Places, mitigation requirements would not be necessary.

In addition to the analysis performed by Origer & Associates, the USACE is acting as the lead federal agency for consultations with California State Historic Preservation Office and affected Tribes under Section 106. The USFWS will rely on the USACE leadership in complying with Section 106.

Although cultural and tribal resources, human remains, and paleontological resources are not known to exist in the project site, the possibility exists that during ground disturbance associated with construction, the foregoing resources have the potential to be discovered. The CA SHPO reviewed USACE's determinations and concurred with a determination of no historic resources affected. The United Auburn Indian Community has requested and is permitted site access to monitor construction.

[2] Tom Origer & Associates. *A Cultural Resources Study for the Knights Landing Boat Launch Project*. 2019.
[3] Tom Origer & Associates. *Knights Landing Boat Launch Improvement Project Auger Investigation*. 2019.

Figure 5
Area of Potential Effects

Geology and Soils

Much of the proposed project site is overlain with impervious paved surfaces related to parking, drive aisles, and the boat launch area. Seismic events are considered of low probability in the area, but the slopes extending down into the slough are not considered stable under seismic conditions. The primary constraint identified at the site is the potential for seismically-induced liquefaction from earthquakes along the San Andreas Fault and the Owens Valley Fault Group. [4]

The existing pavement holds soil in place and prevents erosion over much of the site. However, erosion does occur along the OHWM due to boat wake action within the slough.

The current surface soil on the project site is classified as "Sc," containing alluvium and silty clay loams, which have a moderate shrink swell-potential.

Noise

The noise environment of the proposed project site consists of noise from operation of the existing Knights Landing Boat Launch Facility, vehicle traffic along SR 45, and noise from the Sacramento River and Sycamore Slough, including noise from the Knights Landing Outfall Gates. Furthermore, periodic noise from nearby agricultural activities may be heard from the project site. The nearest sensitive receptor to the project site is approximately 300 feet away, across Sycamore Slough.

Resources Not Considered in Detail

Considering the nature of the proposed project, the project would not have the potential to result in any environmental effects to certain resource areas. The resource areas judged not to be impacted by the proposed project are as follows: Agricultural and Forestry Resources, Flooding Hazards, Land Use, Mineral Resources, Population and Housing, Public Services, Recreation, and Socioeconomics.

ENVIRONMENTAL CONSEQUENCES

The following section discusses the environmental effects of the project under the No Action Alternative and the Proposed Project Alternative.

Air Quality

The proposed project is located in Yolo County, which is under the jurisdiction of the YSAQMD. The Federal Clean Air Act require that federal and State ambient air quality standards be established, and upheld by local governments. In the absence of thresholds of significance, the YSAQMD is currently recommending GHG analysis consistent with Sacramento Metropolitan Air

[4] ES Engineering Services. *Geotechnical Investigation Knights Landing Boat Launch Facility Restoration.* June 13, 2018.

Quality Management District's (SMAQMD) approach. The SMAQMD adopted the following CEQA thresholds of significance for GHG emissions on October 23, 2014:

- 1,100 $MTCO_2e$ per year for construction and operational GHG emissions; and
- 10,000 direct $MTCO_2e$ per year for stationary sources.

No Action Alternative

Under the No Action Alternative, the Knights Landing Boat Launch Facility would continue operations under current conditions. Existing operations at the facility involve air quality emissions related to patrons driving vehicles to the project site and emissions related to energy consumption at the site. The No Action Alternative would not involve any grant funded construction activity, or construction-related emissions. Current operations are not known to create substantial objectionable odors.

Proposed Project Alternative

The Proposed Project Alternative would involve the renovation and improvement of the existing Knights Landing Boat Launch Facility. During construction of the Proposed Project Alternative, various types of equipment and vehicles would temporarily operate on the project site. Construction exhaust emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction workers' commute, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM_{10} emissions.

Although construction of the renovations and improvements included in the Proposed Project Alternative would involve construction-related emissions, operational emissions from the Proposed Project Alternative would only differ slightly from existing operations, or emissions under the No Action Alternative. Construction activity would have the potential to involve the release criteria pollutants including ROG, NO_x, and PM_{10}; however, as shown in Table 2, the emissions would be below the YSAQMD thresholds and would not result in a contribution to the

Table 2
Maximum Project Construction-Related Emissions

Pollutant	Project Emissions	Table 2 Maximum Project Construction-Related Emissions
ROG	0.20 tons/yr	10 tons/yr
NO_X	1.56 tons/yr	10 tons/yr
PM_{10}	11.87 lbs/day	80 lbs/day

Source: CalEEMod, June 2017.

region's nonattainment status of ozone or PM. The majority of operational emissions from the facility are attributable to patrons driving to and from the project site. Because the Proposed Project

Alternative is not anticipated to alter the number of patrons using the facility, the Proposed Project Alternative would result in no impacts related to air quality.

Biological Resources

The project site is approximately four acres on a slightly sloped gradient that corresponds to the gently sloping banks of Sycamore Slough. Four land use types/biotic habitats exist within the project site, including pavement, Great Valley mixed riparian forest, ruderal, and aquatic habitat of the Sycamore Slough. The impacts of the project on biological resources were studied under two biological assessments. The first biological assessment was prepared by A.A. Rich and Associates on February 19, 2014,[5] and the second was prepared by Live Oak Associates, Inc. on July 18, 2017.[6] The following sections discuss the impacts of the No Action and Proposed Project Alternatives on water quality and wetlands, fisheries, vegetation and wildlife, and threatened and endangered species.

Water Quality and Wetlands

The following is a discussion of the comparison of the impacts of the project on hydrology and water quality under the No Action Alternative and the Proposed Project Alternative.

No Action Alternative

Operations of the Knights Landing Boat Launch Facility would continue under the No Action Alternative. Substantial groundwater recharge does not occur at the project site currently, and would not occur under the No Action Alternative. Currently, wake actions (waves) from boats launched at the facility is leading to erosion of the banks of Sycamore Slough. Erosion contributes sediment to waterways, which degrades the quality of the surface water and can lead to impacts on native fish species. Under the No Action Alternative, erosion would continue to occur unabated.

Because the majority of the project site is covered by impermeable pavement, most of the stormwater falling on the project site currently runs off to Sycamore Slough. Stormwater falling on impervious areas of the site may transport pollutants from vehicles, boats, and waste into Sycamore Slough.

As such, the No Action Alternative would keep current conditions in place, and would not implement stormwater retention, which could result in the continued discharge of potentially polluted stormwater runoff to Sycamore Slough.

Proposed Project Alternative

The Proposed Project Alternative would include repaving of the project area, and expansion of the boat launch ramp. Construction activities related to the Proposed Project Alternative could result in temporarily increased erosion and sediment input into Sycamore Slough, as well as increased

[5] A.A. Rich and Associates. *Knights Landing River Access Boat Launching Facility Renovation Yolo County Biological Assessment.* February 19, 2014.

[6] Live Oak Associates, Inc. *Biotic Evaluation Knights Landing Boat Launch Improvements Project*. July 18, 2017.

pollutant discharge from construction machinery. However, a stormwater pollution prevention plan (SWPPP) must be prepared for construction activities related to the Proposed Project Alternative in accordance with National Pollution Discharge Elimination System (NPDES) permit requirements. The SWPPP would include best management practices that would ensure erosion from construction activity would not result in the degradation of water quality in the project area. Additionally, runoff from the parking lot would be directed to an infiltration basin. Stormwater directed to the infiltration basin would pass through active soil layers, which would filter some of the pollutants being carried by the runoff prior to discharge into the Slough.

The Sycamore Slough below OHWM (i.e., 17 feet above sea level) is a water of the United States as defined by Section 404 of the Clean Water Act subject to the jurisdiction of the USACE. All work below OHWM will permanently affect less than 0.23 acre of such waters. However, the majority of such effects would be limited to the placement rip-rap, which would serve to protect the wetland areas from continued erosion due to boat wake action. While the majority of in-water work would involve the placement of rip-rap, approximately 0.05 acre of wetland area would be used for the expansion of the concrete ramp.

A Section 404 permit and a Water Quality Certification from the Regional Water Quality Control Board (RWQCB), under Section 401 of the Clean Water Act, will be obtained prior to any grading. In addition, the County received an Operation of Law approval to obtain a Streambed Alteration Agreement from the CDFW. The Section 404 Permit, California Water Quality Certification, and Streambed Alteration Agreement include conditions involving the avoidance and minimization of impacts, possible conservation or replacement of habitat on the project site or elsewhere, or purchase of mitigation credits. Compliance with the aforementioned permits, agreements, and certifications would ensure that the Proposed Project Alternative complies with the USACE's "no-net-loss" policy. The Proposed Project alternative will also be permitted by the USACE under Sections 10 and 14 of the Rivers and Harbors Act. Conditions and requirements identified in these permits will be incorporated in the project plan.

Drainage for the parking area would be improved through construction of an infiltration basin along the northeastern corner of the project site. Runoff from the renovated parking area would be directed to the infiltration basin, which would slow the stormwater runoff and be designed to resist erosion through the use of rip-rap and vegetation plantings.

Because the Proposed Project would have the potential to result in the loss of 0.05 acre of wetland area, related to the expansion of the concrete boat ramp, the County adopted Mitigation Measure 1 under the certified IS/MND for the Knights Landing project, which would mitigate issues so that the proposed project would have no impact related to water quality and wetlands.

Fisheries

The following is a discussion of the impacts of the project on fisheries under the No Action and Proposed Project Alternatives.

No Action Alternative

Under the No Action Alternative, Sycamore Slough would continue to provide potential habitat for a large number of primarily warm water fish species. The population would remain a mix of non-native and non-game native fish species including lamprey, sculpins, and blackfish. Some special-status fish would still have the possibility to stray in to the Slough during their migration up the Sacramento River. Fishing activity would likely continue from the shore, and erosion on the bank would likely continue to have an impact on the area.

Proposed Project Alternative

Any construction work in the aquatic habitat of Sycamore Slough would have the potential to result in resuspension of silt and other sediment in the water column, and could potentially impact special-status fish species. However, it should be noted that the Proposed Project Alternative would include installation of a silt curtain and/or turbidity barrier prior to initiation of in-water work, and therefore, would not likely result in the degradation of water quality due to the resuspension of silt or other sediments during in-water work.

The Proposed Action would affect Essential Fish Habitat for Pacific Salmon due to possible disturbance to rearing and migration habitat. However, the disturbance due to the Action will be temporary and localized, and minimal in scope. Mitigation Measures 3, 4, and 9 serve to avoid and minimize any effects to Essential Fish Habitat.

Vegetation and Wildlife

The following is a discussion of the impacts of the project on vegetation and wildlife under the No Action and Proposed Project Alternatives.

No Action Alternative

Under the No Action Alternative, the existing wildlife and habitats on the project site would remain unchanged. Changes would not occur to wildlife movement across the site, or to riparian vegetation. Furthermore, the No Action Alternative would not have the potential to impact fish life stages or result in the fragmentation of wildlife habitat.

Proposed Project Alternative

The Proposed Project Alternative consists of renovation and improvement of the existing Knights Landing Boat Launch Facility. Sycamore Slough, the Sacramento River, and associated riparian vegetation facilitate movement of some wildlife through the Sacramento valley. Therefore, the project site is within a likely wildlife movement corridor. However, the Proposed Project Alternative would not include any alterations to the largest native habitat on site (i.e., the Great Valley mixed riparian forest), and the habitat would remain undiminished and functional following implementation of the proposed project. Mitigation measures 2(a), 2(b), 3, 4, 5(a), and 5(b), serve to avoid and minimize impacts to vegetation and terrestrial wildlife habitats.

Additional native vegetation would be planted as part of the landscaping process of the Proposed Project Alternative in order to act as a visual buffer as well as reduce erosion along the banks of Sycamore Slough. Because the Proposed Project Alternative would not construct new barriers to the movement of wildlife across the site and incorporates avoidance and mitigation measures. As a result, impacts to native terrestrial vegetation would be insignificant. The Proposed Project Alternative would result in no impacts to terrestrial wildlife and habitat.

Threatened and Endangered Species

The following is a discussion of the impacts of the project on endangered species under the No Action and Proposed Project Alternatives.

No Action Alternative

Under the No Action Alternative, operation of the existing Knights Landing Boat Launch Facility would persist unchanged, but construction activity would not occur. Operation of the facility does not pose substantial threats to any special status species that could potentially occur at the project site. In addition, because the facility would not be renovated under the No Action Alternative, construction activity would not occur at the project site, and, as a result, special status species that may be present at the site would not be disturbed or harmed by construction activity. Because operational activities would not be altered and construction would not occur under the No Action Alternative, the No Action Alternative would not have the potential to impact special status species.

Proposed Action Alternative

Construction of the Proposed Project Alternative would result in disturbance to areas of the project site, which could result in the disturbance to any special status species present at the time of construction.[7]

Most areas of the project site are already developed in ways that would make the site unsuitable for many special-status species known to exist in the area, including the giant garter snake. Renovation and improvement activity included in the Proposed Project Alternative would be mostly restricted to areas of the project site that are currently unsuitable for giant garter snakes, and permanent effects on habitat for giant garter snakes is unlikely to occur with implementation of the Proposed Project Alternative.

Similar to the giant garter snake, work areas of the project site provide little habitat to the northern western pond turtle. Most of the project work related to implementation of the Proposed Project Alternative would occur in areas of the site that are already developed, and represent unsuitable habitat for the species. However, northern western pond turtles are known to occur in the general project vicinity, particularly along the banks of the Sacramento River and its tributaries, and one or more individuals may enter the site during project construction.

[7] Live Oak Associates, Inc. *Biotic Evaluation Knights Landing Boat Launch Improvements Project*. July 18, 2017.

If construction on site includes the removal of trees, the possibility exists for birds protected under the MBTA to be injured or killed if construction occurs during the nesting season. In addition to direct "take" of nesting birds, construction related activities could disturb birds nesting within the mixed riparian forest adjacent to work areas such that nesting birds may abandon their nests.
To avoid impacts to special-status species, Mitigation Measures 2(a), 2(b), 2(c), 3, 4, 5(a), and 5(b) were incorporated and approved as part of the project in order to protect giant garter snakes, western pond turtles, juvenile salmon, steelhead smolts, juvenile sturgeon, migratory birds, and other species that could potentially be found on the project site. Thus, with mitigation, the proposed project does not have an impact on threatened or endangered species or designated critical habitats. The USACE is also assuming the lead federal agency role for consultations and compliance with the Endangered Species Act.

Cultural Resources

The APE is approximately four acres and consists mostly of gently sloping terrain, including Holocene alluvium and fan deposits, which date to the current geologic epoch and encompasses the period for human occupation in America.

No Action Alternative

The No-Action Alternative would result in continued operation of the Knights Landing Boat Launch Facility under current operating conditions. Renovation and improvement activity would not occur; as such, ground disturbing activity related to landscaping, boat launch ramp expansion, placement of utilities, and construction of the restroom facility would not occur. However, erosion along the banks of Sycamore Slough would continue unabated. If cultural resources exist along the bank of Sycamore Slough, on-going erosion could disturb such resources.

Proposed Project Alternative

California's NAHC identified sacred lands within the search area, and provided a list of Native American individuals and groups that should be contacted regarding the project. The result of the archival research was the identification of one potential resource recorded within the APE. The potential resource consists of the remnants of a wooden railroad trestle that previously spanned Sycamore Slough. Because other historic resources or potential historic resources do not exist at the project site, and the railroad trestles would not be altered during implementation of the Proposed Project Alternative, the Proposed Project Alternative is not anticipated to result in any significant degradation of existing historical resources.

The Proposed Project Alternative would result in the repaving of the majority of the site; however, most of the existing pavement would be retained and overlain with new paving material. In addition to repaving, the Proposed Project Alternative includes expansion of the existing boat ramp, re-landscaping of portions of the project site, and removal of some of the existing pavement. Expansion of the existing launch ramp, landscaping, and the limited pavement removal activity would have the potential to disturb areas of the project site that were not previously disturbed by development of the existing facility.

Additionally, while human remains and paleontological sources are not known to occur on the project site, ground disturbance during construction creates the possibility for discovery. Because the Proposed Project Alternative would have potential effects to yet undiscovered cultural, archaeological, or tribal cultural resources, Mitigation Measures 6, 7, and 8 were approved and incorporated as part of the Proposed Project in order to protect any onsite discoveries. Thus, the Proposed Project Alternative would create no impact related to cultural resources.

The mitigation measures listed above were approved and adequate for CEQA-level analysis. However, to further clarify this NEPA analysis, the following revision is hereby made to Mitigation Measure 6, which will ensure all eligible cultural resources are protected at a National level. The entirety of Mitigation Measure 6 can be found under the Project Description above. The following revision is listed in double underlined font:

Mitigation Measure 6 *If any prehistoric artifacts or other indications of archaeological resources (such as chipped chert and obsidian tools and tool manufacture waste flakes; grinding and hammering implements; bones; ceramic; glass; metal; at some sites locally darkened soils that generally contain abundant archaeological specimens; structure foundations; or pits) are found during grading and construction activities, all work within 100 feet of the find shall cease and the General Services Department of Yolo County shall retain a qualified archaeologist to evaluate the find(s). If the resource is determined to be eligible for inclusion in the California Register of Historical Resources [or the National Register of Historic Places] and project impacts cannot be avoided, data recovery shall be undertaken. […]*

Sycamore Slough is a natural watercourse that has had minimal modification within the APE. The cultural modifications within the APE comprise the existing launch facilities, and the trestle remains discussed above. As a natural watercourse, the slough within the APE would not be considered a cultural resource. Because the features of the Slough within the APE do not appear eligible for listing on the National Register of Historic Places, mitigation requirements would not be necessary.

In addition to the analysis performed by Origer & Associates, the USACE is acting as the lead federal agency for consultation with California State Historic Preservation Office and affected Tribes under Section 106. The USFWS will rely on the USACE's leadership in complying with Section 106.

Geology and Soils

The following is a discussion of the impacts of the project on geology and soils under the No Action and Proposed Project Alternatives.

No Action Alternative

The proposed renovation activities would not occur under the No Action Alternative; however, operations of the existing Knights Landing Boat Launch Facility would continue. The existing Knights Landing Boat Launch Facility would continue to experience geologic and seismic hazards related to infrastructure within the facility. However, because structures do not exist on the project site, such hazards would be limited to damage to existing paving and utility infrastructure. Operations of the existing facility under the No Action Alternative would continue to involve erosion caused by boat wake action along the banks of Sycamore Slough. Under the No Action Alternative, replanting and bank stabilization activity would not be undertaken, and, thus, erosion would continue unabated.

Proposed Project Alternative

Existing operations at the Knights Landing Boat Launch Facility have led to erosion along the banks on the Sycamore Slough. The proposed project would incorporate bank stabilization efforts to reduce erosion related to operations of the boat launch. Bank stabilization would be achieved through the placement of rip-rap along the OHWM at the property frontage along Sycamore Slough. The rip-rap would dissipate boat wake energy prior to the wake hitting the existing bank, and, thus, reduce erosion of the bank. Furthermore, the proposed project would include re-planting of the property frontage along Sycamore Slough with native plants. The native plants are intended to further reduce erosion through re-vegetation of the slope. Drainage for the parking area would be improved through the construction of an infiltration basin along the northeastern corner of the project site. Implementation of an SWPPP, the related soil control techniques, placement of rip-rap, revegetation, and construction of an infiltration basin would ensure that the Proposed Project Alternative does not result in increased soil loss or erosion.

The proposed restroom is expected to be constructed of filled concrete masonry units constructed on top of a structurally reinforced stem wall in accordance with UBC requirements, and would be generally flexible enough to sustain only minor structural damage from ground shaking. Over-excavation should be provided under the restroom building such as to provide a minimum of 24 inches of non-expansive fill such as aggregate base. As stated in Mitigation Measure 2(c), the General Services Department of Yolo County would inspect grading and other relevant improvement plans prior to issuance of permits in order to determine the plans would be sufficient to minimizing any impacts related to expansive soils.

Based on the foregoing analysis, the Proposed Project Alternative would result in no impact to geology and soils.

Noise

The noise environment of the proposed project site consists of noise from operation of the existing Knights Landing Boat Launch Facility, vehicle traffic along SR 45, and noise from the Sacramento River and Sycamore Slough, including noise from the Knights Landing Outfall Gates. Furthermore, periodic noise from nearby agricultural activities may be heard from the project site.

The nearest sensitive receptor to the project site is approximately 300 feet away, across Sycamore Slough.

No Action Alternative

Under the No Action Alternative, the proposed renovation activity would not occur, and operations of the Knights Landing Boat Launch Facility would continue uninterrupted. As such, the No Action Alternative would not cause any changes to noise in the project area, nor would the No Action Alternative generate significant groundborne vibrations.

Proposed Project Alternative

The Proposed Project Alternative would not increase operational noise or groundborne vibrations from the project site. However, construction noise would temporarily involve the use of heavy machinery and earth moving equipment, which could cause noise or groundborne vibrations in the project area. Construction activity would generate noise during the renovation and improvement of the existing Boat Launch Facility. However, construction activity would occur over a relatively short amount of time, approximately six months, and would be anticipated to occur during normal daytime hours. Furthermore, the project site is separated from the nearest sensitive receptor by the Sycamore Slough, a levee, and relatively dense vegetation. Noise intensity reduces with distance, thus, the distance between the project site and the nearest residence would attenuate some of the construction related noise prior to reaching the residence. Additionally, boat launch activities do not involve the generation of significant groundborne vibrations. As a result, construction and operation of the expanded boat launch included in the Proposed Project Alternative would result in no impact to noise levels in the project vicinity.

Mitigation and Monitoring

Mitigation measures were implemented and adopted by the County in order to reduce any potential impacts of the project related to biological and cultural resources. Actions required by the mitigation measures include restoration of on-site wetland habitat, construction of an exclusion fence around the perimeter of the work site to deter wildlife from entering, monitoring and relocation of any special status species found in the area of the project site prior to construction, and limitation of vegetation clearing to those areas necessary to facilitate construction activity. Mitigation further reduces impacts to wildlife and vegetation by using a turbidity curtain or sediment barrier that would confine suspended sediment to the immediate vicinity of the project-related work, and mitigation for nesting sites of migrating birds found in the project area. In order to reduce the impacts to cultural resources, mitigation provisions set in place procedures upon discovery of artifacts or human remains. The measures require all work to cease upon discovery, as well as proper notification to the correct agents, and proper mitigation as directed by the notified agent. Conditions and measures identified during consultations with USFWS, NMFS, California State Historic Preservation Office will be incorporated in the project plans.

CUMULATIVE EFFECTS

A cumulative effect is the effect on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions. The Knights Landing Boat Launch Project would consist of relatively minor improvements to the existing Knights Landing Boat Launch Facility. The proposed project would be consistent with the General Plan land use designation and zoning for the project site and, as such, the proposed project was included in the cumulative analysis of County buildout in the County General Plan. Applicable policies from the General Plan would be implemented as part of the proposed project, as well as the project-specific mitigation measures included in this EA, to ensure any potential impacts of the proposed project would be individually limited and not cumulatively considerable. When viewed in conjunction with other closely related past, present or reasonably foreseeable future projects, development of the proposed project would not contribute to cumulative impacts in Yolo County.

REFERENCES

Additional Studies Performed

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