RECORD OF DECISION

DELTA ISLANDS AND LEVEES FEASIBILITY REPORT
SACRAMENTO – SAN JOAQUIN RIVER DELTA, CALIFORNIA

The Final Integrated Feasibility Report and Environmental Impact Statement (IFR/EIS) dated 21 September 2018, for the Delta Islands and Levees Feasibility Report (Delta Study) addresses Ecosystem Restoration opportunities and feasibility in the Sacramento – San Joaquin River Delta, California. The final recommendation is contained in the report of the Chief of Engineers, dated 18 December 2018. Based on these reports, the reviews by other Federal, State, and local agencies, Tribes, input of the public, and the review by my staff, I find the plan recommended by the Chief of Engineers to be technically feasible, environmentally justified, cost effective, in accordance with environmental statutes, and in the public interest.

The Final IFR/EIS, incorporated herein by reference, evaluated various alternatives that would restore intertidal marsh to improve the degraded ecosystem of the Sacramento- San Joaquin River Delta in the study area. The recommended plan is the National Ecosystem Restoration (NER) Plan and includes:

- Restoring 340 acres of intertidal marsh at Big Break, located in Contra Costa County. Big Break is an historic marsh area that was converted to farmland, but has been inundated since a levee break in 1928. Because of subsidence which occurred while the area was serving as farmland, Big Break has remained an un-vegetated open water with a remnant levee fringe above the water line for the past 90 years. The recommended plan would use approximately one million cubic yards of clean dredged material from annual maintenance of the nearby Stockton Deep Water Ship Channel over an approximately 10-year period to restore 340 acres of Big Break to intertidal marsh elevations. Native marsh vegetation would be restored through planting and natural colonization.

- Implementing a monitoring and adaptive management plan. Monitoring will continue until the intertidal marsh habitat is determined to be successful based on the identified criteria within the Delta Islands and Levees Feasibility Study Monitoring and Adaptive Management Plan included in Appendix D. The plan estimates 5 years of post-construction monitoring for each segment of restoration, for a total of 15 years of monitoring, due to the 10 year construction period. This proposed monitoring period accounts for the need to adaptively construct the project by applying lessons learned from prior construction phases to successive phases throughout the 10 year construction timeframe. Monitoring will cease when the restoration has met the established success criteria, which could occur less than 5 years following the final construction year.

In addition to a "no action" plan, two additional alternatives were evaluated. The alternatives included a "no action" plan, Alternative 2, which included the restoration of 160 acres of intertidal marsh habitat at Big Break over a 5 year dredged material placement period; and Alternative 3, the Recommended Plan described above, which includes the restoration of 340 acres of intertidal marsh at Big Break over a 10 year dredged material placement period. Several other structural and non-structural alternatives were considered and eliminated due to greater costs relative to benefits, adverse environmental effects, and/or inconsistencies with policy. Chapter 3 of the IFR/EIS describes the full array of alternatives considered and the screening processes that led to selection of the evaluated alternatives. The Recommended Plan was identified as the environmentally preferable alternative.

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

Table 1: Summary of Potential Effects of Recommend Plan

	Significant adverse effect*	Insignificant effects due to mitigation**	Insignificant effects	Resource unaffected by action
Aesthetics	☐	☐	☒	☐
Air quality	☐	☒	☐	☐
Vegetation and Wildlife	☐	☒	☐	☐
Special Status Species	☐	☒	☐	☐
Cultural Resources	☐	☐	☐	☒
Hazardous, Toxic, and Radioactive Waste	☐	☐	☐	☒
Hydrology and Hydraulics	☐	☐	☐	☒
Land Use and Agriculture	☐	☐	☐	☒
Transportation and Navigation	☐	☒	☐	☐
Noise	☐	☐	☐	☒
Recreation	☐	☒	☐	☐
Socioeconomics and Environmental Justice	☐	☐	☐	☒
Geologic Resources	☐	☐	☒	☐
Water quality	☐	☒	☐	☐
Climate Change	☐	☒	☐	☐

All practicable means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the IFR/EIS will be implemented to minimize impacts. Short term environmental effects during construction were identified in the FR/EIS for vegetation and wildlife, special status species, water quality, air quality, climate change, transportation and navigation, and recreation. The majority of these effects were determined to be less than significant, with the implementation of the following Best Management Practices (BMPs) and avoidance and minimization measures:

- Vegetation and Wildlife (Section 5.4)
  - The adjacent remnant levee would be treated to remove invasive species so that native riparian vegetation could be established and prevent terrestrial invasive species from re-populating and out-competing the intertidal marsh restoration species.
  - Mowing and spraying would be implemented on the remnant levee to control and reduce weed growth.
  - Invasive, noxious and/exotic plant species would be hand or mechanically collected from the intertidal marsh restoration area, removed from the site, and properly disposed.
  - The Monitoring and Adaptive Management Plan (Appendix D) would be implemented to ensure restoration is successful.

- Special Status Species (Section 5.5)
  - Measures for Fish Species
    - During construction, stockpiling of construction materials, portable equipment, vehicles, and supplies would be restricted to designated upland construction staging areas.
    - A qualified biologist would provide worker environmental awareness training to contractors and construction crews regarding all special status fish species known to potentially occur near the construction sites.
    - A representative (onsite monitor) would be appointed by USACE as the point of contact for any worker who observes a dead, injured, or entrapped special status fish. Dead or injured fish shall be photographed and the photographs provided to USACE, NMFS, and USFWS. If a live specimen is captured in good condition, and a positive identification cannot be made in the field because of size or lack of distinguishing characteristics, the fish shall be immediately returned to the river downstream of the construction site.
    - Sacrificial straw bales would be placed to provide barriers to tidal currents within the project area, allowing sediment to settle and sand mounds to stabilize. Straw bales are anticipated to persist for 1 to 2 years, giving sufficient time for vegetative establishment.
    - No aquatic pesticides would be used to treat aquatic invasive species.
    - Construction would occur within the scheduled work windows in order to avoid adverse impacts to special status species, as appropriate.
  - Measures for Migratory Birds
    - USACE would conduct surveys to locate nest sites for migratory bird species in suitable breeding habitats in the spring of each construction year. Surveys would be conducted by a qualified biologist using survey methods approved by USFWS. Survey results would be submitted to USFWS before construction is initiated. If nests or young of these species are not located, construction could proceed.
    - If nest sites or young are located, USACE will consult with USFWS and CDFW to determine what avoidance and minimization measures should be implemented to avoid or reduce impacts to these species. Measures could include a no-disturbance buffer zone established around the nest site. The width of the buffer zone would be determined by a qualified biologist in

coordination with the USFWS. No construction activities would occur within the buffer zone. The buffer zone would be maintained until the young have fledged (as determined by a qualified biologist).

- Measures for Giant Garter Snake
  - The construction area would be surveyed for giant garter snakes 24 hours prior to construction activities by a qualified biologist each construction season. Survey of the project area would be repeated if a lapse in construction activity of two weeks or greater occurs. If a giant garter snake is encountered during construction, then activities would cease until appropriate corrective measures are complete or it has been determined that the snake would not be harmed.
  - Construction personnel would receive environmental awareness training to instruct workers on how to recognize giant garter snakes and their habitat.

- Water Quality (Section 5.6)
  - The contractor would be required to obtain a Construction General Permit and prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) for upland work areas, as well as an in-water work plan. The SWPPP and in-water work plan details actions that would be taken during construction to reduce the risk of discharge into waterway and avoidance and minimization measures that would be taken in the event of an unforeseen spill.
  - The Section 401 Certification permit would be issued by the CVRWQCB prior to construction. USACE will review the terms and conditions of the 401 Certification and will implement them if they are within the authority of USACE to implement.

- Air Quality (Section 5.7)
  - All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
  - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
  - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
  - All vehicle speeds on unpaved roads shall be limited to 15 mph.
  - All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
  - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
  - All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
  - Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take

corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
    - The project will ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately. Non-compliant equipment will be documented and a summary provided to USACE and BAAQMD monthly. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
    - Construction equipment powered by electricity, rather than diesel fuel, eliminates criteria pollutant emissions from diesel combustion. USACE will encourage the use of electric equipment during construction.

- Climate Change (Section 5.8)
    - Improve fuel efficiency of construction equipment by minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5 minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]. Provide clear signage that posts this requirement for workers at the entrances to the site.

- Transportation and Navigation (Section 5.9)
    - Upon completion of construction, the restoration pipeline, the dredge pipe, and the floating pump station would be removed, restoring pre-construction conditions for the DWSC to the degree practicable.
    - All obstacles and hazards to recreational boaters would be clearly identified with U.S. Coast Guard approved markers and buoys.
    - Coordination with the U S. Coast Guard to ensure that boaters can safely pass along the rivers in the project area would occur prior to the start of any restoration activities.
    - Any detours would be coordinated with the U.S. Coast Guard, the EBRPD, and any other required regulatory agencies in the area.

- Recreation (Section 5.10)
    - Inform boaters and anglers of project activities;
    - Provide project safety information including maps of any restricted access areas; and
    - Maps would be updated, as needed, to identify the new intertidal marsh restoration areas.
    - As an additional minimization measure, the USACE would ensure that kayaking opportunities are provided in the marsh restoration site. A "kayak trail" will be designed through the site as a part of the final design to reduce impacts to the EBRPD.

No compensatory mitigation is required as part of the recommended plan.

Public review of the draft IFR/EIS was completed on 2 June 2014. All comments submitted during the public comment period were responded to in the Final IFR/EIS. A 30-day waiting period and state and agency review of the Final IFR/EIS was completed on 27 October 2018. Comments from state and federal agency review did not result in any changes to the final IFR/EIS. However, comments received from the U.S. Environmental Protection Agency did request future coordination on a dredged material sampling plan prior to construction.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (FWS) issued a biological opinion, dated 14 June 2018, that determined that the recommended plan will not jeopardize the continued existence of the following federally listed species or adversely modify designated critical habitat: Delta smelt and Giant Garter Snake. All terms and conditions, conservation measures, and reasonable and prudent measures resulting from these consultations will be implemented in order to minimize take of endangered species and avoid jeopardizing the species.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers determined that the recommended plan may affect but is not likely to adversely affect the following federally listed species or their designated critical habitat: green sturgeon, Central Valley steelhead, Central Valley spring-run Chinook salmon, and Sacramento River winter-run Chinook salmon. The National Marine Fisheries Service (NMFS) concurred with the Corps' determination on 15 June 2018.

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers determined that historic properties would not be adversely affected by the recommended plan. The California State Historic Preservation Officer concurred with the determination on 29 May 2014. 36 CFR 800.4 [b][2] allows for phased identification if access to a property is not possible. Once access limitations for Jersey Island are resolved, and a pedestrian survey of Jersey Island has been completed, the Corps will update consultation for the project.

Pursuant to the Clean Water Act of 1972, as amended, all discharges of dredged or fill material associated with the recommended plan have been found to be compliant with the section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix H of the IFR/EIS.

A water quality certification pursuant to section 401 of the Clean Water Act will be obtained from the Central Valley Regional Water Quality Control Board prior to construction. In a letter dated 3 July 2018, the Board stated that the recommended plan appears to meet the requirements of the water quality certification, pending confirmation based on information to be developed during the pre-construction engineering and design phase. All conditions of the water quality certification will be implemented in order to minimize adverse impacts to water quality.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed. Additional considerations during the NEPA process included the following:

- Recommendations from the U.S. Fish and Wildlife Service under the Fish and Wildlife Coordination Act. Appendix L includes the final Coordination Act Report. The Corps will incorporate the recommendations, as appropriate, during the pre-construction engineering and design phase.

- Coastal Zone Management Act consultation was considered and determined to be not applicable to the Recommended Plan, as the jurisdiction of the regulated coastal zone extends only to the mouth of the Sacramento River, which is approximately 11 river miles downstream of Big Break.

- The Corps conducted modeling of criteria pollutants to determine conformity with regulations under the Clean Air Act, which are included in Appendix I. The emissions were determined to be compliant with the General Conformity Rule and would not exceed *de minimis* thresholds.

- In their June 15, 2018 Endangered Species Act Concurrence Letter, which is included in Appendix G, the National Marine Fisheries Service also identified that the Recommended Plan would not adversely affect Essential Fish Habitat.

- Executive Order 13112 requires Federal agencies to prevent the introduction of invasive species, provide for their control, and minimize their effects. As a result, the Recommended Plan incorporates invasive plant treatment and removal, as well as riparian plantings on the adjacent remnant levee to ensure that any previously established invasive plant species on site are controlled prior to implementation of the intertidal marsh restoration.

Technical, environmental, and cost effectiveness criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the review of these evaluations, I find that benefits of the recommended plan outweigh the costs and any adverse effects. This Record of Decision completes the National Environmental Policy Act process.

July 25, 2019
Date

R.D. James
Assistant Secretary of the Army
(Civil Works)