



Proposed Report <sup>1</sup>

**DEPARTMENT OF THE ARMY**  
**CHIEF OF ENGINEERS**  
**2600 ARMY PENTAGON**  
**WASHINGTON, DC 20310-2600**

DAEN

SUBJECT: Prado Basin Ecosystem Restoration and Water Conservation Study,  
San Bernardino, Riverside and Orange Counties, California,

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on the study of ecosystem restoration and water conservation within Prado Basin and along the Santa Ana River from Prado Basin to the Pacific Ocean within San Bernardino, Riverside, and Orange Counties, California. It is accompanied by the report of the Los Angeles District Engineer and the South Pacific Division Engineer. The study is an interim response to a resolution of the House of Representatives Committee on Public Works adopted May 8, 1964, which requested review of reports on the San Gabriel River and Tributaries, Santa Ana River and Tributaries, and the "project authorized by the Flood Control Act of 1936 for the protection of the metropolitan area of Orange County, with a view to determining the advisability of modification of the authorized projects in the interest of flood control and related purposes." In addition, Section 401(a) of the Water Resources Development Act of 1986 (WRDA), P.L. 99-662, and Section 1116 of WRDA 2016, Title I of P.L. 114-322, provide authority for the inclusion of water conservation in this study. The water conservation measures recommended by the report of the Los Angeles District Engineer and the South Pacific Division Engineer can be implemented under existing authority and will be approved in accordance with agency procedures by the South Pacific Division Engineer. New authority is required for the plan for ecosystem restoration recommended by that report. Orange County Water District (OCWD) is the non-federal cost sharing sponsor for the study. Pre-construction engineering and design activities would be continued under the authority provided by the resolution cited above.

2. The reporting officers recommend authorizing a plan for ecosystem restoration within the extent of the Santa Ana River Mainstem Project encompassing most of Prado Basin and along Reach 9 of the Santa Ana River downstream of Prado Dam in San Bernardino, Riverside, and Orange Counties, California. The principal components of the plan include:

a. Construction of a new shallow channel approximately 2,400 feet along Chino Creek to restore riparian and riverine habitat and function on approximately 112 acres.

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<sup>1</sup> This report contains the proposed recommendation of the Chief of Engineers. The recommendation is subject to change to reflect Washington-level review and comments from federal and state agencies.

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b. Invasive plant removal and replanting of native vegetation communities within four focal areas, Santa Ana River Upstream, Chino Creek, Mill Creek, and Santa Ana River Downstream, on approximately 494 acres.

c. Management of the non-native cowbird population through trapping and other population control measures over approximately 5,707 acres to increase productivity and overall function of habitat for native wildlife species.

3. The recommended plan is the National Ecosystem Restoration (NER) Plan for Ecosystem Restoration. The plan would have beneficial impacts to water and biological resources, restoring riparian and riverine vegetation communities and habitat functions within Prado Basin and along the mainstem of the Santa Ana River downstream of Prado Dam. The plan has been designed to avoid and minimize environmental impacts and would not result in unavoidable significant adverse impacts. The NER Plan restores 606 acres of valuable riparian and associated habitats in the largest riparian forest in southern California, supporting connectivity with other protected lands and the southwestern flyway.

4. In accordance with the cost sharing provisions of Section 103 of WRDA 1986, as amended (33 U.S.C. 2213), the federal share of the total project first costs would be 65 percent of the first cost of the NER Plan, and the non-federal share would be 35 percent of the first cost of the NER Plan. Based on Fiscal Year 2021 price levels, the NER Plan has an estimated total project first cost of \$45,904,000 and provides ecosystem restoration outputs of 38,795 average annual habitat units (AAHUs) measured using the Combined Habitat Assessment Protocols model. The federal share of the total project first cost of the recommended plan is estimated at \$29,838,000 (65 percent) and the non-federal share is estimated at \$16,066,000 (35 percent). The non-federal cost includes the value of lands, easements, rights-of-way, relocations and disposal areas (LERRD) estimated at \$3,925,000. The OCWD will be responsible for operation, maintenance, repair, rehabilitation, and replacement (OMRR&R) of the project after construction, with annual costs currently estimated at \$569,300, which includes its voluntary commitment for cowbird trapping costs beyond the 10-year period required for OMRR&R of nonstructural and non-mechanical elements of a project.

5. Based on a 2.5 percent discount rate and a 50-year period of analysis, the total average annual costs of the NER plan are estimated at \$2,290,200, including OMRR&R. All project costs are allocated to the authorized purpose of ecosystem restoration. The average annual cost per AAHU is \$59.

6. The risk and uncertainty of the NER plan's performance was evaluated to assess the reliability of ecological success and to support the development of the OMRR&R manual. A monitoring and adaptive management period will begin after construction of each feature, and after successful installation and establishment of native plantings. It

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will continue until ecological success criteria are met, but for no more than ten years. After ecological success criteria are met, the non-federal sponsor, OCWD, will be responsible for OMRR&R, except as limited by Section 2039(e) of WRDA 2007, as amended (33 U.S.C. 2330a(e)). The non-federal sponsor, OCWD, supports the recommended plan and is committed to manage project habitats after the OMRR&R period ends or for the life of the project. Long-term management will conform to and be aligned with activities and requirements laid out in O&M manuals, and respective OCWD documents covering adjacent OCWD lands in the Basin and in Reach 9 below the dam. USACE and sponsor activities will be coordinated to ensure continuing fulfillment of commitments made under Endangered Species Act (ESA), the Fish and Wildlife Coordination Act (FWCA) and other compliance agreements

7. In accordance with the U.S. Army Corps of Engineers guidance on review of decision documents, all technical, engineering, and scientific work underwent an open, dynamic and rigorous review process to ensure technical quality. This included District Quality Control review, Agency Technical Review, Independent External Peer Review, and a headquarters policy and legal compliance review. The Independent External Peer Review was completed by Battelle Memorial Institute. All comments from the above referenced reviews have been addressed and incorporated into the final documents.

8. Washington-level review indicates that the project recommended by the reporting officers is technically sound, environmentally and socially acceptable, and economically justified. The plan complies with all essential elements of the 1983 U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation studies and complies with other administrative and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies have also been considered.

9. I concur in the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan for ecosystem restoration (Alternative 3) within Prado Basin and along Reach 9 of the Santa Ana River downstream of Prado Dam, San Bernardino, Riverside and Orange Counties, California be authorized for implementation, as a federal project, with such modifications thereof as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of federal and state laws and policies. The cost of the plan recommended in this report will be cost shared in accordance with Section 103 of WRDA 1986, as amended (33 U.S.C. 2213). Federal implementation of the recommended plan would be subject to the non-federal sponsor agreeing to comply with applicable federal laws and policies, including but not limited to:

a. Provide the non-federal share of project costs including 35 percent of the costs of the identified National Ecosystem Restoration Plan, as further specified below:

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(1) Provide 35 percent of design costs in accordance with the terms of a design agreement entered into prior to commencement of design work for the project;

(2) Provide all lands, easements, and rights-of-way, including those required for relocations, the borrowing of material, and the disposal of dredged or excavated material; perform or ensure the performance of all relocations; and construct all improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material; all as determined by the Federal Government to be required or to be necessary for the construction, operation, and maintenance of the project and in compliance with applicable provisions of the Uniform Relocation and Assistance and real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24;

(3) Provide, during construction, any additional funds necessary to make its total contribution equal to at least 35 percent of the total costs of the National Ecosystem Restoration Plan;

b. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities which might reduce the outputs produced by the project, hinder operation and maintenance of the project, or interfere with the project's proper function;

c. Shall not use the project or lands, easements, and rights-of-way required for the project as a wetlands bank or mitigation credit for any other project;

d. Operate, maintain, repair, rehabilitate, and replace the project, or functional portions of the project, including any mitigation features, except as limited by Section 2039(e) of WRDA 2007, as amended (33 U.S.C. 2330a(e)), at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable federal and state laws and regulations and any specific directions prescribed by the Federal Government;

e. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, rehabilitation, and replacement of the project and any betterments, except for damages due to the fault or negligence of the United States or its contractors;

f. Perform, or ensure performance of, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Public Law 96-510, as amended (42 U.S.C.

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9601-9675), that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for construction, operation, and maintenance of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the non-federal sponsor with prior specific written direction, in which case the non-federal sponsor shall perform such investigations in accordance with such written direction;

g. Assume, as between the Federal Government and the non-federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights of way that the Federal Government determines to be required for construction, operation, and maintenance of the project; and

h. Agree, as between the Federal Government and the non-federal sponsor, that the non-federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, repair, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA.

10. The recommendations contained herein reflect the information available at this time and current departmental policies governing formulation of individual projects. These recommendations do not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program nor the perspective of higher review levels within the executive branch. Consequently, the recommendations may be modified before they are transmitted to the Congress as proposals for authorization and implementation funding. However, prior to transmittal to the Congress, the non-federal sponsor, the state, interested federal agencies, and other parties will be advised of any modifications and will be afforded an opportunity to comment further.

SCOTT A. SPELLMON  
Lieutenant General, USA  
Chief of Engineers