Environmental Analysis at Caltrans

An Integral Part of Project Delivery

Caltrans archaeologist at work in District 11

Caltrans archaeologists uncover a historic feature for recording

Caltrans biologist relocating an alligator lizard

Carrying out Caltrans' mission to "Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability."

California Department of Transportation
Caltrans Headquarters, Sacramento

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Environmental Analysis at Caltrans

Division Chief's Message

As Chief of the Division of Environmental Analysis (DEA) for the California Department of Transportation (Caltrans), I have the great pleasure of working with an amazing team of environmental professionals across the state and seeing the important work they do each day to meet the mission, vision, and goals of our large organization. For many of these professionals, a strong interest in the environment and a commitment to preserving that environment are what drives them as they do their work. It is my hope that this brochure will give you some insight into the challenging and sometimes arduous work that Caltrans environmental professionals perform and our team's strong commitment to sustainability and environmental stewardship.

The environmental professionals at Caltrans recognize the need to incorporate solutions that balance the three sustainability concepts of people, prosperity, and planet. Today, Caltrans is being challenged to expand these concepts even further and weave them into the fabric of our many business processes and indeed into our very culture and beyond—to improve the quality of life by meeting the present generation's needs without compromising the ability to meet the needs of future generations.

The environmental process in California, with its numerous laws and regulations, has a strong emphasis on partnering, relationships, and transparency—telling the public what we're doing and how public funding is spent. At Caltrans, we work hard to do that. We are experts in our field, innovative thinkers, and our work promotes project delivery in an efficient manner, while ensuring we do what is right for California's resources and assets. Through this hard work and dedication, our team of environmental professionals has distinguished itself as a national leader in environmental and stormwater management.

This brochure explains what we do in carrying out Caltrans mission to "Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability." We hope you find it useful and informative.

Who We Are

Together, district environmental staff and headquarters DEA staff make up a statewide multi-disciplinary team of more than 700 environmental professionals knowledgeable in the environmental sciences and related specialty areas, including biology, archaeology, architectural history, community impacts, Native American consultation, paleontology, air quality, noise and vibration, water quality, stormwater, and hazardous waste. Caltrans environmental professionals are also experts in National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) compliance; natural and cultural resource management issues; regulatory compliance and project permitting; community involvement; and mitigation planning and implementation.

Caltrans environmental planners and environmental engineers working in a district participate in transportation systems planning; prepare inventories and analyses of existing and future environmental conditions; conduct environmental analysis of proposed projects including modal and design alternatives; identify environmental impacts of transportation systems, corridors, and projects and formulate measures to avoid, minimize, and/or mitigate impacts; prepare, review, and process environmental documentation for transportation projects; and ensure that environmental commitments are fulfilled.

The headquarters DEA is located in Sacramento and consists of six corporate offices and the Stormwater Program, each of which is responsible for different subject areas. These offices are responsible for providing statewide policy, guidance, tools, and technical expertise to district staff to ensure statewide consistency, efficiency, and quality. Environmental planners and environmental engineers working at headquarters provide training to district staff, maintain the online Standard Environmental Reference, manage the NEPA Assignment program, specialize in inter-agency relations, work closely with other headquarters divisions as well as the California Transportation Commission, and review proposed federal and state legislation for matters of interest to Caltrans.

Philip J. Stolarski
Division Chief

Shaila Chowdhury
Assistant Division Chief

Jeremy Ketchum
Assistant Division Chief

District 7, I-405 Skirball Bridge Trail and Wildlife Crossing

Biological Studies

Caltrans has more than 140 biologists across the state performing field surveys and natural resource studies, plus preparing biological reports for compliance with a number of federal and state laws and regulations. Our biologists identify existing sensitive biological resources, evaluate potential biological effects during project development, and formulate effective avoidance, minimization, and/or mitigation measures.

Within DEA, the Office of Biological Studies and the Office of Strategic Biological Planning, Advance Mitigation, and Innovation provide leadership, direction, guidance, and technical expertise in biology by developing and establishing policy, standards, and procedures necessary to make wise transportation and natural resource decisions. Biologists in these offices also specialize in compliance with the following federal and state laws and regulations:

- Federal Endangered Species Act
- Sections 401 and 404 of the Clean Water Act
- California Endangered Species Act
- California Fish and Game Code

Other tasks that Caltrans biologists may perform include the preparation of Biological Assessments for federally threatened or endangered plant or animal species, as well as wetland delineations, habitat connectivity analysis, fish passage assessments, conceptual mitigation plans, and mitigation and monitoring reports.

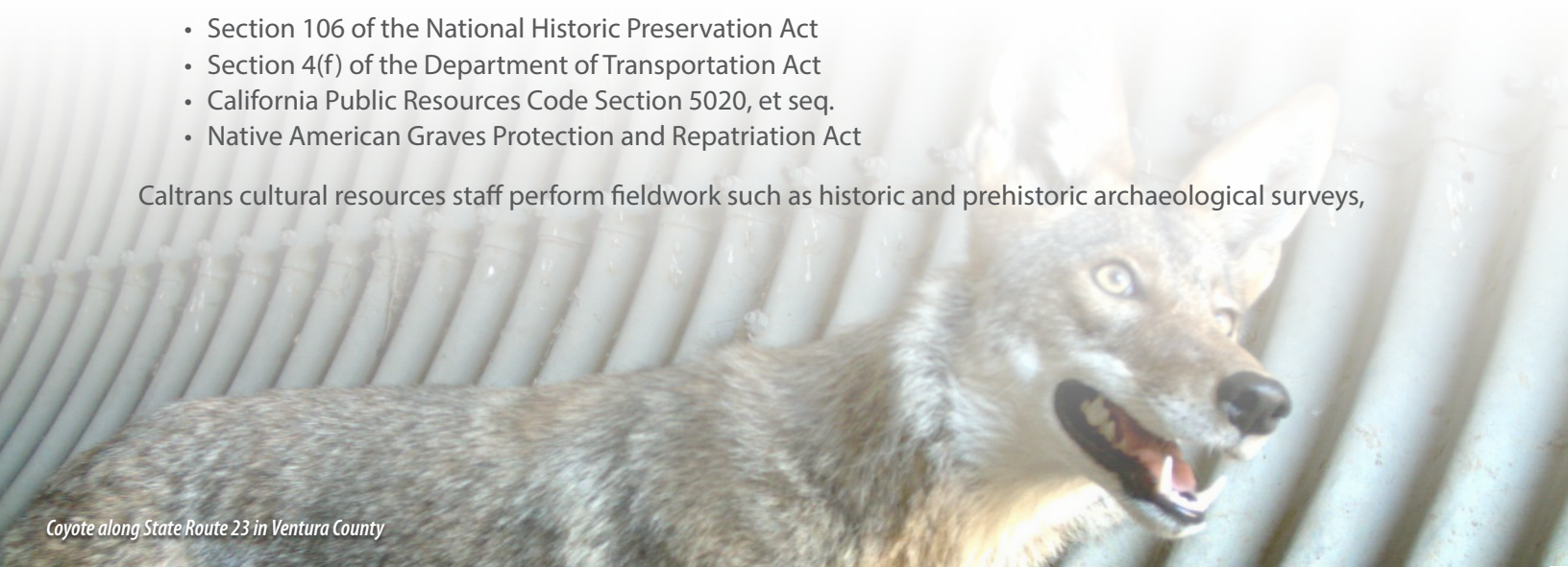
Cultural Studies

The surviving traces of the historic and prehistoric past are non-renewable resources that are easily degraded or destroyed by highway projects unless an appropriate effort is made to identify, evaluate, and protect them. "Cultural resources" include culturally important resources and archaeological resources (both historic and prehistoric), as well as built environment resources such as buildings, bridges, roads, railroads, canals, and culverts.

Caltrans has more than 70 archaeologists and 30 architectural historians on staff who manage how Caltrans complies with local, state, and federal laws that protect cultural resources including:

- Section 106 of the National Historic Preservation Act
- Section 4(f) of the Department of Transportation Act
- California Public Resources Code Section 5020, et seq.
- Native American Graves Protection and Repatriation Act

Caltrans cultural resources staff perform fieldwork such as historic and prehistoric archaeological surveys,



Coyote along State Route 23 in Ventura County

excavations, and data-recovery efforts and the evaluation of built environmental resources. Cultural resources staff also prepare cultural resource compliance documents and consult with individuals and communities that assign value to cultural resources, such as Native American tribes, the State Historic Preservation Officer (or Tribal Historic Preservation Officer), Native American Heritage Commission, Advisory Council on Historic Preservation, historical societies, academics, and local governments.

The Cultural Studies Office within DEA provides guidance, policy, procedures, and technical expertise to district cultural resources staff. The office assists district staff in analyzing the effects of transportation systems, corridors, and projects on a diverse range of cultural resources.

Environmental Engineering

Environmental engineering covers a wide range of technical disciplines including air quality, hazardous waste and materials, noise and vibration, paleontological resources, and stormwater and other water quality.

Within DEA, the Hazardous Waste, Air, Noise and Paleontology (HWANP) Office provides leadership, guidance, and tools to Caltrans districts and divisions to comply with environmental laws and regulations. The HWANP Office develops policies and procedures and provides technical expertise in the management of hazardous waste and materials encountered on highway projects and Caltrans properties. It provides technical assistance with air quality conformity, analysis, and management of air quality tools; construction and traffic-induced noise and vibration analysis identification; and evaluation and mitigation of paleontological issues.

The DEA Stormwater Program provides policy direction, regulatory interpretation, guidance documents, watershed analysis, and funding information to assist the district staff and other stormwater functional units in implementing Caltrans stormwater control efforts. The overall goal of the Stormwater Program is to integrate stormwater pollution control activities into everyday business practice. With water such a valuable resource in California, we are always keenly aware of water use and how water quality may be affected by our projects and activities.

District and headquarters planners and engineers that work in environmental engineering are experts in some of our most diverse and complex environmental laws and regulations, including:

- The Clean Air Act
- The Clean Water Act
- The "Antiquities Act"
- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)
- The Resources Conservation and Recovery Act of 1976
- Title 23 Code of Federal Regulations Part 772
- The Porter-Cologne Water Quality Control Act

Soundwall south of Yuba City on State Route 99

Environmental Planners

In addition to the many "specialty" areas discussed above, Caltrans employs more than 200 environmental planners (generalists) throughout the state. As the name implies, generalists work on more general environmental concerns, such as preparing project-level environmental documents for compliance with the NEPA and CEQA. Generalists may also work on Community Impact Assessments, Section 4(f) evaluations, coastal issues, cumulative impacts analysis, growth analysis, and farmland issues. Generalists are also the primary environmental representative on the Project Development Team.

Generalists are represented at headquarters by the Environmental Management Office and the Office of GIS, NEPA Assignment, Environmental Management Systems, Innovation, and Staff Development. This office is otherwise known as "GNEIS."

The Environmental Management Office is responsible for developing environmental policy recommendations for DEA on a wide variety of issues, including development and maintenance of the Standard Environmental Reference. We work closely with the headquarters Environmental Coordinators and are the "go to" group for policy and procedure development for NEPA and CEQA environmental documents. We are "advocates" for the generalists in the districts and serve as the primary environmental contact for California Transportation Commission submittals; climate change policy and guidance; and the Department's Coastal Program.

The GNEIS Office is one of the most varied offices within DEA and covers a wide range of topics (as noted above). One important element of the office involves education and GNEIS develops and delivers training to environmental staff statewide. Our classes include the Environmental Academy (which covers everything an environmental practitioner needs to know to get started on projects for Caltrans) as well as specialized training courses for Caltrans biologists, archaeologists, architectural historians, generalists, and environmental engineers. The GNEIS office also maintains and enhances a variety of tools, including GIS, web sites, and STEVE (Standard Tracking Exchange Vehicle for Environmental). The GIS Library and STEVE are tools to assist district staff in completing and tracking their projects more efficiently.

Another critical component of the GNEIS Office is the management of the NEPA Assignment Program.

Victory Trees along State Route 160 (Freeport Boulevard) south of Sacramento

NEPA Assignment

In July 2012, President Barack Obama signed into law the Moving Ahead for Progress in the 21st Century Act (MAP-21). Section 1313 of MAP-21 amended 23 United States Code 327 to establish a permanent Surface Transportation Project Delivery Program, allowing any state to participate and renew its participation in the program. Through the NEPA Assignment Memorandum of Understanding (MOU), Caltrans is now responsible for Federal Highway Administration responsibilities under NEPA and other federal environmental laws such as the Endangered Species Act and Section 106 of the National Historic Preservation Act. These responsibilities became effective October 1, 2012.

District Coordinators

Our headquarters District Coordinators act as deputies for the DEA Division Chief, implementing all phases of the environmental process affecting statewide delivery of transportation projects. The coordinators cover every district in the state. They serve as liaisons between headquarters and the districts, providing technical advice and assistance to district staff dealing with environmental issues related to project delivery. The coordinators help ensure consistent and uniform application of statewide environmental management policies, standards, procedures, guidelines, and practices in compliance with NEPA and the NEPA Assignment MOU, CEQA, and other state and federal laws, regulations, guidance, and commitments.

Chicano Park, beneath the San Diego-Coronado Bridge in San Diego

Caltrans District 1

Del Norte, Humboldt, Lake, and Mendocino Counties

In order to accomplish wetland mitigation for a transportation project on State Route 36 in Humboldt County, Caltrans partnered with the Federal Highway Administration in 2016 to facilitate the acquisition of a 155.3 acre parcel that included a 5.12 acre rare peatland (fen). Due to the clear and imminent threat to the rare fen, posed by both mining and water diversion for marijuana cultivation, regulatory agencies granted full compensatory mitigation credit to this wetland preservation project, which occurred within the same watershed as the transportation project it provided mitigation for. The property was purchased for the California Department of Fish and Wildlife (CDFW), an endowment for in-perpetuity management was funded, with future public access limited to scientific research and monitoring.

Caltrans District 2

Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama, and Trinity Counties

Caltrans is dedicated to improving fish passage on the State Highway System, which has required a comprehensive approach toward science and data, engineering, permitting, training, and funding to address the complex considerations associated with effective fish passage barrier remediation. Caltrans incorporates design requirements for fish passage when constructing road-stream crossing. Since 2006, District 2 has completed salmon and steelhead fish passage remediation at ten high-priority fish barrier locations, totaling approximately 563 miles of improved access to steelhead and salmon habitat.

Caltrans District 3

Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo, and Yuba Counties

District 3 has constructed 11 wildlife passage projects throughout the Sierra Nevada and the western Sierra foothills. The purpose of the structures was to address habitat connectivity and to reduce highway impacts on migrating wildlife. Environmental staff in District 3 participated on several multi partner/agency stewardship teams to identify and prioritize not only fish and wildlife passage needs, but also joint mitigation opportunities with the goal of integrating strategic environmental planning and project delivery.

U.S. 101 in Del Norte County

Caltrans District 4

Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties

The Devil's Slide Coastal Trail, which opened to the public on March 27th, 2014, developed from the Devil's Slide Tunnel Project. The Devil's Slide Tunnel Project, on Highway 1 in San Mateo County, constructed the Tom Lantos tunnels as a bypass to the steep and unstable Devil's Slide location where rockslides had a history of occurring. Funding for the Devil's Slide Coastal Trail Project was provided by Caltrans, the County of San Mateo, San Mateo County Parks, the California Coastal Commission, and the California Natural Resources Agency. After completion of the tunnels, Caltrans relinquished approximately 1.3 miles of the original Highway 1 to San Mateo County to operate this highly scenic segment as a multi-use trail. The trail is paved and has separate marked lanes for pedestrian and bicycle use. There are parking lots immediately off of Highway 1 at both the north and south ends of the trail allowing convenient public access to the trail. The project also included overlooks with seating, habitat protection, bike racks, drinking fountains, and restrooms. The trail is lined with interpretive signage on topics including Devil's Slide geology, history, and birds. This project is considered a significant segment of the California Coastal Trail and users are exposed to vast views of the Pacific Ocean.

Caltrans District 5

Monterey, San Benito, San Luis Obispo, Santa Barbara, and Santa Cruz Counties

The purpose of the Piedras Blancas Realignment Project on Highway 1 in San Luis Obispo County was to provide a long-term solution to the adverse effects of severe shoreline erosion by relocating the highway inland, away from the eroding coastline. The project area included over 90 acres of wetlands and waters with ten sensitive species, including six federally-listed plants and animals. Wetland impacts were minimized with alternative selection, design exceptions, and construction of three large bridges. With completion of the new highway, Caltrans removed the old roadbed and large box culverts, enabling the restoration of three small lagoons. These lagoons are habitat for California red-legged frog, tidewater goby, steelhead, Southwestern pond turtle, and Northern elephant seal. In order to avoid impacts to wetlands, waters, and sensitive species, Caltrans employed several innovative approaches to the design and construction of the project including a pervious road prism to preserve wetland hydrology; bridges built from trestles to protect wetlands and to avoid dewatering operations; and the collection, preservation, and reapplication of topsoil on the entire project.

Madera Vernal Pools Restoration Project

Caltrans District 6

Fresno, Kings, Madera, Tulare, and Western Kern Counties

In the Central Valley of California, Native American prehistory is being lost at a rapid rate. In consultation with members of the Native American community, Caltrans tries to minimize damage to the Native American prehistoric record wherever possible. In one example, a 6000-year-old Native American village site could not be completely avoided during construction of the Kings Canyon Expressway Project. Early in the project development process, Caltrans began working with the Native American group with geographic ties to the area of the village - the Choinumni, a tribelet of the Central Foothill Yokuts people. After efforts to avoid and minimize project effects to this important village site, it was necessary to mitigate for the loss of most of the village site. Four Choinumni groups collaborated with each other and Caltrans and proposed the creation of an English- Choinumni Dictionary and associated video (Choinumni Elder John Davis and his assistant Nicole Agredano reading all entries in the dictionary); a children's book documenting Choinumni and Mono lifeways; and a fourth grade curriculum for the elementary schools in Fresno and Tulare counties. These materials have been well received and, along with the data collected from the site via archaeological excavation, provide some mitigation of the loss of this very important prehistoric Native American village.

Caltrans District 7

Los Angeles and Ventura Counties

To address the significant structural undermining of the existing grouted rock slope protection on State Route 33 at the North Fork Matilija Creek near the City of Ojai, soil-nail walls will be installed to stabilize the slope. Because it was determined that construction work in the area "may affect" endangered southern steelhead trout and its designated critical habitat, consultation with the National Marine Fisheries Service was required to identify and implement appropriate mitigation measures to preserve the steelhead trout. Caltrans biologists and environmental planners relocated steelhead trout to a suitable habitat upstream prior to the start of construction.

Image of two raccoons captured with a remote wildlife camera during a Caltrans study on wildlife movement along State Route 23 in Ventura County

Caltrans District 8

Riverside and San Bernardino Counties

This wildlife fence was installed as part of the State Route 79 Widening Project, located in an unincorporated area of Riverside County. This feature is among the items identified in the project's Environmental Commitments Record, fulfilling a requirement of the Western Riverside Multiple Species Habitat Conservation Plan. The permanent fencing is attached to the headwall of a modified culvert; the fencing extends beyond the culvert on both sides of the highway, approximately 0.5 mile in each direction. The fence design directs the movement of medium and large wildlife to the culvert, facilitating connectivity, and the angled lip at the top of the fence prevents endangered Quino Checkerspot butterflies from flying onto the highway.

Caltrans District 9

Inyo, Mono, and Eastern Kern Counties

An archaeological data recovery program was implemented as part of mitigation for the Ed Powers Rehab Project located just north of Bishop. In 2008 data recovery efforts began and recovered one of the most significant finds to date in the Owens Valley. The largest Newberry Period (3150-1350 B.P.) village site, consisting of twelve known house pits, was discovered on the east side of the Sierra Nevada. The information gleaned from excavation of this site has been critical to the understanding of a relatively unknown prehistoric period of Owens Valley and the peoples who inhabited the region during this time period.

Soundwall along Interstate 5 in Orange County showing the swallows of San Juan Capistrano

Caltrans District 10

Alpine, Amador, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus, and Tuolumne Counties

Caltrans District 10 has implemented an innovative way to protect roosting bats during highway projects that involve bridges. Bats are crucial to agriculture in the Central Valley and the foothill areas of the district. They pollinate plants and disperse seeds for new plants and trees, and they provide an essential and natural form of pest control. But they like to build nests on bridges. To protect this important species, Caltrans now installs exclusionary devices on bridges during the season the bats are away and then erects or mounts bat boxes next to or under the bridge structure. The bat boxes provide an alternative roosting spot for the returning bats. With the bats safe and protected from project work, any needed construction can occur on the bridge or nearby without disturbing the roosting bats. To date, Caltrans has installed bat boxes on two projects: one in Amador County and the other in Merced County. This photo shows one of the types of bat boxes used on these projects. The bat boxes have proven so successful that the bats continue to use them long after project construction is done.

Caltrans District 11

Imperial and San Diego Counties

Beach sand replenishment is part of the comprehensive mitigation provided for the North Coast Corridor Project on Interstate 5 in San Diego County. Along with the sand replenishment, which will provide for sea level rise resiliency and greater public access, the project will create several hundred acres of preserved coastal habitat and improve the health of six coastal lagoons.

Caltrans District 12

Orange County

For the last 11 years, Caltrans District 12 has performed protocol surveys for the federally-endangered arroyo toad (Anaxyrus californicus) and invasive species eradication visits within San Juan Creek in Orange County to offset project-related arroyo toad impacts on State Route 74 (Ortega Highway). These efforts have resulted in a dramatic decrease of the invasive predators (i.e., American bullfrogs and red-swamp crayfish) observed throughout the San Juan Creek survey areas; and a marked increase in the observations of arroyo toad adults and juveniles. In addition to this successful mitigation effort, Caltrans District 12 is also in the process of restoring 3.19 acres of upland arroyo toad habitat within Ronald W. Caspers Wilderness Park and provided funding to the U.S. Forest Service in their efforts to remove 8 check dams within arroyo toad critical habitat and Southern California steelhead spawning habitat. This success has been recognized nationally by the U.S. Fish & Wildlife Service.

An Integral Part of Project Delivery

Vision: An integrated transportation system that enriches California's environment.

Mission: Guiding people and projects to balance environmental and transportation needs.

Values: Dedication, Expertise, Adaptability, Quality, Integrity, Collaboration

The dedicated environmental planners, biologists, archaeologists, architectural historians, environmental engineers, geologists, other technical specialists, and support staff within Environmental Analysis—all of us—take our vision, mission, and values very seriously.

Most important, Environmental Analysis is an integral part of project delivery at Caltrans. Environmental studies and the environmental planning process must abide by all state and federal regulatory requirements or the completion of our transportation projects could be jeopardized. We value our role in project delivery, and we do just that—we deliver projects.

For additional information about what we do or how our division serves Caltrans, please visit our website: *www.dot.ca.gov/env/*.

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