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April 21, 2009

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Ms. Sharon McHale
Bureau of Reclamation
2800 Cottage Way, MP-730,
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Re: Draft Environmental Impact Statement/Environmental Impact Report for the Los Vaqueros Reservoir Expansion Project

Dear Ms. Naillon and Ms. McHale:

This firm represents the East Bay Regional Park District ("EBRPD") regarding the proposed Los Vaqueros Reservoir Expansion ("Project"). On behalf of EBRPD, we submit these comments on the February 2009 Los Vaqueros Reservoir Expansion Project Draft Environmental Impact Statement/Environmental Impact Report ("DEIS/EIR") prepared for the United States Department of the Interior, Bureau of Reclamation ("Bureau") and Contra Costa Water District ("CCWD") (collectively, "Lead Agencies").

EBRPD is a regional agency of the State of California charged with acquiring, developing, managing, and maintaining a high quality, diverse system of interconnected parklands that balances public use and education programs with protection and preservation of our natural and cultural resources. EBRPD operates 65 parks, covering more than 98,000 acres of land in Alameda and Contra Costa Counties, and more than 1,150 miles of trails. The proposed Los Vaqueros Reservoir ("Reservoir") expansion and associated pipelines, transfer facility, and other infrastructure could impact EBRPD parks and recreational opportunities. The Reservoir is located in the Los Vaqueros watershed in southwestern Contra Costa County, near several EBRPD parks,

including Vasco Caves Regional Preserve, Brushy Peak Regional Preserve, Morgan Territory Regional Preserve, and Round Valley Regional Preserve.

After carefully reviewing the DEIS/EIR for the Project, we have concluded that it does not fully comply with the requirements of the California Environmental Quality Act ("CEQA"), Public Resources Code § 21000 *et seq.*, and the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq*. The DEIS/EIR violates these statutes in a variety of ways, including the following: (1) failing to adequately describe the Project, (2) failing to analyze the significant environmental impacts of the Project, and (3) failing to propose feasible mitigation measures to address significant impacts. 1

The environmental impact report ("EIR") is "the heart of CEQA." *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 47 Cal. 3d 376, 392 (1988) (citations omitted).

> [It] is an environmental "alarm bell" whose purpose is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return. The EIR is also intended "to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." Because the EIR must be certified or rejected by public officials, it is a document of accountability.

Id. (citations omitted).

Likewise, NEPA requires that federal agencies "consider every significant aspect of the environmental impact of a proposed action . . . [and] inform the public that [they have] indeed considered environmental concerns in [their] decision-making process[es]." *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d 1291, 1300 (9th Cir. 2003) (citations omitted). The requirement that agencies prepare an environmental impact statement ("EIS") ensures that "the agency, in reaching its decision …will carefully consider[] detailed information concerning significant environmental impacts" and "guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision." *Robertson v. Methow Valley Citizens*, 490 U.S. 332, 349 (1989).

Where, as here, the environmental document fails to fully inform decision makers, and the public, of the environmental consequences of the proposed actions, it does not satisfy the basic goals of either statute. *See* Pub. Res. Code § 21061 ("The 2

purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect that a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project."); 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.").

As a result of the DEIS/EIR's inadequacies, the Bureau and CCWD must revise and recirculate the DEIS/EIR to provide the public a complete, comprehensible description of the Project and its alternatives and an accurate explanation and assessment of the environmental issues at stake. 3

EBRPD would welcome an opportunity to work with the Lead Agencies in that process to address the issues discussed in this letter.

I. THE PROJECT WOULD HAVE A VARIETY OF SIGNIFICANT IMPACTS ON EBRPD PARKS AND PRESERVES.

EBRPD is concerned about the DEIS/EIR's failure to fully evaluate the Project's potential impacts to open space, recreation, natural resources, and cultural resources, particularly within EBRPD parks and preserves. The discussion of a proposed project's environmental impacts is central to an adequate EIR. *See* Cal. Code Regs. tit. 14, § 15126.2(a) ("An EIR shall identify and focus on the significant environmental effects of the proposed project.").[1] Likewise, NEPA requires that federal agencies "consider every significant aspect of the environmental impact of a proposed action . . . [and] inform the public that [they have] indeed considered environmental concerns in its decision-making process." *Earth Island Inst.*, 351 F.3d at 1300 (citations omitted).

As explained below, the DEIS/EIR does not properly analyze the Project's significant environmental impacts on recreation, cultural resources, consistency with applicable regional plans, and biological resources, nor does it consider all feasible mitigation for such significant impacts. This incomplete analysis renders the DEIS/EIR legally insufficient. *See* CEQA Guidelines § 15002(a)(1) (listing as one of the "basic 4

[1] The regulations codified in Title 14, Chapter 3 of the California Code of Regulations, commencing with section 15001, are referred to hereinafter as the "CEQA Guidelines." The CEQA Guidelines should be accorded "great weight . . . except when a provision is clearly unauthorized or erroneous." *Laurel Heights Improvement Ass'n*, 47 Cal. 3d at 391 n.2.

purposes" of CEQA to "[i]nform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities"); 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.").

One of CEQA's fundamental objectives is to ensure that significant impacts be mitigated to the extent feasible. *See* Pub. Res. Code § 21002 ("[P]ublic agencies should not approve projects as proposed if there are . . . feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects . . . ."). As the California Supreme Court has held, "The core of an EIR is the mitigation and alternatives sections." *Citizens of Goleta Valley v. Bd. of Supervisors*, 52 Cal. 3d 553, 564 (1990).

Mitigation is defined by the CEQA Guidelines to include the following:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

CEQA Guidelines § 15370.

NEPA similarly requires that agencies consider mitigation when preparing an EIS. 40 C.F.R. § 1502.14 (in the alternatives analysis, the agency must "[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives"); *Robertson*, 490 U.S. at 352 (NEPA requires a "reasonably complete discussion" of potential mitigation to ensure that the severity of adverse impacts has been fully evaluated). The discussion of mitigation measures must be thorough. *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372 (9th Cir. 1988) (mitigation must contain details about how the measures would be undertaken and their effectiveness).

Mitigation measures must be more than "mere expressions of hope" that responsible agencies will be able to devise a way around the problems created by the project. *See Lincoln Place Tenants Ass'n v. City of Los Angeles*, 130 Cal. App. 4th 1491, 1508 (2005). "Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding agreements." CEQA Guidelines § 15126.5(a)(2).

To conclude that a measure will mitigate a significant impact, a lead agency must demonstrate based on substantial evidence that such mitigation is adequate before approving the project. *Woodward Park Homeowners Ass'n v. City of Fresno*, 150 Cal. App. 4th 683, 724 (2007). For mitigation measures, feasibility means "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." CEQA Guidelines § 21061.1.

A. The DEIS/EIR's Description of the Environmental Setting Fails to Include the Byron Vernal Pools Regional Preserve.

An EIR's description of a project's environmental setting plays a critical part in the EIR because it provides "the baseline physical conditions by which a lead agency determines whether an impact is significant." CEQA Guidelines § 15125(a); *Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors*, 87 Cal. 4th 99, 119 (2001). Similarly, under NEPA, an EIS must "describe the environment of the area(s) to be affected or created by the alternatives under consideration." 40 C.F.R. § 1502.15. The description of existing environmental conditions must include a local and regional perspective. CEQA Guidelines § 15125. The description of the project's setting should also place special emphasis on environmental resources that are rare or unique to the region and that would be affected by a project. *Id.* § 15125(a).

The DEIS/EIR fails to discuss the Byron Vernal Pools Regional Preserve. This Preserve is a new regional preserve identified on EBRPD's Master Plan Map of 2007. It is also the location of a restoration project being developed in accordance with the mitigation requirements of the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan, which is discussed below in Section II . This Preserve is located along the proposed pipeline route connecting the Los Vaqueros Watershed with the South Bay Aqueduct. This Preserve will include a series of check dams and minor grading along Brushy Creek and the construction of seasonal wetlands, swales, and shallow depressions along the creek.

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As discussed below in Sections I.C.1.c and III.B, Project construction could cause myriad environmental impacts to the Preserve, including air quality, hydrology,

noise, lighting, traffic, habitat, wildlife, recreational access, inconsistency with EBRPD's Master Plan[2] and water quality impacts. The Project's potential biological resource impacts on the Preserve are particularly severe and are discussed in more detail in the biological resources section of this letter. *See infra* Section III.C. The DEIS/EIR's failure to discuss this Preserve renders the impacts analysis of a variety of impacts inadequate under NEPA and CEQA. The DEIS/EIR must evaluate all of the Project's impacts on the Preserve.[3]

5 Cont.

B. The DEIS/EIR Does Not Evaluate Project Impacts on Cultural Resources at Vasco Caves Regional Preserve.

The DEIS/EIR ignores potential impacts to cultural resources on property adjacent to the Los Vaqueros watershed because the document focuses too narrowly on impacts within the watershed. The scope of the cultural resources impact analysis must be defined by the area of potential effect. *See* DEIS/EIR at 4.16-9 to 4.16-13. As the DEIS/EIR acknowledges, the area of potential effect is "the geographical area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." *Id.* at 4.16-9 (quoting 36 C.F.R. § 800.16(d)).

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The DEIS/EIR narrowly confines its analysis of cultural resources impacts to the Los Vaqueros watershed. In doing so, the document ignores potential impacts on Vasco Caves Regional Preserve, which is located east of and adjacent to the Los Vaqueros watershed. Vasco Caves, which EBRPD manages, is not open to the general public due to the sensitive cultural resources located on the property. The Project creates the potential for trespass and vandalism, which could seriously impair the unique cultural resources at Vasco Caves. Site security at Vasco Caves has been an on-going concern, as unauthorized individuals have entered the Preserve and adjacent areas. The DEIS/EIR must evaluate the potential for indirect impacts to resources on the Vasco Caves property and incorporate mitigation to ensure that this cultural resource is properly protected and maintained.

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[2] EBRPD, *Master Plan 1997* (adopted Dec. 17, 1996), *available at* http://www.ebparks.org/files/RPM_Plan97.pdf.

[3] In contrast to the DEIS/EIR's failure to address the Preserve, the document does include a brief discussion of the proposed Cowell Ranch Open Space and the Project's potential recreational impacts on it. DEIS/EIR at 4.15-3.

To mitigate this impact, the Lead Agencies should consult with EBRPD to develop a management plan incorporating measures to ensure that the proposed Project does not impair the cultural resources at Vasco Caves, particularly during construction. At a minimum, the DEIS/EIR should include the following measures to protect sensitive cultural resource sites during project construction to reduce the potential for vandalism and theft of cultural artifacts:

- Site security on a 24-hours-per-day, seven-days-per-week basis; and
- Closure of some roads (including Howden Road) to prevent contractors from unnecessarily entering areas where cultural artifacts may be located.

7 Cont.

C. The DEIS/EIR Does Not Adequately Evaluate the Project's Impacts on Public Recreation.

The Project will inundate a significant length of hiking trails and other recreational facilities in the watershed and close most of the Reservoir to recreation for the duration of Project construction. DEIS/EIR at 3-87. Although the Lead Agencies propose to replace these facilities, the DEIS/EIR's analysis of recreation impacts during construction lacks evidentiary support. Furthermore, the DEIS/EIR does not mitigate the acknowledged significant temporary impacts on recreation due to the closure of the watershed for Reservoir construction. EBRPD urges the Lead Agencies to revise the recreational impacts discussion in the DEIS/EIR in consultation with EBRPD to ensure that these significant recreational impacts are properly addressed.

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1. During Construction, the Project Will Have Significant Impacts on Public Recreation at Surrounding Facilities.

As an initial matter, it is impossible for the public and decision makers to ascertain the true severity of the Project's construction impacts, because the DEIS/EIR does not consistently describe the duration of the construction period. In the Detailed Description of Proposed Facilities, the DEIS/EIR notes that the Reservoir would "remain drained and out of service throughout the estimated 3-year construction period." DEIS/EIR at 3-46. Later, the DEIS/EIR states that the Reservoir would be out of service for "about four years." *Id.* at 3-53. Later again, the construction period is estimated to require only "24 to 30 months." *Id.* at 3-54. In the impacts assessment, there is a "2-year restriction on water-related activities" in addition to a "3-year closure of the watershed." This conflicting information makes it impossible for either the public or decision makers to understand the true impacts of Project construction.

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a. The DEIS/EIR Lacks Support for Its Conclusion that Some Recreational Impacts Are Less than Significant.

The DEIS/EIR states that about 90 percent of the annual recreational visitors to the Reservoir seek fishing opportunities. DEIS/EIR at 4.15-16. The document also indicates that annual attendance ranges from 28,966 to 23,717 people per year. The DEIS/EIR claims that the number of anglers using the watershed is "relatively small" and that these anglers "would be dispersed over a wide geographic area" during the closure of Los Vaqueros reservoir. *Id.* Based on these statements, the DEIS/EIR concludes that the temporary loss of the recreational opportunities in the Los Vaqueros watershed would not cause or accelerate substantial physical deterioration of other local fishing areas. *Id.*

The DEIS/EIR does not provide any support for the conclusion that the number of anglers using the Reservoir is "relatively small" or that they are likely to disperse over a wide geographic area. The document does not inventory surrounding facilities that could be forced to absorb displaced users from the Reservoir. Nor does it estimate regional demand for these facilities to determine whether they have capacity to support those displaced recreational users. 10

In fact, the EBRPD Master Plan describes the challenge of managing the increased impact from population growth on natural resources at the region's recreational facilities. *Master Plan 1997* at 14. In particular, nearby EBRPD facilities, like Del Valle Reservoir, would face serious operational impacts and costs from hosting 25,000 additional visitors each year, including additional staffing requirements, fish stocking costs, and potential overcrowding. The DEIS/EIR could mitigate this impact by committing to fund measures to protect or restore natural resources at facilities affected by recreational demand displaced from the Reservoir. 11

The loss of recreational opportunities during construction is particularly significant because the Reservoir serves as an important recreational resource for residents of the region who cannot afford private recreational alternatives. To respond to this impact, the Lead Agencies should contribute funding during the construction period to provide adequate public recreational facilities offsite for those who would otherwise use the Reservoir and the watershed for recreation. 12

b. Notifying the Public of Recreational Closures Does Not Mitigate the Loss of Recreational Facilities During Construction.

The DEIS/EIR recognizes that the Project could result in a significant impact by reducing recreational opportunities during construction when most of the watershed would be closed to public access. DEIS/EIR at 4.15-9 to 4.15-14. To mitigate this potentially significant impact, Mitigation Measure 4.15.1a requires that CCWD implement a public outreach program to notify current and potential recreational users about the temporary closure of the day-use facilities and describe other opportunities in the area. *Id.* at 4.15-14. Merely notifying the public of the closure does nothing to mitigate the temporary loss of recreational opportunities onsite, and as noted above, could burden the operations of other recreational facilities near the Reservoir. 13

c. The DEIS/EIR Does Not Consider the Project's Potential Construction Impacts on the Byron Vernal Pools Regional Preserve.

The DEIS/EIR ignores EBRPD's planned Byron Vernal Pools Regional Preserve when evaluating Project impacts on recreational facilities.[4] This Preserve will be adjacent to the proposed pipeline route connecting the Los Vaqueros system with the Bethany reservoir in the South Bay. This Preserve is intended to provide habitat for endangered and threatened species and will have limited public access until a land use plan is developed. The temporary impacts of constructing a pipeline adjacent to the Preserve could impair park access with road closures and attendant traffic congestion and could cause safety impacts from construction. The DEIS/EIR must include this Preserve in the environmental setting and analysis of the Project's recreational impacts. 14

2. The DEIS/EIR Does Not Demonstrate the Feasibility of Permanently Relocating Recreational Trails in the Los Vaqueros Watershed.

The DEIS/EIR focuses heavily on the purported long-term benefits to onsite recreational facilities that will occur with Project implementation. For instance, the DEIS/EIR states that Project implementation will "enhance recreational opportunities 15

[4] Since the DEIS/EIR does discuss the proposed Cowell Ranch Open Space (*see supra* note 3), it is particularly surprising that the DEIS/EIR does not discuss the Preserve as a regional recreational opportunity that could be affected by the Project.

in the long term" by replacing eight miles of hiking-only trails with 15.5 miles of hiking-only trails and the construction of a new "optional" 14.5-mile Eastside Service Access Road/Hiking-Only Trail.[5] DEIS/EIR at 4.15-8, 4.15-10.

The DEIS/EIR fails to describe how the relocation of both mitigation areas and recreational trails can be accomplished without causing conflicts between the two. In the biological resource impacts section, the DEIS/EIR depicts access restrictions over a large portion of the watershed. *Id.* at 4.6-69. The DEIS/EIR explains that the biological opinions for the California red-legged frog and Alameda whipsnake mandate these access restrictions. *Id.* at 4.6-67. The Project will affect these species, and mitigation is required for each, including acquiring, protecting, or managing mitigation areas to protect the species. *Id.* at 4.6-114, 4.6-158. The DEIS/EIR does not describe how the Lead Agencies will ensure that relocation of hiking trails or recreational sites is consistent with the management of mitigation areas, or conversely, how access restrictions required to protect species will not conflict with recreational use. *Id.* at 3-82 to 3-83; *see also id.* at 4.6-69 (identifying access restrictions to protect species within the watershed). Some access-restricted land will be inundated if the Reservoir is expanded, but it is unclear whether and how these access restrictions will be relocated within the watershed. *Id.* at 4.6-69. The DEIS/EIR must analyze the possible conflict between the proposed trails and the conservation restrictions within the watershed. This analysis should include a map with both the locations of the proposed trails and all of the conservation restrictions on land within the watershed to determine whether the proposed trail system and the current conservation restrictions are consistent.

15 Cont.

Finally, the DEIS/EIR's planned trails are inconsistent with CCWD's own Resource Management Plan for the Los Vaqueros watershed. One of the goals of the Resource Management Plan is to provide recreational facilities and programs and public access at reasonable costs that are distributed equally among users. The proposed recreational trails in the watershed will not be multi-use trails, further increasing the disparity between hiking-only trails and multi-use trails in the watershed. DEIS/EIR at 4.15-10.

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[5] The proposed recreational facilities map does not specifically identify an "optional" trail. DEIS/EIR at 3-82 (Figure 3-28). The DEIS/EIR does not sufficiently identify which trails on the map will be installed as part of the Project and which are optional. The maps and charts in the DEIS/EIR must account for these optional trails. *See, e.g., id.* at 3-82, 3-87.

3. The Background Description of Recreation Regulations Affecting the Project Is Insufficient.

The DEIS/EIR does not discuss all of the potential recreation restrictions to which the Project may be subject. DEIS/EIR at 4.15-1 to 4.15-3. The Bureau's involvement with the Project, although not fully explained in the DEIS/EIR, could necessitate the application of the Bureau's recreation directives and standards to the Project. The Regulatory Setting discussion does not address the applicability of any federal directives and standards to the Project. DEIS/EIR at 4.15-1. The Bureau's *Recreation Project Management Manual* (LND 01-03), attached hereto as Exhibit 1, requires that a recreation planning process be used to "identify proposed recreation facilities, opportunities, and programs, and to assist in balancing existing and long-term recreation needs with other land and water resource needs and project purposes." *Id.* at 6. Furthermore, during this planning process, the Bureau must "ensure that the public has sufficient opportunity to be involved in decisionmaking." *Id.* The DEIS/EIR should have discussed this manual and its applicability. 17

4. The DEIS/EIR Does Not Describe How Different Water Management Regimes Under the Project Alternatives Could Affect the Water Supply for Recreational Reservoirs.

The DEIS/EIR provides very little information about the alternatives' different water management operations. The failure to explain these operational differences and changes in water movement resulting from the Project leads to another failing of the DEIS/EIR as an informational document. Without a full explanation of how the operations of the Reservoir will change, the public and decision makers cannot evaluate the potential recreational impacts to reservoirs, such as Del Valle, that receive water from Los Vaqueros. If Project operations will result in significant changes to water availability for or water quality in such recreational reservoirs, the DEIS/EIR must analyze these impacts. Otherwise, the DEIS/EIR must provide sufficient information about the Project's operations to demonstrate that such impacts will not occur. 18

D. The DEIS/EIR's Analysis of Land Use Impacts Does Not Evaluate the Project's Consistency With EBRPD's Master Plan.

CEQA requires lead agencies to evaluate a project's consistency with applicable general and regional plans: 19

> The EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans. Such regional plans include,

> but are not limited to, the applicable air quality attainment or maintenance plan (or State Implementation Plan), area-wide waste treatment and water quality control plans, regional transportation plans, regional housing allocation plans, habitat conservation plans, national community conservation plans and regional land use plans for the protection of the coastal zone, Lake Tahoe Basin, San Francisco Bay, and Santa Monica Mountains.

19 Cont.

CEQA Guidelines § 15125(d). Here, the DEIS/EIR discusses consistency with plans in its Land Use Section, but ignores applicable regional plans.

The DEIS/EIR's Land Use Section does not even mention the EBRPD Master Plan and recently updated 2007 Master Plan Map, or analyze the Project's consistency with the Master Plan. The EBRPD Master Plan provides the vision statement that guides the activities of the EBRPD.

> The East Bay Regional Parks will preserve a priceless heritage of natural and cultural resources, open space, parks, and trails for the future and will set aside park areas for enjoyment and healthful recreation for generations to come. An environmental ethic guides us in all that we do.

Master Plan 1997 at 9.

To achieve this vision, the Master Plan sets forth the policies that will allow EBRPD to achieve this vision. The proposed Project, due to its environmental effects, may hinder EBRPD's ability to achieve the following objectives from its Master Plan:

- The District will conserve, enhance, and protect native animal species and enhance their habitats to maintain viable wildlife populations within balanced ecosystems. Non-native and feral animals will be managed to minimize conflicts with native wildlife species. The District will cooperate on a regular basis with other public and private land managers and recognized wildlife management experts to address wildlife management issues on a regional scale.

- The District will identify, evaluate, conserve, enhance, and restore rare, threatened, endangered, or locally important species of plants and animals and their habitats, using scientific research, field experience, and other proven methodologies. Populations of listed species will be monitored through periodic observations of their condition, size, habitat, reproduction, and distribution. Conservation of rare, threatened, and endangered species

of plants and animals and their supporting habitats will take precedence over other activities, if the District determines that the other uses and activities would have a significant adverse effect on these natural resources.

- The District will manage riparian and other wetland environments and their buffer zones to preserve and enhance the natural and beneficial values of these important resources and to prevent the destruction, loss, or degradation of habitat. The District will participate in the preservation, restoration, and management of riparian and wetland areas of regional significance, and will not initiate any action that could result in a net decrease in park wetlands. The District will encourage public access to the Bay/Delta shoreline, but will control access to riparian and wetland areas, when necessary, to protect natural resources.

Master Plan 1997 at 20.

In particular, the Project will result in significant destruction of habitat and wildlife movement corridors. These environmental effects could undermine EBRPD's efforts to provide habitat for such species, by eliminating movement corridors that these species use to travel to EBRPD properties near the watershed. Furthermore, the Project's impacts to the Byron Vernal Pools Preserve would interfere with EBRPD's planned restoration of wetlands at that location. EBRPD has prepared a map showing that EBRPD is planning to acquire lands along the Transfer-Bethany pipeline route for the Byron Vernal Pools Regional Preserve. *See Los Vaqueros Reservoir Expansion—Review of Impacts on East Bay Regional Park District Interests* (Mar. 13, 2009), attached hereto as Exhibit 2; *see also supra* Section I.A (for additional discussion about the Preserve). 20

II. THE PROJECT WOULD CONFLICT WITH THE EASTERN CONTRA COSTA HCP/NCCP.

The DEIS/EIR must evaluate inconsistencies between the proposed Project and both habitat conservation plans and natural communities conservation plans. *See* CEQA Guidelines § 15125(d). The DEIS/EIR's cursory analysis of the Project's consistency with the East Contra Costa Habitat Conservation Plan ("HCP")/Natural Community Conservation Plan ("NCCP") (collectively, "HCP/NCCP") is insufficient.[6] 21

[6] The Final HCP/NCCP is available online. Jones & Stokes, *East Contra Costa County Habitat Conservation Plan* (Oct. 2006, rev. Dec. 2006), *available at*
(footnote continued)

The HCP/NCCP document is intended to serve as a comprehensive conservation strategy for managing biological resources in eastern Contra Costa County and thereby support a coordinated permitting process for development in the region. HCP/NCCP at 1-2. The HCP is a joint process of the U.S. Fish and Wildlife Service ("USFWS") and the California Department of Fish and Game ("DFG"). USFWS and DFG are responsible for overseeing compliance with the federal Endangered Species Act and California Endangered Species Act, respectively. The NCCP was adopted pursuant to California's Natural Community Conservation Planning Act, which authorizes public agencies to prepare a NCCP to "conserve natural communities at the ecosystem scale while accommodating compatible land use" and allow the take of covered species after DFG approval. *Id.* at 1-12. The HCP/NCCP

> is intended to provide an effective framework to protect natural resources in eastern Contra Costa County, while improving and streamlining the environmental permitting process for impacts on endangered species. ... This [HCP/NCCP] will help to avoid project-by-project permitting that is generally costly and time consuming for applicants and often results in uncoordinated and biologically ineffective mitigation.

Id. at 1-1.

Central to the HCP/NCCP is the creation and management of a Preserve System under which the East Contra Costa Habitat Conservancy, in partnership with other local conservation organizations, will preserve between 21,450 and 34,350 acres, assembled into a system of new preserves and linked with existing protected land to form a network of protected land. *Id.* at 5-1. In particular, EBRPD is currently working with the Conservancy to acquire fee and easement interests in 4,000 acres and is likely to participate in future acquisitions as HCP/NCCP implementation moves forward.

Although the present Project is not a project covered by the HCP/NCCP, the Reservoir and other Project components are within the HCP/NCCP's inventory area. HCP/NCCP at 2-36, fig.1-1. By competing for mitigation land in the region, the Project has the potential to affect the ability of the HCP/NCCP to achieve its recovery goals, which require the acquisition of over 20,000 acres of mitigation land. HCP/NCCP at 5-1. In addition, all mitigation land for the HCP/NCCP must be purchased from willing sellers, which sharply limits the actual acreage available. Although the DEIS/EIR's

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http://www.co.contra-costa.ca.us/depart/cd/water/HCP/archive/final-hcp-rev/final_hcp_nccp.html.

Biological Resources section finds that the proposed Project and the HCP/NCCP would not conflict, this conclusion is based on insufficient analysis.

The DEIS/EIR's brief discussion of the potential for conflict between the Project mitigation and the HCP/NCCP mitigation is incomplete. Although the DEIS/EIR claims that the "acreage of land identified in eastern Contra Costa County for potential acquisition greatly exceeds the compensatory needs of the Los Vaqueros Reservoir Expansion Project" (DEIS/EIR at 4.6-188), the data tells a different story. According to the chart comparing needed mitigation land with the acreage of available habitat, for certain categories of habitat, the Project could require over 10 percent of all available habitat in eastern Contra Costa to fully mitigate its impacts. *Id.* at 4.6-184 (for Grassland, Alternative 1 could require 3,939 acres while only 26,994 acres of such habitat on private lands was identified in Eastern Contra Costa County). Furthermore, the DEIS/EIR does not quantify other local projects' mitigation needs including the City of Antioch projects in Sand Creek Valley (including Aviano) and Roddy Ranch, nor does it account for the likelihood that not all of these acres of habitat on private lands may be available for purchase. Competition for the purchase of habitat from willing sellers could significantly increase the costs of such land and inhibit the acquisition of HCP/NCCP mitigation land by EBRPD and other local conservation organizations. Accordingly, the amount of land available for mitigation of Project impacts may be far below the amount projected in the DEIS/EIR. In addition, the DEIS/EIR underestimates the amount of land needed to mitigate habitat impacts, further increasing the potential for mitigation conflicts in the limited pools of local lands available for mitigation. *See infra* Sections III.A, III.B, III.D.

22 Cont.

Second, the Project will have adverse impacts on mitigation projects proposed under the HCP/NCCP. For instance, EBRPD has designed Byron Vernal Pools Regional Preserve as a restoration project that meets the mitigation goals of the HCP/NCCP. In its evaluation of potential conflicts with the HCP/NCCP, the DEIS/EIR did not discuss either the Preserve or any conflicts that the Project might have with it. DEIS/EIR at 4.6-174. The DEIS/EIR should analyze whether an actual conflict might exist between the Project and the Byron Vernal Pools Regional Preserve.

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Third, the Project's biological resource impacts could prevent achievement of some HCP/NCCP biological goals, including the following:

- Restore wetlands and create ponds in the Preserve System to contribute to recovery of covered species

24 Cont.

- Increase availability of burrows within grassland for San Joaquin kit fox, California tiger salamander, California red-legged frog, and western burrowing owl

- Preserve the most important movement routes and core habitat for San Joaquin kit fox

- Contribute substantially to the recovery of Alameda whipsnake in the inventory area by protecting and enhancing chaparral/scrub

HCP/NCCP at 5-5 to 5.7 (list of all HCP/NCCP biological goals).

24 Cont.

Finally, the DEIS/EIR should describe how the Lead Agencies will identify and avoid potential future conflicts as Project construction and HCP/NCCP implementation move forward. Although the Project and the HCP/NCCP may theoretically be able to avoid conflict, additional coordination will be necessary to avoid conflicts during Project implementation. Simply asserting that the Project "could help support the goals and acquisition strategies of the HCP/NCCP without competing for land or conflicting with the conservation goals and objectives of that plan" does not demonstrate that there will be no conflict here. DEIS/EIR at 4.7-174.

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III. THE DEIS/EIR DOES NOT ADEQUATELY ANALYZE OR MITIGATE THE PROJECT'S BIOLOGICAL RESOURCE IMPACTS.

The DEIS/EIR does not demonstrate the feasibility of the mitigation measures proposed to address significant biological resource impacts. To the contrary, many of the mitigation measures proposed are insufficient and will not reduce the Project's biological resource impacts to a level of insignificance.[7]

A. The DEIS/EIR's Proposed Mitigation for Impacts to San Joaquin Kit Fox Is Insufficient.

The DEIS/EIR concludes that the Project's impacts to San Joaquin kit fox would be significant before mitigation. DEIS/EIR at 4.6-135 to 4.6-136. To mitigate those impacts, the DEIS/EIR proposes to (1) conduct preconstruction surveys, (2) enact a

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[7] Brad Olson, EBRPD's Environmental Programs Manager, contributed substantially to the comments provide d in this section. Mr. Olson's CV is attached hereto as Exhibit 3.

series of avoidance measures, and (3) compensate for unavoidable impacts by acquiring conservation easements or purchasing mitigation credits. *Id.* at 4.6-139 to 4.6-140. The DEIS/EIR requires that impacts to San Joaquin kit fox habitat be mitigated at the following ratios: 1:1 to 1.1:1 for temporary impacts, 1:1 to 2:1 for long-term temporary impacts, and 1:1 to 3:1 for permanent impacts. *Id.* The DEIS/EIR delegates to other agencies the authority to determine the actual mitigation ratio within this range. *Id.* at 4.6-139. For impacts to land currently subject to conservation easements, the DEIS/EIR requires that the land be replaced and compensatory mitigation lands be provided "at a ratio up to 3:1." *Id.* at 4.6-140. This 3:1 ratio is far too low to compensate for permanent impacts to land that is currently serving as mitigation for the original Reservoir and is meant to be protected in perpetuity. Furthermore, this 3:1 ratio is only an upper limit, and the document defers selection of the actual mitigation ratio. Such a deferral is inappropriate as the DEIS/EIR fails to explain why selection of the mitigation ratio must be deferred and the mitigation measure lacks a performance standard by which the mitigation can be evaluated. *See infra* Section III.D (discussing CEQA's prohibition against deferred mitigation).

The proposed mitigation ratios for the Project's San Joaquin kit fox impacts do not adequately account for the cumulative loss of kit fox habitat occurring in the Los Vaqueros watershed. The DEIS/EIR acknowledges that the Project would affect nearly 500 acres of kit fox habitat currently protected by conservation easements, which amounts to over 10 percent of the easements that CCWD conveyed to DFG as mitigation for the original Reservoir construction. *Id.* at 4.6-134. While the proposed mitigation will require this land to be replaced, the mitigation ratios proposed for this land are inadequate in light of the cumulative temporal loss of habitat for the San Joaquin kit fox. In particular, the DEIS/EIR requires compensatory mitigation for the loss of kit fox habitat easements affected by the Project at a ratio "up to 3:1." *Id.* at 4.6-140. Under this mitigation measure, the actual mitigation provided could be less than 3:1, which is the ratio the DEIS/EIR requires for permanent impacts of this Project. Destroying these conservation easements is a quintessential cumulative impact, as it eliminates protection for land that was previously protected to serve as mitigation for impacts to kit fox habitat. Allowing mitigation for impacts to conservation easements to be provided at a lower ratio than mitigation for new permanent impacts amplifies the Project's cumulative impacts. Regardless, a 3:1 ratio, while typical for permanent impacts resulting from a single project, is clearly inadequate where the watershed is suffering the cumulative losses of kit fox habitat from this Project and the original Reservoir construction. Here, the mitigation ratios should be at least 9:1 to account for these cumulative impacts and the temporal loss of habitat functions during the five-year period necessary to reestablish impacted kit fox habitat.

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Further, the DEIS/EIR does not explain how the Lead Agencies intend to extinguish the existing conservation easements for kit fox habitat. As noted on DEIS/EIR Figure 4.6-14, CCWD previously conveyed to DFG conservation easements over much of the land that the Project would inundate. Unless DFG agrees to extinguish these easements (which may not be legally possible; *see infra* Section IV), any reservoir expansion would require the Lead Agencies to condemn the easements. CCWD would face a considerable burden if it sought to do so, since a condemnor who seeks to put public property to a different public use must demonstrate that the proposed use is a more necessary public use. Civ. Proc. Code § 1240.610. The existing use is presumed to be more necessary when the property is being used by the State as opposed to a local public entity. *Id.* § 1240.640(b).

Even if condemnation is permitted, however, it would undermine the CEQA process for the original Reservoir construction, by failing to mitigate for the original Reservoir's significant impact on kit fox. *See infra* Section IV (condemnation of conservation easements is itself a significant impact). DFG, as the holder of these easements, has a responsibility to manage the encumbered land to protect the San Joaquin kit fox. The Lead Agencies should consult with DFG regarding their obligations to manage these easements and whether, and if so under what conditions, the sale or exchange of these easements would be consistent with the long term protection of San Joaquin kit fox. The DEIS/EIR should discuss whether and how CCWD can acquire these easement-protected lands from DFG.

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Moreover, protecting existing kit fox habitat is only partial mitigation. Simply placing existing kit fox habitat into conservation easements, as proposed in the DEIS/EIR, does not fully compensate for the loss of kit fox habitat caused by the Project. DEIS/EIR at 4.6-139. The habitat that will be protected is already serving as habitat for the kit fox. Accordingly, the Project will result in an overall net loss of kit fox habitat and this impact cannot be mitigated to a level of insignificance without either creating new kit fox habitat or improving existing habitat. By comparison, the DEIS/EIR concludes that impacts to agricultural land will be significant and unavoidable because the Project will result in a net loss of agricultural land regardless of the protection of existing off-site agricultural land. New agricultural land is virtually impossible to create. *See infra* Section V. For biological impacts, by contrast, the Lead Agencies can improve existing habitat or create new habitat, although the Lead Agencies must hedge against the risk of failure in these efforts by using high mitigation ratios. Therefore, the DEIS/EIR improperly concluded that mere protection of existing habitat would mitigate impacts to kit fox habitat to a level of insignificance. DEIS/EIR at 4.6-140. The Lead Agencies must propose additional mitigation to mitigate that impact.

Further, given the Project's elimination of a kit fox movement corridor (DEIS/EIR at 4.6-131), the DEIS/EIR must identify additional mitigation to ensure that kit fox have safe movement corridors. Without such a replacement corridor, the Project will significantly reduce the value of surrounding habitat not directly affected by the Project. The existing undercrossings intended to facilitate wildlife movement under Vasco Road have not been effective, and road kill on Vasco Road is a frequent problem. As detailed in the attached study by Contra Costa Public Works Department, many special status animals have been killed on Vasco Road. Contra Costa County Public Works Department, *Vasco Road Wildlife Movement Study Report* at 7 (Mar. 30, 2009) (during the 15 month study period, five badgers, two burrowing owls, 50 California tiger salamanders, 120 California red-legged frogs, and one prairie falcon were found killed on the stretch of Vasco Road studied), attached hereto as Exhibit 4. The Report notes that "continuous fencing between existing undercrossings is necessary to reduce mortality levels." *Id.* at 27.

Due to the Project's elimination of the kit fox movement corridor on the west side of the Reservoir (DEIS/EIR at 4.6-132), the only path available to kit fox that travel through the watershed will traverse the watershed north of the reservoir. *Id.* at 4.6-130. Kit fox traveling along this corridor must cross Vasco Road. Given the severe wildlife mortality problem on Vasco Road, the kit fox mitigation measures must include substantial improvements to the wildlife crossings on Vasco Road before simply declaring the impacts significant and unavoidable. These improvements will provide a safer route for kit fox to travel and help preserve some regional connectivity for kit fox movement. The mitigation measure should require that such wildlife undercrossing improvements be implemented in a manner consistent with location and design recommendations in the scientific literature.

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Finally, the DEIS/EIR does not adequately mitigate potential construction impacts on the kit fox. At the least, the proposed mitigation measures should incorporate relevant mitigation from the original EIR/EIS for the construction of the Reservoir, including the following:

- "No pets or firearms would be permitted on construction sites so as to avoid harassment or killing of kit fox. Construction workers would lease the construction area and adjacent potential kit fox habitat each night to minimize disturbance of actively foraging animals unless night work is required."

- "All construction pipes, culverts, or similar structures with a diameter or 4 inches or greater that are stored at a construction site more than 8 hours

would be inspected for kit fox before the pipe is subsequently buried, capped, or moved in any way. All pipes, when possible, should be stored on pipe racks at least 3 feet off the ground or have their ends capped to reduce kit fox access."

- "Rodenticide or herbicide use would be restricted in project areas where kit fox are known to occur. If rodent control must be conducted, zinc phosphide should be used because of its proven low risk to kit fox."

Los Vaqueros Final Stage 2 Environmental Impact Report/Environmental Impact Statement for the Los Vaqueros Project, Vol. 1, SCH No. 91063072, at 8-40 to 8-43. (September 27, 1993).

26 Cont.

B. The DEIS/EIR Improperly Concludes Impacts to Habitat Are Mitigated by Merely Protecting Existing Habitat.

As discussed above for kit fox, the DEIS/EIR cannot mitigate significant impacts to species habitat simply by protecting existing habitat elsewhere. *See supra* Section III.A. The Lead Agencies must mitigate loss of habitat by creating or improving habitat, as opposed to simply maintaining the status quo. The DEIS/EIR recognizes that such a net loss is significant and unavoidable in its analysis of agricultural impacts, finding that the Project's agricultural impacts are significant and unavoidable because the Project will convert Farmland of Statewide Importance to nonagricultural use. DEIS/EIR at 4.8-22. Similarly, for habitat, if the habitat values destroyed by the Project are not offset elsewhere (through either creation or enhancement of habitat), then there will be an overall loss of habitat and a significant impact.

Therefore, to the extent that the mitigation measures provide for protection of habitat without enhancement, the DEIS/EIR improperly concludes that biological impacts are less than significant, including impacts to tiger salamander, red-legged frog, Swainson's hawk, and Alameda whipsnake. *Id.* at 4.6-114, 4.6-153, 4.6-158. For these species, the mitigation measures appear to allow for mere protection of existing habitat. Because that mitigation is inadequate, the Lead Agencies must propose additional mitigation, including creation of new habitat or improvement of existing habitat, with appropriately conservative mitigation ratios.

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C. The DEIS/EIR Does Not Evaluate Potential Impacts on Species in the Byron Vernal Pools Regional Preserve.

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Similar to the DEIS/EIR's discussion of recreational impacts, the description of the Environmental Setting in the DEIS/EIR's Biological Impacts Section

fails to mention the Byron Vernal Pools Regional Preserve, designated on the EBRPD's 2007 Master Plan Map and developed to meet the mitigation requirements of the HCP/NCCP. EBRPD's restoration of this area is planned to provide habitat for numerous endangered, threatened, or special status species including the California red-legged frog, California tiger salamander, Contra Costa goldfields, vernal pool fairy shrimp, brittlescale, western burrowing owl, San Joaquin kit fox, and American badger. Based on the location of the pipeline, construction could significantly affect the planned restoration areas both temporarily and permanently. Given that CCWD has participated in public meetings and received numerous notices about EBRPD's Regional Preserve plans, the failure to include a discussion of this Preserve in the DEIS/EIR is particularly egregious.

That the planned pipeline route passes through a biological preserve indicates that the Project's biological resource impacts are likely to be more severe than the DEIS/EIR estimates. The following are examples of the Project's potential effects on this Regional Preserve:

- Construction of the pipeline could encroach on the adjacent Preserve's sensitive habitats. For instance, the current road and flanking drainage is only 35 feet in width, but similar CCWD pipelines have an 85-foot right-of-way. DEIS/EIR at 3-60, 3-65. Expanding the right of way could encroach up to 50 feet into the Preserve property.

- Construction could affect the movement of ground water and surface water, damaging the wetlands and other habitat features on the Preserve property and the adjacent Byron Airport. Construction could introduce non-native plants and animals into the Preserve's sensitive habitats, which could impede the reestablishment of native species.

The Lead Agencies must revise the DEIS/EIR to incorporate this Regional Preserve into the discussion of the environmental setting and to analyze the Project's potential biological impacts on the Preserve.

28 Cont.

D. The Proposed Mitigation Ratios for Alameda Whipsnake Impacts Are Unsupported and Improperly Defer Mitigation.

A lead agency may not entirely defer the formulation of mitigation. CEQA Guidelines § 15126.4(a)(1)(B). Only in limited circumstances may an EIR commit to a mitigation plan where the details of the mitigation will be adopted later. First, the agency must explain in the EIR why the proper mitigation measures could not be identified and

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evaluated during the EIR process. *San Joaquin Raptor Rescue Ctr. v. County of Merced*, 149 Cal. App. 4th 645, 671 (2007) (improper deferral found where "no reason or basis is provided in the EIR for the deferral to a future management plan (or plans) of these particular mitigation measures"). Further, the agency must articulate "specific performance criteria" with which the mitigation will comply. *Sacramento Old City Ass'n v. City Council of Sacramento*, 229 Cal. App. 3d 1011, 1029 (1991); *San Joaquin Raptor*, 149 Cal. App. 4th at 670; *Gray v. County of Madera*, 167 Cal. App. 4th 1099, 1119 (2008) (distinguishing performance standards and goals in mitigation measures, finding that only specific performance standards are appropriate when mitigation is deferred). Finally, if these requirements are met, the agency can defer the details of mitigation, but must "'commit[] itself to mitigation and list[] the alternatives to be considered, analyzed and possibly incorporated in the mitigation plan.'" *Endangered Habitats League, Inc. v. County of Orange*, 131 Cal. App. 4th 777, 793 (2005) (quoting *Defend the Bay v. City of Irvine*, 119 Cal. App. 4th 1261, 1275 (2004)).

The mitigation proposed in the DEIS/EIR for Alameda whipsnake impacts fails to satisfy this standard in several respects. Mitigation Measure 4.6.10b in the DEIS/EIR proposes a range of possible mitigation ratios (2:1 to 5:1) to compensate for permanent losses of Alameda whipsnake habitat. DEIS/EIR at 4.6-158. By failing to select a mitigation ratio, the DEIS/EIR improperly defers the final development of Alameda whipsnake habitat mitigation without a performance standard for further specification of the mitigation. The DEIS/EIR also does not describe criteria for selecting a mitigation ratio from within this range. Moreover, the DEIS/EIR does not explain why the Lead Agencies cannot develop a mitigation plan for the species before they approve the Project. Without a definite performance standard to guide the Lead Agencies' later development of mitigation and without some explanation of why mitigation cannot be specified before Project approval, the DEIS/EIR defers mitigation in violation of CEQA.

29 Cont.

Furthermore, the entire range of proposed mitigation ratios is inadequate to mitigate the loss of whipsnake habitat. Even the high end of the range, a 5:1 ratio, is not high enough to account for the unique characteristics of scrub and chaparral habitat that make it difficult to replicate successfully. In fact, the DEIS/EIR does not provide any examples of successful creation of scrub and chaparral habitat to support the feasibility of the proposed mitigation. By contrast, the HCP/NCCP established a mitigation ratio *twice as high* as the high end of the range here—approximately 10:1—for impacts to "core" scrub and chaparral habitat for Alameda whipsnake, recognizing the difficulty of creating or improving such habitat.

E. The Document Does Not Consider Impacts on Other Wildlife Species in the Watershed.

The DEIS/EIR limits its evaluation of biological resource impacts to individual species of special concern and thus neglects the many other native species that could be affected by the Project. In doing so, the document ignores its own significance criteria, which are not limited to special status species. The CEQA Guidelines also suggest that impacts analyses should not be limited to only endangered, rare, or threatened species. *See* CEQA Guidelines § 15065(a)(1) (requiring a mandatory finding of significance where a project "has the potential to…substantially reduce the habitat of a fish or wildlife species" and separately requiring a significance finding where a project would "substantially reduce the number or restrict the range of an endangered, rare or threatened species"). CEQA also requires an EIR to describe the project's "alterations to ecological systems," which is plainly broader than the impacts to individual species. CEQA Guidelines § 15126.2(a). NEPA regulations define effects to include "ecological [effects] (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems)." 40 C.F.R. § 1508.8.

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The DEIS/EIR fails to analyze direct, indirect, and cumulative impacts to large mammals that live in and migrate through the watershed, migratory birds that use the watershed seasonally, and small mammals that live along the edge of the water. The DEIS/EIR's significance criteria properly recognize as a significant impact the Project's potential to "[i]nterfere substantially with the movement of *any* native resident or migratory wildlife species or with established native resident or migratory native wildlife corridors, or impede the use of wildlife nursery sites." DEIS/EIR at 4.6-79. Yet the document evaluates Project impacts only for listed and special status species and habitat types. *See id.* at 4.6-80 to 4.6-81 (summary of impacts analysis). For instance, the Project could adversely affect large mammals' migration corridors and habitat for foraging and reproduction. In addition, higher water levels could lead to increased predation rates by non-native species living in the Reservoir, causing both direct effects to native species and indirect food-chain impacts to native predators. Therefore, these impacts on native species could have broader impacts on the ecological communities in the Los Vaqueros watershed. The failure of the DEIS/EIR to evaluate impacts on other native wildlife species, *i.e.*, non-special status species, is inconsistent with the significance criteria included in the DEIS/EIR and contrary to the commands of CEQA and NEPA.

F. The Special-Status Plant Studies Were Conducted When Certain Special-Status Plants Would Not Be Evident or Identifiable.

For the Transfer-Bethany pipeline, surveys for special-status plants were conducted only in April. DEIS/EIR at 4.6-23. Based on the surveys' failure to identify Congdon's tarplant and big tarplant, the DEIS/EIR eliminated these species from further analysis. *Id.* at 4.6-31. Yet these two species would not be identifiable or evident during April surveys, because they are late-summer/early-fall blooming plants. The Lead Agencies must conduct adequate surveys for the special-status plants that may occur in the Project area, and if special-status species are identified, the DEIS/EIR must include an analysis of the potential impacts on these species. 31

G. The Discussion of Mitigation Opportunities for Natural Communities Is Overly Simplistic and Does Not Demonstrate that Sufficient Local Mitigation Opportunities Are Available.

The categories of natural communities that the DEIS/EIR describes as characteristic habitat types affected by the Project – Grassland, Valley/Foothill Riparian, Valley/Foothill Woodland and Forest, and Upland Scrub – are too broad. Each includes a wide variety of specific biological community types that must be evaluated individually to ensure adequate mitigation for their loss. DEIS/EIR at 4.6-186 to 4.6-187. For instance, the Grassland habitat type includes non-native annual grassland, native perennial grassland, alkali grassland and grasslands with special features like vernal pools. *See id.* at 4.6-179 (discussing the grasslands affected by the Project without providing details about the specific types of grassland affected). A measure that simply provides for protection of non-native annual grassland would not mitigate the loss of native perennial grassland, as these two types of grasslands provide different habitat values.[8] Grouping the habitat types into such broad categories renders the compensatory mitigation scheme inadequate. Without a more detailed description of the biological communities affected, the DEIS/EIR cannot propose adequate mitigation for those impacts. 32

Furthermore, the analysis of available mitigation land does not account for the diversity within the habitat categories and is therefore incomplete. The analysis of available mitigation land should provide a more detailed assessment of mitigation lands including the following subcategories:

[8] Non-native grassland can be restored to native grassland, but without restoration non-native grasslands are not equal in value to native grassland.

- Grasslands
  - non-native annual,
  - native perennial,
  - alkali, and
  - with special features (*i.e.,* rock outcrops, wet meadows, and vernal pools)
- Valley/Foothill Riparian
  - valley oak dominated,
  - blue oak dominated,
  - sycamore dominated,
  - willow dominated, and
  - monocot dominated
- Valley/Foothill Woodland/Forest
  - blue oak dominated and
  - valley oak dominated
- Upland Scrub
  - soft chaparral
  - hard chaparral

32 Cont.

H. The Proposed Mitigation for Nonlisted Special-Status Reptile Species Is Inadequate.

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The DEIS/EIR notes that two special-status reptile species – San Joaquin coachwhips and coast horned lizards – occur in areas potentially affected by the Project. DEIS/EIR at 4.6-167. The DEIS/EIR acknowledges that "[a]ll project alternatives would likely result in direct mortality of these species as well as temporary and permanent loss

of their habitat." *Id.* Nevertheless, the mitigation measure included to address these impacts proposes only that CCWD "ensure that habitat disturbances are minimized in areas that are known or suspected to support San Joaquin coachwhip and coast horned lizard" and that species found in the Project area be relocated. *Id.* at 4.6-168. Although the mitigation measure requires animals to be relocated if found onsite, it does not mitigate for the loss of habitat. *Id.* The DEIS/EIR must incorporate adequate mitigation to address potential loss of habitat for these species and explain how any proposed avoidance mitigation to protect these reptiles would work.

33 Cont.

I. Maps of Impacts to Species Lack Important Project Information.

Maps presented in the biological resource impacts analysis omit important components of the Project. For instance, Figure 4.6-11, showing the regional distribution of San Joaquin kit fox, does not include the location of any of the project components aside from the alternative reservoir footprint options. DEIS/EIR at 4.6-53. Similarly, Figures 4.6-15 and 4.6-16, which show the location of wetlands created for California red-legged frog and access restrictions in the Los Vaqueros watershed, do not include the inundation areas for the expanded Reservoir alternatives. *Id.* at 4.6-68, 4.6-69. As a result, the reader cannot determine where the Project is likely to affect these resources.

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J. The DEIS/EIR Should Prioritize Locating Mitigation Habitat in Close Proximity to Affected Habitat.

The DEIS/EIR summarizes the Comprehensive Biological Resources Mitigation and Compensation Program that will be used to identify land to be acquired as mitigation for habitat loss. DEIS/EIR at 4.6-178. The DEIS/EIR concludes that the highest priority mitigation sites are either (1) large contiguous areas of habitat that are both near and distant from development and urban centers or (2) lands next to or near the watershed or other existing land reserves. These conditions are not sufficient, as they fail to recognize the importance of identifying suitable habitat sites near the affected habitat. Mitigation should be prioritized on or near the watershed property to maintain habitat connectivity.

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In crafting the regional conservation strategy for eastern Contra Costa County, the HCP/NCCP emphasized the importance of habitat connectivity for the San Joaquin kit fox. HCP/NCCP at 5-14 ("[T]he existing protected lands [for the San Joaquin kit fox] must be expanded, connected to each other, and connected to Alameda County and to the larger kit fox populations in the San Joaquin Valley. To conserve and recover San Joaquin kit fox in the inventory area (linking habitat through Alameda County and beyond is beyond the scope of this Plan), it is critical to preserve the kit fox habitat on

either side of the Los Vaqueros Watershed lands."). By failing to prioritize local mitigation, the Project could undermine regional conservation efforts and inhibit the movement of San Joaquin kit fox. A key concern for protecting kit fox habitat is maintaining linkages between protected lands. Mitigation that improves or protects the kit fox movement corridors through the watershed could help maintain movement corridors that link kit fox habitat. Without these movement corridors, kit fox habitat will become fragmented. Isolated pockets of kit fox habitat are not accessible to kit fox. *See* DEIS/EIR at 4.6-131 ("reservoir inundation would isolate these areas from the surrounding grasslands and render them inaccessible to kit fox"). For kit fox habitat, purchasing mitigation credits (DEIS/EIR at 4.6-139) would be completely ineffective at ensuring that these essential kit fox movement corridors are maintained. 35 Cont.

Furthermore, for certain species that will be affected by the Project, such as the burrowing owl, scientific guidance suggests that on-site or local mitigation is preferred. Burrowing Owl Consortium,[9] *Survey Protocol: Mitigation*, *available at* http://www2.ucsc.edu/scpbrg/mitigation.htm. These guidelines suggest that off-site mitigation should only be considered if "the project will reduce suitable habitat on-site below the threshold level of 6.5 acres per relocated pair or single bird." *Id.*

The DEIS/EIR should prioritize local mitigation to protect habitat connectivity and avoid stranding populations of species that reside in or near the Los Vaqueros watershed.

K. The DEIS/EIR Does Not Fully Consider the Biological Resource Impacts of Draining the Reservoir.

The DEIS/EIR does not fully analyze and mitigate the biological resource impacts of draining the Reservoir for three years. This failing affects numerous sections in the DEIS/EIR. For example, the DEIS/EIR concludes that the impact on birds using the Pacific Flyway is less than significant, even though over 165 different species of birds are supported by the Reservoir. DEIS/EIR at 4.6-172, 4.6-173. Also, while recognizing the temporary impact to California tiger salamander and California red-legged frog habitat, the DEIS/EIR does not properly mitigate this impact, as it fails to identify the mitigation ratio for impacts to these species' habitats. *Id.* at 4.6-114. 36

[9] The Burrowing Owl Consortium is group of biologists in the San Francisco Bay area involved in burrowing owl conservation. Santa Cruz Predatory Bird Research Group website, http://www2.ucsc.edu/scpbrg/survey.htm.

IV. THE PROJECT'S INCONSISTENCY WITH CONSERVATION EASEMENTS ESTABLISHED TO PROTECT HABITAT IS ITSELF A SIGNIFICANT IMPACT.

The Project would inundate 413.5 acres of land encumbered with conservation easements held by DFG and permanently affect another 83.2 acres. DEIS/EIR at 4.6-134 to 4.6-135. In addition, the Project would indirectly affect 214.6 acres of grassland habitat under easement. *Id.* at 4.6-135. This land serves as habitat for the San Joaquin kit fox in compliance with the USFWS biological opinion for the original Reservoir construction. *Id.* at 4.6-65. According to the DEIS/EIR, the biological opinion specifically requires that CCWD "acquire and protect in perpetuity a total of 7,544 acres of habitat for San Joaquin kit fox, which includes 6,513 acres within the watershed … depending upon a final assessment of all impacts from the project." *Id.* at 4.6-65 (quoting biological opinion). CCWD conveyed these easements to DFG as mitigation for habitat lost in the construction and filling of the original Reservoir. *Id.* at 4.6-134; *see also id.* at 4.6-66.

The Lead Agencies' proposal to abrogate these mitigation easements and allow the protected habitat to be inundated conflicts with the core purposes of a conservation easement and thus is itself a significant impact. A conservation easement is, by definition, "perpetual in duration." Civ. Code § 815.2(b). The easement's purpose must be "to retain land predominantly in its natural, scenic, historical, agricultural, forested, or open-space condition." *Id.* § 815.1. In other words, a conservation easement is intended to conserve land and its natural resources in perpetuity. Abrogation of a conservation easement so that the land protected thereby can be inundated is inconsistent with both the conservation purpose of such an easement and its inherently perpetual nature. Just as a project's inconsistency with a land use plan constitutes a significant impact, *see supra* Section I.D, so too must a project's inconsistency with an easement designed to protect wildlife habitat in perpetuity. 37

Moreover, the proposal to replace the terminated easements with new easements over other habitat in other areas does not mitigate for this impact. The existing easements are still being terminated, and the public interest in protecting land in perpetuity is still being impaired.

Finally, it is unclear whether, as a matter of law, conservation easements *can* be terminated by any action short of condemnation for a more necessary public purpose. While the conservation easement statute describes requirements for the creation of conservation easements, and provides that they are transferrable under some circumstances, it does not provide for their termination. No other provision of the Civil

Code authorizes termination of a conservation easement. The marketable record title statute, *id.* § 880.020 *et seq.*, expressly provides that conservation easements are not subject to expiration under the statute. *Id.* § 880.240(d). Similarly, the Civil Code's provisions for abandonment of easements apply only to affirmative easements. *Id.* § 887.010.

No court has applied the general rules governing termination of servitudes, *id.* § 811, to a conservation easement, and it is unlikely that those procedures can apply to such an easement. Although ordinary servitudes are terminated when transferred to the owner of the fee interest in the property, *see id.* § 811(1), the conservation easement statute states that "[a] conservation easement is an interest in real property . . . freely transferable in whole or in part *for the purposes stated in Section 815.1*." *Id.* § 815.2(a) (emphasis added). That purpose is "to retain land predominantly in its natural, scenic, historical, agricultural, forested, or open-space condition." *Id.* § 815.1. A transfer of a conservation easement for the express purpose of terminating that easement is not a transfer "for the purposes stated in Section 815.1" and therefore would likely violate the statute. Accordingly, DFG may not simply transfer its easements to CCWD solely for the purpose of terminating them. 37 Cont.

V. THE DEIS/EIR DOES NOT PROVIDE SUBSTANTIAL EVIDENCE SUPPORTING ITS SIGNIFICANCE DETERMINATIONS FOR AGRICULTURAL IMPACTS AND DOES NOT INCLUDE A COMPLETE DISCUSSION OF MITIGATION OPPORTUNITIES.

A. The Discussion of Mitigation Measures for the Loss of Agricultural Land Omits Other Feasible Measures.

The DEIS/EIR recognizes that the location of the new Delta Intake and Pump Station would require the permanent conversion of 21.5 acres of Farmland of Statewide Importance, which the document concludes is a significant and unavoidable impact. DEIS/EIR at 4.8-17. The document fails to incorporate a proper mitigation measure to help reduce the severity of the Project's impacts on agricultural lands. 38

The DEIS/EIR does not consider siting alternatives that could reduce or eliminate the Project's permanent impacts to farmland, but instead simply proceeds from the assumption that this loss of farmland is inevitable. The document proposes mitigation for the loss of farmland—including a variety of soil management practices during construction to ensure that that affected farmland is not permanently converted and a mitigation ratio for the conversion of important farmland—but the DEIS/EIR concludes that the impact is still significant and unavoidable. *Id.* at 4.8-21. Where the Project has

significant impacts, the DEIS/EIR must provide a complete discussion of feasible mitigation measures, rather than simply adopting a mitigation ratio and stating that the effects are significant and unavoidable. The document proposes mitigation at a 1:1 ratio, but does not consider the use of a higher ratio to better mitigate the impact. Other mitigation measures that should have been considered for the loss of farmland include the following:

- Requiring that remaining farmland, or an equal or greater amount of farmland, be placed under Williamson Act contract;
- Requiring conversion of urban uses on former farmland back to agricultural use; and
- Requiring that existing agricultural land be newly brought into production.

See American Farmland Trust, *Saving the Farm: A Handbook for Conserving Agricultural Land* at 5-4 (Jan. 1990).

38 Cont.

B. The DEIS/EIR Does Not Accurately Assess the Impacts to Agricultural Land Under Williamson Act Contracts.

The Williamson Act empowers local governments to establish agricultural preserves and contract with owners of agricultural land to enter into contracts to restrict that land to agricultural use. DEIS/EIR at 4.8-2. Nonetheless, a public agency may extinguish these Williamson Act contracts through the exercise of the eminent domain power. *Id.* at 4.8-3. Even so, a Williamson Act contract is an enforceable restriction on the property that is binding on the landowner and his/her successors in interest. Cal. Dep't of Conservation, *Williamson Act Questions and Answers Factsheet, available at* <http://www.conservation.ca.gov/dlrp/lca/Documents/WA%20fact%20sheet%2006.pdf> . In evaluating agricultural impacts, one of the significance criteria included in the DEIS/EIR is whether the Project would "[c]onflict with existing zoning for agricultural use or a Williamson Act contract." DEIS/EIR at 4.8-9.

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The DEIS/EIR determines that nine parcels currently subject to a Williamson Act contract would be affected by the Project. *Id.* at 4.8-22. Under Alternatives 1 and 2, which have the largest impact on Williamson Act contract lands, construction of the Delta-Transfer and Transfer-LV pipelines would require CCWD to acquire temporary construction easements over Williamson Act land, and construction of the Transfer-Bethany pipeline would require both temporary construction easements and

long-term acquisition of fee title or easement interests in Williamson Act land. *Id.* at 4.8-23 to 4.9-24.

Yet the DEIS/EIR concludes that, because CCWD can extinguish the Williamson Act contract through condemnation, the impacts to Williamson Act land are less than significant. *Id.* at 4.8-23. ("The Williamson Act anticipates such acquisitions and states that when an agency acquires all or a portion of property subject to the Williamson Act by eminent domain or threat of condemnation, the Williamson Act contract is deemed null and void as to the land or interest acquired by the agency. If only an easement is acquired, then the contract is void as to that interest.") Although the law authorizes public agencies to acquire land subject to the Williamson Act free of the agricultural use restrictions on the land, that does not eliminate the significance of the impact as defined by the document's own significance criteria. To the contrary, if a Williamson Act contract must be invalidated for a project to proceed, the project directly conflicts with that Williamson Act contract. The fact that the land no longer protected after condemnation is an impact and must be evaluated as such for CEQA purposes, not disregarded simply because the Williamson Act authorizes agricultural protections to be extinguished. In addition, the Williamson Act does not permit placement of a public improvement on contracted lands unless there is no other location on non-contracted land that is reasonably feasible for the public improvement. Govt. Code § 51292(b).

39 Cont.

VI. THE DEIS/EIR'S CUMULATIVE IMPACTS ANALYSIS DOES NOT COMPLY WITH CEQA OR NEPA.

A. The DEIS/EIR Does Not Include All of the Reasonably Foreseeable Projects that Must Be Considered in the Cumulative Impacts Analysis.

An EIR must discuss significant "cumulative impacts." CEQA Guidelines § 15130(a). "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." *Id.* § 15355(a). "[I]ndividual effects may be changes resulting from a single project or a number of separate projects." *Id.* A legally adequate "cumulative impacts analysis" views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable future projects whose impacts might compound or interrelate with those of the project at hand. "Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." *Id.* § 15355(b). The cumulative impacts concept recognizes that "[t]he full environmental impact of a proposed . . . action cannot be gauged in a vacuum." *Whitman v. Bd. of Supervisors*, 88 Cal. App. 3d 397, 408 (1979).

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NEPA also requires analysis of connected and similar actions that will lead to cumulative impacts. 40 C.F.R. § 1508.25(a), (c); *see also Florida Wildlife Fed'n v. U.S. Army Corps of Eng'rs*, 401 F. Supp. 2d 1298 (D. Fla. 2005). NEPA regulations define a "cumulative impact" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." 40 C.F.R. § 1508.7.

Under CEQA, there are two recognized approaches for cumulative impacts analyses: the list approach and the projection approach. CEQA Guidelines § 15130(b). For landside resources, the DEIS/EIR takes the list approach. DEIS/EIR at 4.1-8. Accordingly, the DEIS/EIR must include "[a] list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency." CEQA Guidelines § 15130(b)(1)(A). Further, when using the list approach, the agency must consider the following factors in determining whether to include a certain project in the cumulative impacts analysis: "the nature of each environmental resource being examined, the location of the project and its type." *Id.* § 15130(b(2).

The list contained in the DEIS/EIR does not include the following developments and projects proposed in the area which could be affected by the Project:

- Roddy Ranch Development in Antioch
- Aviano Development in Antioch
- Byron Vernal Pools Regional Preserve

DEIS/EIR at 4.1-13. Similar to the Los Vaqueros Reservoir Project, these nearby projects could also have impacts on recreation, biological resources, and agriculture in the region. Therefore, these projects should have been included on the cumulative projects list and analyzed in the DEIS/EIR.

The DEIS/EIR states that since many Project impacts are short-term, the "most relevant" projects are those proposed for construction during the same timeframe as the reservoir expansion. DEIS/EIR at 4.1-8. In fact, the Project will result in significant and unavoidable permanent impacts to agriculture and potential permanent impacts to biological resources. *Id.* at ES-45 to ES-72, ES-73 to ES-75. The cumulative impacts analysis must include related projects that could have similar environmental impacts.

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Furthermore, the cumulative impact analysis in the DEIS/EIR should have included past projects with related impacts. In particular, the original Reservoir has had a variety of biological resource impacts, and land within the watershed that serves as mitigation for the original reservoir project is now proposed to be inundated. *Id.* at 4.6-64 to 4.6-70; CALFED Bay-Delta Program, *Los Vaqueros Reservoir Expansion Studies Draft* at 5.3-3 (May 2003). The loss of that mitigation habitat undermines the mitigation of the original development and operation of the Los Vaqueros reservoir. To the extent that the mitigation habitat was necessary to mitigate otherwise significant impacts of the existing reservoir, the loss of that mitigation habitat now must be considered a significant impact.

In addition, the original Reservoir construction required the relocation of Vasco Road. To mitigate the impacts on the San Joaquin kit fox of this relocation, the EIR required fencing and undercrossings along the road. *See Los Vaqueros Final Stage 2 EIR/EIS for the Los Vaqueros Project, supra*, at 8-43 (describing changes to the mitigation approach contained in Vasco Road EIR). The recent study by the Contra Costa Public Works Department clearly shows that the mitigation measures in place are not effective at preventing wildlife mortality: there is a severe road-kill problem on Vasco Road. *See* Exhibit 4 (*Vasco Road Wildlife Movement Study Report*) at 7. The cumulative impacts analysis must include these prior projects and address the continued impacts resulting from their failed mitigation in combination with the impacts to be generated by the Project.

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B. The DEIS/EIR's Analysis of Cumulative Biological Resource Impacts Is Inadequate.

The DEIS/EIR's conclusion that the Project will have no cumulatively significant biological resource impacts is not supported by substantial evidence. The requirement of cumulative impacts analysis is a "vital provision" of CEQA and NEPA, as it ensures that significant impacts are not ignored merely because the project does not have an individually significant impact. *Bozung v. LAFCO,* 13 Cal. 3d 263, 283 (1975). An EIR must discuss a cumulative impact if the project's incremental effect combined with the effects of other projects is cumulatively considerable. CEQA Guidelines § 15130(a).

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NEPA also requires that an EIS evaluate cumulative impacts resulting from the action "when added to other past, present, and reasonably foreseeable future actions." 40 C.F.R. §§ 1508.25(c)(3), 1508.7. To comply with NEPA, the agency must take a "hard look" at cumulative impacts; that is, it must "give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these

projects, and differences between the projects, are thought to have impacted the environment." *Lands Council v. Powell*, 395 F.3d 1019, 1028 (9th Cir. 2005).

The DEIS/EIR's cumulative impacts analysis for biological resources includes only the single significant and unavoidable impact identified in the document – impacts to San Joaquin kit fox movement corridors. DEIS/EIR at 4.6-176. That analysis states only that "[n]o other project planned or proposed in the region would also affect this specific potential movement corridor, so no cumulative impact to the corridor would occur." *Id.*

This approach is incomplete is several respects. First, with respect to the one cumulative impact that the document did consider, the analysis must look beyond the single movement corridor affected by the Project and consider instead cumulative impacts on the species's movement generally. For instance, other proposed projects, specifically Vasco Road, Aviano, and Roddy Ranch, might individually cut off all other potential kit fox movement corridors in the region, resulting in a significant, even catastrophic, cumulative impact to the kit fox. Yet under the standard of significance applied here, the cumulative impact would be less than significant because the other projects affected impaired kit fox movement in other ways. The DEIS/EIR, as written, sidesteps the possibility of region-wide impacts to kit fox movement. This analysis undermines the purpose of a cumulative impacts analysis by artificially narrowing the impact and thus minimizing the significance of the overarching problem. *See* CEQA Guidelines § 15130(a)(1) ("a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing *related* impacts") (emphasis added).

41 Cont.

Moreover, the document's cumulative impacts analysis fails to discuss the significant impacts on kit fox movement corridors and habitat associated with projects that have already been constructed. For instance, the initial reservoir construction required mitigation for its destruction of kit fox habitat, and the Project will destroy much of that original mitigation acreage. The DEIS/EIR must analyze the impacts to kit fox movement and habitat from these past projects, other current projects, and probable future projects. CEQA Guidelines § 15065(a)(3); 40 C.F.R. § 1508.25(c)(3).

Second, the DEIS/EIR claims that the Project will have no significant cumulative impacts because the project-specific impacts have ostensibly been

mitigated.[10] This approach improperly equates project-specific impacts and cumulative impacts. CEQA contemplates that a project may make a cumulatively considerable contribution to a significant impact even though the project's impact would be less than significant if considered in isolation. *See* CEQA Guidelines § 15065(a)(3) (mandatory finding of significance required where "project has possible environmental effects that are *individually limited but cumulatively considerable*" (emphasis added)). Therefore, even assuming that a measure is adequate to fully mitigate a project-specific impact, it does not follow that the measure is also adequate to mitigate the project's contribution to a broader, cumulative problem. Here, for instance, the loss of Alameda whipsnake habitat could have significant cumulative impacts as the available habitat for this species in the region is scarce. Consequently, the DEIS/EIR must explain why the Project mitigation measures are adequate to mitigate both Project-specific impacts and the Project's contribution to cumulative impacts.

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VII. THE NOTICE OF PREPARATION FOR THE PROJECT WAS INACCURATE.

NEPA requires that, before preparing an EIS, project proponents must issue a Notice of Intent that briefly describes the proposed action and alternatives. 40 C.F.R. § 1508.22. CEQA similarly requires the lead agency to issue a Notice of Preparation for the proposed project that includes a description of the project, its location, and probable environmental effects. CEQA Guidelines § 15082(a)(1)(A)-(C). Here, the Notice of Preparation did not accurately indicate the location of all of the significant Project components and thus deprived responsible and trustee agencies of an opportunity to assess the Project's likely environmental impacts.

In the 2003 expansion studies for the Project, maps prepared indicated that the proposed pipeline connecting Los Vaqueros to the South Bay water agencies would proceed from just north of the dam to the mid-point of the South Bay Aqueduct. The 2005 Notice of Preparation shows two potential alignments, both originating just north of the dam. The first connects to the South Bay Aqueduct at the mid-point, similar to the expansion studies, while the second connects directly to the Bethany reservoir. By contrast, the 2008 DEIS/EIR proposes an entirely new alignment for this pipeline, connecting the transfer station, approximately five miles north of the dam, to the Bethany reservoir. The new route of this pipeline affects areas that otherwise would have been

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[10] In fact, as described elsewhere in this letter, much of that mitigation is inadequate to mitigate the Project's significant impacts.

undisturbed by the Project, including EBRPD's proposed Byron Vernal Pools Regional Preserve.

Because the Notice of Preparation presented an entirely different route for the proposed pipeline than that identified in the DEIS/EIR, the Notice was inadequate. Noncompliance with CEQA's information disclosure requirements is grounds for invalidating a decision where that noncompliance prevents informed decision making and public participation. Pub. Res. Code § 21168.5; *cf. Fall River Wild Trout Found. v. County of Shasta*, 70 Cal. App. 4th 482, 491-493 (1999) (setting aside adoption of mitigated negative declaration was proper remedy for failure to provide the document to trustee agencies before approval).

42 Cont.

VIII. THE DEIS/EIR FAILS TO DESIGNATE AN ENVIRONMENTALLY SUPERIOR ALTERNATIVE AS REQUIRED BY CEQA.

CEQA requires that an EIR identify one of the action alternatives, i.e., an alternative other than the no-project alternative, as the environmentally superior alternative. CEQA Guidelines § 15126.6(e)(2). The DEIS/EIR does not designate an environmentally superior alternative and does not address this requirement in the discussion of legal requirements for the development and screening of alternatives. DEIS/EIR at 3-5 to 3-7. The DEIS/EIR states only that it is too early in the process to designate a "Preferred Alternative under NEPA or the Least Environmentally Damaging Practicable Alternative under Section 404(b)(1) of the federal Clean Water Act because related engineering, economic and financial feasibility analyses are not complete." *Id.* at 3-16. This statement does not address the CEQA requirement, but we assume that the Lead Agencies intended to defer that determination as well. Without designation of an environmentally superior alternative, the document deprives the public and decision makers of a ready metric for evaluating the environmental merits and demerits of the various alternatives. The failure to select an environmentally superior alternative plainly violates CEQA. CEQA Guidelines § 15126.6(e)(3).

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IX. THE DEFICIENCIES IN THE DEIS/EIR REQUIRE THAT ADDITIONAL ANALYSIS BE PERFORMED AND THE DEIS/EIR BE RECIRCULATED.

CEQA requires recirculation of a revised draft DEIR "[w]hen significant new information is added to an environmental impact report" after public review and comment on the earlier draft EIR. Pub. Res. Code § 21092.1. The opportunity for meaningful public review of significant new information is essential "to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom." *Sutter Sensible Planning, Inc. v. Sutter County Bd. of Supervisors*,

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122 Cal. App. 3d 813, 822 (1981); *City of San Jose v. Great Oaks Water Co.*, 192 Cal. App. 3d 1005, 1017 (1987). An agency cannot simply release a draft report "that hedges on important environmental issues while deferring a more detailed analysis to the final [EIR] that is insulated from public review." *Mountain Lion Coalition v. Cal. Fish & Game Comm'n*, 214 Cal. App. 3d 1043, 1053 (1989).

44 Cont.

To cure the panoply of defects identified in this letter, the Lead Agencies must obtain substantial new information to adequately assess the proposed Project's environmental impacts and to identify effective mitigation and alternatives capable of alleviating the Project's significant impacts. This new information will clearly necessitate recirculation. CEQA requires that the public have a meaningful opportunity to review and comment upon this significant new information in the form of a recirculated DEIS/EIR.

* * *

Thank you for your consideration of these comments. Please let us know if EBRPD can provide further assistance to the Lead Agencies in addressing the comments raised herein.

Very truly yours,

SHUTE, MIHALY & WEINBERGER LLP

KRISTIN B. BURFORD
MATTHEW D. ZINN

Attachments

cc: Bob Doyle, EBRPD
Brad Olson, EBRPD

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EXHIBIT 1

Reclamation Manual

Directives and Standards

Subject: Recreation Program Management

Purpose: To ensure effective management of public outdoor recreation on Bureau of Reclamation lands and waterbodies. This Directive and Standard (D&S) benefits Reclamation because it establishes the roles, responsibilities, and direction that provide consistency in planning, developing, and managing public outdoor recreation resources on Reclamation lands and waterbodies.

Authority: Reclamation Act of 1902 (ch. 1093, 32 Stat. 388; 43 USC 391 et seq.), as amended and supplemented; Economy Act of 1932 (ch. 314, 31 USC 1535), as amended; Reclamation Project Act of 1939 (ch. 418, 53 Stat. 1187; 43 USC 485 et seq.); Federal Water Project Recreation Act of 1965 (Pub. L. 89-72; 79 Stat. 213, 214; 16 USC 460*l* et seq.), as amended; Architectural Barriers Act of 1968 (Pub. L. 90-480, 82 Stat.718; 42 USC 4151 et seq.); Rehabilitation Act of 1973 (Pub. L. 93-112; 87 Stat. 355; 29 USC 701 et seq.), as amended; Reclamation Recreation Management Act of 1992 (Pub. L. 102-575, Title XXVIII; 106 Stat. 4690; 16 USC 460*l*-31-460*l*-34), as amended; Law Enforcement Authority at Bureau of Reclamation Facilities, 2001 (Pub. L. 107-69; 115 Stat. 593; 43 USC 373b); Federal Lands Recreation Enhancement Act of 2004 (Pub. L. 108-447, Div. J, Title VIII; 118 Stat. 3378; 16 USC 6801 et seq.); 43 Code of Federal Regulations (CFR) part 21, *Occupancy of Cabin Sites on Public Conservation and Recreation Areas;* 43 CFR part 24, *Department of the Interior Fish and Wildlife Policy*; 43 CFR part 420, *Off-Road Vehicles*; 43 CFR part 423, *Public Conduct on Bureau of Reclamation Facilities, Lands, and Waterbodies*; 43 CFR part 429, *Use of Bureau of Reclamation Land, Facilities, and Waterbodies*; and Reclamation project specific authorities.

Approving Official: Director, Policy and Program Services (PPS)

Contact: Land Resources Office, 84-53000

1. **Introduction.** The Federal Water Project Recreation Act of 1965 (Pub. L. 89-72), as amended, states that "there is a Federal responsibility to provide opportunities for public recreation at Federal water projects." In that Act, and other project authorizations, Congress created a variety of authorities for managing recreation at Federal water projects. As a steward of Federal lands and waterbodies for various water projects, Reclamation needs to ensure the appropriate use of those projects for recreation by planning, developing, and managing public recreation in accordance with its Reclamation Manual (RM) Policy, *Recreation Program Management*, LND P04, this D&S, applicable Federal laws, regulations, policies, Executive Orders (EO) and other D&Ss such as RM D&S, *Implementation of the Cost-Sharing Authorities for Recreation and Fish and Wildlife Enhancement*, LND 01-01. This D&S covers a wide variety of recreation programs and

activities; therefore, an alphabetized index is attached as Appendix A to assist in identifying the pages where specific recreation program topic areas are located.

2. **Applicability.**

   A. This D&S applies to the recreation management of lands and waterbodies that remain under the jurisdiction of Reclamation, including lands and waterbodies managed by a partner (i.e., non-Federal or another Federal entity).

   B. This D&S will apply to all new recreation management agreements and existing agreements, provided Reclamation and the managing entity agree and amend the existing agreement.

   C. It is important to note that this D&S provides direction that is different from LND 01-01. LND 01-01 is based on Pub. L. 89-72, as amended, which was specifically enacted to help Reclamation utilize non-Federal public entities in managing Federal land; provide a means for cost-sharing assistance with non-Federal partners; and determine when it is important to obtain a Federal partner. This D&S does, however, reference Pub. L. 89-72, as amended, and LND 01-01 to provide clarity to certain paragraphs. This D&S does not replace or amend LND 01-01.

3. **Definitions.** See Appendix B.

4. **Responsibilities.** As stated in LND P04, all Reclamation offices will ensure that recreation-related activities do not conflict with the primary purpose(s) of the authorized Reclamation project. All Reclamation offices are responsible for ensuring that Reclamation personnel involved in recreation management have completed training commensurate with their recreation responsibilities. Responsibilities for proper administration of the recreation program will be shared by different levels of the organization as follows:

   A. **Policy and Program Services.** PPS is responsible for administering the recreation program; providing interagency and intra-agency coordination; establishing recreation Policy, D&S, and guidance; participating in reviews and evaluations, as requested; and coordinating and providing recreation training opportunities for Reclamation offices. PPS will evaluate and approve or deny requests for waivers for this D&S that are submitted by Reclamation regional and area offices. See RM D&S, *Request for Waiver from a Reclamation Manual Requirement and Approval or Disapproval of the Request*, RCD 03-03.

   B. **Regional Directors.** Regional directors, or their delegate, are responsible for implementing this D&S, overseeing and coordinating the regional recreation program, and ensuring that area offices conduct appropriate reviews and evaluations of recreation sites under their jurisdiction. Regional directors, or their delegate, will review, approve, and sign or deny all management agreements with a Reclamation recreation partner.

C. **Area Managers.** Area managers, or their delegate, are responsible for the day-to-day management activities associated with administering the recreation program. Area managers, or their delegate, will negotiate and prepare recreation management agreements with potential partners and submit such agreements to the regional director for review and for signature if signatory authority has not been delegated to the area manager. If Reclamation has a managing partner, area managers will provide an appropriate level of oversight in accordance with RM requirements to ensure that a managing partner is in full compliance with the terms and conditions of the management agreement. Area managers will be responsible for conducting internal reviews and evaluations and participating in external reviews and evaluations for those recreation areas where they have oversight responsibility.

5. **Transfers.** Transfer of Reclamation lands and facilities for recreation purposes under Pub. L 89-72 or appropriate project-specific authority will be accomplished by using one of the following two methods:

A. **Management Transfer.** A transfer whereby Reclamation's operation and management responsibilities for a recreation area are transferred to a qualified government entity. For example, a local or state entity, Indian tribe, or another Federal agency can operate and maintain a designated recreation area on Reclamation's behalf through a legal, binding, written agreement. Reclamation retains jurisdiction of all lands and land resources.

B. **Jurisdictional Transfer**. A jurisdictional transfer is a transfer where Reclamation lands and appurtenant infrastructure are transferred to another Federal entity by appropriate transfer documents and appropriate legislation.

(1) Jurisdictional transfer of Reclamation lands to another Federal entity will be in accordance with Federal laws, policies, and regulations. Transfer of jurisdiction may include Reclamation acquired lands and/or withdrawn lands.

(2) Notification of a jurisdictional transfer to another Federal agency will be published in the *Federal Register.* A public notice will be used to transfer jurisdiction over acquired lands. A public land order will be used to transfer withdrawn public lands.[1] To ensure Reclamation's authorized project purposes are protected, the *Federal Register* notice will describe, in detail, Reclamation's reserved rights and privileges in using the transferred lands and appurtenant structures for Reclamation project purposes.

(3) To assist Reclamation in maintaining concise and accurate records, appropriate financial and property records will be transferred to the receiving Federal entity.[2]

[1]Contact your local recreation or land management office or the Land Resources Office, PPS, Denver, 84-53000 for guidance.
[2]Contact your local property management office or Property Management Program Office, Denver, 84-27840 for guidance.

(4) Jurisdictional transfers to a Federal agency may be accompanied by an agreement (e.g., a Supplemental Agreement to the National Memorandum of Understanding with the U.S. Forest Service will be prepared for a jurisdictional transfer to the U.S. Forest Service). These types of agreements are typically permanent in nature and have no expiration date.

6. **Acquisitions.** If there is a public demand for outdoor recreation opportunities that have been identified through an appropriate recreation planning process and the opportunities are compatible with project purposes, the responsible Reclamation manager will ensure that sufficient land and land rights are acquired to meet present and future demand. The acquisition of land for recreation purposes will occur during the development of a new water project or when an existing project feature is modified. Refer to RM D&S, *Land Acquisition*, LND 06-01, for detailed direction on acquiring land for project and program purposes. Reclamation will follow an established acquisition planning process that is commensurate with proposed development and the amount of land being acquired.

   A. **New Project Development.** If a new project is being planned, the acquisition of lands and land rights for recreation purposes will be part of the overall process of project planning and evaluation. The costs of such lands and land rights that serve recreation may be single purpose or joint recreation costs of a project and are subject to allocation for that purpose. Refer to RM Policy, *Allocation of Operation and Maintenance and Replacement Costs*, PEC P07 for further direction on how separable recreation costs will be allocated. Reclamation managers will work with their respective realty officers and recreation coordinators during the acquisition planning process to ensure: (1) sufficient land and appropriate land rights above the high water line are acquired for anticipated public use and enjoyment of project lands, (2) future recreation facility development, and (3) public access around and to the entire project area, if practical.

   B. **Modification to Existing Reclamation Features.** If existing project features are being modified, Reclamation managers will work with their respective realty officers and recreation coordinators to ensure that sufficient lands and land rights are available for relocating, protecting, or modifying existing recreation facilities for the same public recreation purposes as specified in Paragraph 6.A.

   C. **Acquisition of Lands for Recreation Purposes by Non-Federal Partners.** If Reclamation has a non-Federal recreation managing partner, the partner may acquire lands or interests in lands as part of a repayment or cost-share in kind credit pursuant to Pub. L. 89-72, as amended or other appropriate authorizing legislation; provided that such land and land rights are conveyed to the United States. Reclamation will review and approve all land acquisitions that its non-Federal partners may wish to use for any repayment obligations or in kind credits.

7. **Partner Managed Recreation Areas.** As stated in LND P04, Reclamation will continue to seek both qualified non-Federal and Federal agencies to manage facilities, lands, and waterbodies at Reclamation projects for recreation and recreation-related fish and wildlife

purposes. Fish and wildlife facilities that serve primarily recreation purposes will be considered recreation facilities for the purposes of facility planning, constructing, and managing under this D&S. If there is more than one potential managing partner, Reclamation will solicit proposals from prospective partners and select the partner with the best proposal. In the absence of project-specific recreation authority, Reclamation may provide cost sharing with a non-Federal partner pursuant to Pub. L. 89-72, as amended and LND 01-01. If Reclamation has project-specific recreation authority and has secured a non-Federal or another Federal partner to manage recreation, it may cost share for the planning, construction, and replacement of capital improvements, and operation and maintenance (O&M) of recreation facilities as provided in that authority.

A. **Non-Federal Partner.** Reclamation will continue to seek non-Federal partners to manage recreation on its lands. The proposed management agreement may or may not be a Pub. L. 89-72 agreement and may or may not involve cost sharing for planning, constructing, and managing recreation facilities, opportunities, and programs. If the Reclamation project has specific recreation authority, the level of cost-share funding, if any, will be negotiated and documented in a management agreement. Potential partners will be required to submit detailed information regarding their ability to manage and provide long-term funding for O&M activities for the recreation area prior to Reclamation agreeing to a partnership. Refer to LND 01-01 for a list of minimum prerequisite requirements that will be followed. If a potential partner does not provide sufficient evidence of its ability to manage an area, Reclamation will not enter into a management agreement with that entity.

B. **Federal Partner.** Reclamation may transfer recreation and other land management activities to a qualified Federal agency that is willing to accept management responsibility. **Note:** This is not a jurisdictional transfer as detailed in Paragraph 5.B.; it is only a transfer of the management responsibility to another Federal agency. In the absence of project-specific recreation authority, Reclamation is not authorized to provide funding to the Federal partner for recreation-related activities. If the Reclamation project has specific recreation authority, the level of cost-share funding with a Federal partner for planning, developing, and managing recreation will be negotiated and documented in a management agreement within the limits provided by that authority.

C. **Negotiation.** When negotiating with a potential non-Federal and Federal partner and once a partner is selected, Reclamation will, as appropriate, apply the pertinent principles contained in Pub. L. 89-72 and this D&S no matter what authority is used to enter into a partnership agreement (i.e., Pub. L. 89-72 or project-specific recreation authority). Again, refer to LND 01-01 for standard requirements.

8. **Reclamation Managed Recreation Areas.**

   A. **Project-Specific Authority.** When Reclamation is the sole manager of a recreation area and has project-specific recreation authority, it will plan, develop, modify, expand, operate, and maintain recreation facilities, opportunities, and programs within the limits provided by that authority.

   B. **Minimum Basic Facilities.** In the absence of project-specific recreation authority, Reclamation will be limited to providing only minimum basic facilities, except as provided for in Paragraph 12.B. In addition to the exception in Paragraph 12.B. and pursuant to the Federal Lands Recreation Enhancement Act of 2004 (REA), REA revenues collected by Reclamation shall remain available, without further appropriation, until expended. Therefore, pursuant to Paragraph 7.G.(6) of RM D&S, *Federal Lands Recreation Enhancement Act (REA) Program Management*, LND 01-02, and the limitations provided by project-specific authority and Pub. L. 89-72, the regions and PPS, as appropriate, will make REA revenues available at recreation areas managed by Reclamation until such revenues are expended.

9. **Recreation Planning.** No matter who manages an existing recreation area or who will manage an area in the future, a recreation planning process will be used to document and identify proposed recreation facilities, opportunities, and programs and to assist in balancing existing and long-term recreation needs with other land and water resource needs and project purposes.

   A. When a recreation planning process is initiated, Reclamation offices will ensure, among other things, that the health and safety of visitors, accessibility standards, potential impacts to natural and cultural resources, future O&M expenses, staffing, and project purposes are taken into consideration.

   B. A commensurate level of recreation planning will be required prior to development of any facilities and will occur subsequent to a request or project proposal from an existing or potential managing partner.

   C. In planning new water resource projects, Reclamation offices will give full consideration to the inclusion of outdoor recreation opportunities commensurate with public needs and Reclamation responsibilities and objectives. During such planning for new projects, Reclamation will ensure that specialists in the planning and management of recreation resources participate in the planning process to ensure the operational success of the proposed recreation component of any planning effort.

   D. Reclamation offices will conduct an appropriate level of public involvement and outreach during the recreation planning process to ensure that the public has sufficient opportunity to be involved in decisionmaking. Refer to Paragraph 39 for further details on public outreach and involvement.

E. As part of a recreation planning process or any comprehensive planning study conducted by Reclamation, managers will ensure that appropriate actions are taken, where appropriate, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat pursuant to EO 13443, dated August 16, 2007. However, Reclamation area managers have the flexibility, pursuant to 43 CFR part 423, *Public Conduct on Bureau of Reclamation Facilities, Lands, and Waterbodies*, to close an area in its entirety or limit hunting activities by designating an area as a special use area with restrictions. Refer to Paragraph 20 for additional information concerning designation of special use areas; Paragraph 21 for closure of Reclamation lands; and Paragraph 23 for hunting, fishing, and trapping on Reclamation lands and waterbodies.

10. **Development, Capital Improvement, and Expansion.** No matter who manages a recreation area, and subsequent to the recreation planning process described in Paragraph 9, each Reclamation office will establish a logical and systematic process that will be used for prioritizing any development, capital improvement, or expansion of recreation facilities on project lands.

11. **Operation, Maintenance, and Replacement.** No matter who manages the recreation area, existing recreation-related Federal laws, regulations, and policies; management and cost sharing agreements; and pertinent planning documents will be used to guide the level of management required for a specific area.

12. **Termination or Expiration of a Management Agreement.**

A. **Management Options.** In the event of a termination or expiration of a management agreement with a Federal or non-Federal entity for a public recreation area, Reclamation will exercise one of four options:

(1) Automatically begin management of the recreation area.

(2) Manage until a new managing agreement is established with the previous partner or with a new partner.

(3) Fully or partially close the recreation area to public use and entry.

(4) Any combination of the above-mentioned three options.

B. **Reclamation Management.** For areas that lack specific recreation authority and where recreation facilities have been planned, constructed, and managed by a partner but turned back to Reclamation for management, Reclamation will expend necessary funds to operate, maintain, and replace existing facilities to standards necessary to protect public health and safety and the developed capital investments. When project-specific recreation authority exists, Reclamation will operate, maintain, replace, and expand facilities within the limits of such authority.

C. **Fixed Assets.** Title to fixed assets is vested in the United States, unless otherwise stated in a management agreement and the managing partner has fully funded the development of the fixed asset. If fixed assets are located on Reclamation lands and there has been a turn back, default, termination, or expiration of a management agreement, Reclamation will determine which fixed assets, if any, will remain and which, if any, have a compensable interest. If fixed assets are cost shared using Federal funds, title will be vested in the United States and no compensation is authorized. Refer to Paragraph 12.D. below.

D. **Compensable Interest in Fixed Assets.** Compensation for any interest in fixed assets will be stated in the management agreement between Reclamation and the managing partner. If the title to fixed assets is vested with the United States and so stated in the management agreement, no compensation will be provided to the managing partner upon expiration or termination of the agreement. If title to fixed assets is not vested in the United States and so stated in the management agreement, Reclamation will compensate the managing partner for the value of the fixed assets that Reclamation determines to be useful to the successful management of the recreation area. Refer to Paragraph 12.E. below.

E. **Value of Fixed Assets.** The value of fixed assets will be determined by Reclamation and will be based on the actual cost, less depreciation. Reclamation's compensation payment to the managing partner for fixed assets that will become Federal property, will occur prior to the actual expiration or termination of the management agreement or at a time mutually agreed upon by both parties.

F. **Removal of Non-Federal Property.** If official notice has been given to Reclamation by the partner to end a management agreement, then prior to the expiration or termination of the management agreement, all fixed assets for which the United States does not hold title or does not wish to keep as part of the recreation area, and all personal property will be removed by, and at the expense of, the partner.

G. **Written Notice.** Reclamation will require each management agreement to state that the managing partner will provide Reclamation timely written notice of its intent to turn recreation management responsibility of an area, facility, or land/water area back to Reclamation. A minimum 180-day written notice to Reclamation is required.

H. **Concessions Operated by Partners.** RM D&S, *Concessions Management by Non-Federal Partners*, LND 04-02, authorizes non-Federal partners to enter into concession contracts that have been approved by Reclamation with commercial businesses to provide goods and services to the public. When there is an existing concession operating in an area at the time of a termination or expiration of a recreation management agreement, Reclamation will not stand-in-stead as directed in LND 04-02, unless an existing concession contract stated otherwise. All new concession contracts entered into after the issuance of LND 04-02, dated April 29, 2004, will terminate concurrently with the termination of the recreation partner agreement and Reclamation

will not stand-in-stead of the managing partner. The partner will ensure that the fixed assets and personal property of the concessionaire are removed prior to the date that the termination of the management agreement will be in effect. In the absence of a managing partner, Reclamation may at its discretion issue a new concession contract in compliance with RM D&S, *Concessions Management by Reclamation*, LND 04-01.

13. **Recreation Management Agreements.** Reclamation and its non-Federal or Federal partners are required to develop recreation management agreements for management of Reclamation lands. All new management agreements and modification or renewal of a management agreement between Reclamation and a partner will comply with LND P04 and this D&S. All new and renewed management agreements will not exceed 25 years, unless a waiver is submitted to and approved by PPS. Refer to RCD 03-03 for information regarding waivers. If a partner is interested in continued management, a new agreement will be renegotiated beginning 2 years prior to the expiration date. Automatic renewals of existing agreements are not authorized.

    A. **Review and Approval of Recreation Management Agreements.** To ensure compliance with LND P04 and this D&S, long-term recreation management agreements with Reclamation managing partners will be reviewed, approved, and signed by the regional director, or delegate.

    B. **Compliance with Recreation Management Agreements.** Area managers are responsible for ensuring that partners are in compliance with the terms and conditions of the long-term management agreement. Refer to Paragraph 30, Review and Evaluation, for direction on how Reclamation will conduct certain compliance activities associated with management of a recreation area.

    C. **Third-Party Agreements.** Third-party agreements issued by Reclamation's non-Federal partners will be signed by the area manager subsequent to the review and approval of the regional director, or delegate, to ensure compliance with LND 04-02, this D&S, and any applicable Federal laws, rules, and policies.

14. **Other Land Management Activities.** Reclamation has ultimate responsibility for land and resource management including the management of all natural and cultural resources and associated programs on lands and waterbodies under its jurisdiction. In addition to the transfer of the recreation resources to a recreation managing partner, as discussed in Paragraph 5, Reclamation may wish to transfer other land management responsibilities. Upon agreement of the recreation managing partner, Reclamation will assign certain responsibilities such as fire protection and suppression, fencing, trespass, soil conservation, search and rescue, cultural resource protection, garbage collection, integrated weed and pest management, or public safety needs identified by Reclamation, by clearly defining the partner's responsibilities in the recreation management agreement.

    A. **Additional Memorandums of Understanding, Memorandums of Agreement, Interagency Agreements, or Contracts.** If a recreation partner does not have the

capability or does not agree to accept additional management responsibilities other than recreation, and when Reclamation wishes to divest itself of those responsibilities, Reclamation or its partner will enter into a memorandum of agreement (MOA), memorandum of understanding (MOU), or contract with qualified entities for needed land management assistance. These types of documents will typically be short term, not to exceed 5 years, and may require some type of financial commitment by Reclamation or its partner. **Note**: An MOU and MOA are not agreements that can obligate funds to a recreation partner; rather, procurement contracts will be used.

B. **Activities Associated with Enforcing State and Local Law.** In most instances, responsibilities for enforcing state and local laws are the responsibility of the recreation managing partner and are addressed in the long-term management agreement. However, if Reclamation and its managing partner determine that additional resources are necessary to enforce state and local laws on Reclamation lands or waterbodies, Reclamation will request those services from state, county, or local law enforcement agencies. In both instances, Reclamation's Regional Special Agent will be involved in planning and implementation of any contracts or agreements. Any such contracts or agreements shall also be coordinated with the Regional Security Officer to ensure efficiency and consistency with contracts and agreements that have been made with the same entity for security of Reclamation facilities. These types of law enforcement contracts and agreements will be limited to not more than 5 years and may require some type of financial commitment by Reclamation or its partner. If additional law enforcement resources are necessary, Reclamation may assist in providing funding. Procurement contracts are the only instruments that can transfer funds to a state, county, or local law enforcement agency. These procurement contracts will be signed by Reclamation's Contracting Officer or Grants Officer after consultation and coordination with the Regional Security Officer and Regional Special Agent.

C. **Activities Associated with Enforcing Federal Law.** Enforcement of Federal law on Reclamation lands and water bodies is governed by Pub. L. 107-69, *Law Enforcement Authority at Bureau of Reclamation Facilities* and 43 CFR part 422, *Law Enforcement Authority at Bureau of Reclamation Projects*. The Reclamation Law Enforcement Administrator and Regional Special Agent will be involved in determining when additional law enforcement resources are necessary to enforce Federal laws on lands or waterbodies under Reclamation jurisdiction. An interagency agreement between the bureaus in the Department of the Interior is in place to provide cross designation of Department enforcement officers to provide law enforcement and investigative support in areas under their responsibility or control. Reclamation may enter into additional agreements to more fully detail the scope, objectives, and the range of responsibilities. Reclamation's Regional Special Agent and Regional Security Officer will be involved in planning and implementation of contracts, interagency agreements, and cooperative agreements for law enforcement services. The Law Enforcement Administrator is the Reclamation official authorized to enter into agreements which authorize law enforcement personnel of any other Federal agency that has law enforcement authority (with the exception of the Department of Defense) or law enforcement personnel of any

state or local government, including an Indian tribe, when deemed economical and in the public interest, through cooperative agreement or contract, to act as law enforcement officers to enforce Federal laws and regulations within a Reclamation project or on Reclamation lands, with such enforcement powers as may be so assigned to them by the Secretary of the Interior. The length of term for these law enforcement agreements is limited to 3 years. Subsequent to approval of the Law Enforcement Administrator, Contracting Officers and Grants Officers are the only officials that have signatory authority to sign all procurement contracts and financial assistance instruments such as cooperative agreements.

15. **Service Contracts.** In areas managed directly by Reclamation, service contracts will be used to secure goods and services on Reclamation lands in the absence of a management agreement with a partner. Service contracts may also be used by managing partners to supplement their management of the recreation resources on Reclamation land and waterbodies.

16. **Concession Contracts.** Commercial operators provide recreation facilities, opportunities, goods, and services when Reclamation or a managing partner determines demand is sufficient. The issuance and management of concession contracts on Reclamation lands will follow RM Policy, *Concessions Management,* LND P02; LND 04-01; and LND 04-02.

17. **Cooperating Associations.** When appropriate, cooperating associations will be used to supplement and enhance recreation activities and programs on Reclamation lands.

18. **Private Exclusive Recreational or Residential Use.** New private recreation and residential exclusive use, as defined in 43 CFR 429.2, is prohibited on Reclamation lands. Existing private recreation and residential exclusive use will be administered as provided in 43 CFR part 21; 43 CFR part 429; LND P02; LND 04-01; LND 04-02; and RM D&S, *Land Use Authorizations,* LND 08-01.

19. **Camping Limitations.** Pursuant to 43 CFR 423.33, the unauthorized use or occupancy of recreation sites, such as campgrounds, picnic areas, or recreational vehicle/trailer spaces, in excess of 14 days during any 30-consecutive-day period is prohibited, except as allowed by a use authorization issued under 43 CFR part 429. The 14-day camping limitation will apply to a concession managed area unless the concession agreement states otherwise.

20. **Special Use Areas.** Designation of a Reclamation special use area (an area with rules differing from Subpart C of 43 CFR part 423) will be made in compliance with Subpart E of 43 CFR part 423. Special use areas, such as wildlife, cultural, historic, recreation, or critical habitat areas, will be managed by Reclamation or its recreation partner for the purpose for which they were established and at a level that protects the facility, infrastructure, and resource. Special use areas that were in effect on April 17, 2006, remain in effect without the need for further action. To create new special use areas, Reclamation and/or managing partners must adhere to the procedures set forth in Subpart E of 43 CFR part 423 and any applicable Reclamation policies and delegations of authority. Within the parameters of

43 CFR part 423 and any other applicable laws and regulations and with Reclamation written approval, managing partners may establish their own limitations, allowances, or restrictions for the management and use of lands without the need to create special use areas.

21. **Closure of Reclamation Lands.** Reclamation offices will ensure that all Reclamation facilities, lands, and waterbodies are open to lawful public use unless they are closed to public use by an authorized Reclamation official. Lands and waterbodies managed by Reclamation can include permanent, periodic, or seasonal closures of certain areas as deemed necessary by Reclamation. Any type of closure or reopening of Reclamation lands will follow the requirements provided in Subpart B of 43 CFR part 423 and/or 43 CFR part 420, *Off-road Vehicle Use*. Consistent with, and to the extent allowed by, those regulations and any applicable Reclamation policies and delegations of authority, managing partners may open and close lands as deemed necessary and with Reclamation written approval.

22. **Off-Road Vehicle Use.** Reclamation lands will be closed to off-road vehicle (ORV) use unless, through an approved planning process, a Reclamation area is designated as limited or open to off-road vehicle ORV use and conditions of use are specifically described. The process of determining whether an area, road, or trail is designated as open to ORV use, open to limited use, closed to use, and the level of use allowed will include a combined public involvement process, National Environmental Policy Act (NEPA) process, and the development of planning documents. For more information concerning the rules, regulations, and procedures for use of ORVs on Reclamation lands, see 43 CFR part 420; EO 11644, dated February 8, 1972; and EO 11989, dated May 24, 1977.

23. **Hunting, Fishing, and Trapping.** Reclamation will provide for public use of lands in accordance with state and Federal laws and will allow public hunting, fishing, and trapping within statutory limitations pursuant to 43 CFR 423.32. Hunting, fishing, and trapping will be compatible with Reclamation project purposes and be conducted in a manner that protects the health and safety of the public and a managing entity's infrastructure and personnel. Reclamation lands are generally open to hunting, fishing, and trapping unless closed, as deemed necessary, or designated as special use areas with restrictions. Any such closures or special use area designations related to hunting, fishing, and trapping will be in consultation with appropriate state game and fish agencies and will include a public involvement and NEPA process. Refer to 43 CFR part 24, *Department of the Interior Fish and Wildlife Policy*, for further guidance on hunting, fishing, and trapping on Federal lands, 43 CFR part 423, and EO 13443.

24. **Wild and Scenic River Program.** In all planning efforts for the recreation use and development of water and related land resources and in cooperation with other Federal agencies, Reclamation will consider or evaluate potential wild, scenic, or recreation values for areas under its jurisdiction or as required by the Wild and Scenic Rivers Act of 1968, as amended. Administration of rivers in the national Wild and Scenic River Act system has been delegated to four Federal land management agencies: Bureau of Land Management,

U.S. Forest Service, National Park Service, and U.S. Fish and Wildlife Service. Although Reclamation is not one of the four primary Federal agencies responsible for the management of the rivers that have been designated as wild and scenic, it will cooperate with administering agencies in studying rivers under its jurisdiction for inclusion into the system and in protecting authorized project purposes and operations and the values for which a river has been designated.

25. **National Scenic Byways Program.** If certain roads within Reclamation projects potentially have unique and outstanding archaeological, geological, cultural, historical, natural, recreational, or scenic characteristics, Reclamation will conduct an assessment of the roads to determine if they meet the criteria which is necessary to become a National Scenic Byway. This assessment will be accomplished through an appropriate planning process in cooperation with interested parties and the Federal Highway Administration who administers the Scenic Byways program.

26. **Federal Lands Recreation Enhancement Act Pass Program.** REA established four types of interagency passes that provide access to visitors to recreation sites on Federal lands where REA fees are charged. The four types of passes (Annual, Senior, Access, and Volunteer) replace the Golden Eagle, Golden Age, and Golden Access Passports. (**Note**: The Volunteer Pass is free and will be awarded to agency volunteers that meet certain requirements.) At sites that have officially been designated as REA sites by the regional director, the implementation of REA, collection and distribution of REA fees, and the ordering, selling, and accounting of REA passes will adhere to LND 01-02.

27. **Collection and Distribution of Fees.** Appropriate and necessary user fees and entrance fees will be collected and distributed by Reclamation and its managing partners.

    A. **Entrance Fees.** Reclamation is prohibited from charging an entrance fee; however, necessary and appropriate entrance fees may be charged by a partner pursuant to their laws, rules, and regulations.

    B. **Federal Lands Recreation Enhancement Act Fees.** Only Reclamation offices with recreation areas designated by the regional director as official REA sites are authorized to collect REA standard and expanded amenity fees and fees collected from special recreation permits issued at the REA site. Non-Federal partners are prohibited from charging REA fees. The collection, disposition, and retention of REA fees will be governed by LND 01-02.

    C. **Non-Federal Lands Recreation Enhancement Act Fees.** At non-REA areas managed directly by Reclamation, it will collect necessary and appropriate user fees in accordance with Title XXVIII of Pub. L. 102-575. Reclamation will establish recreation user fees, appropriate filing fees for applications and other documents concerning use of Reclamation lands and waterbodies, and collect charges or commissions for such use. Disposition of such revenues will be in accordance with applicable laws, regulations, and RM Policies, and D&Ss. For more information, see

RM D&Ss, *Charges for Use of Federal Assets*, PEC 01-01; *Crediting of Incidental Revenues*, PEC 03-01; and *Use of the Collection Information Form for Incidental Revenues*, PEC 03-02.

D. **Indian Ceremonial or Religious Use.** Fees will not be charged to Indian tribes, Indian practitioners, and individual Indians for the use of Reclamation withdrawn or acquired lands if such use has been determined by Reclamation or its partners to be for legitimate Indian ceremonial or religious purposes. For more information, see the American Indian Religious Freedom Act of 1978 and EO 13007, Indian Sacred Sites.[3]

E. **Veterans Day Access.** Veterans and their immediate family will not be charged any standard amenity fees on Veterans Day at REA sites, or any use fees at non-REA recreation sites managed by Reclamation. This waiver of fees does not apply to expanded amenity fees at REA sites, or uses or activities that would normally be required to have a use authorization, such as group activities or recreation events. Waiver of fees for veterans does not apply to recreation sites managed by non-Federal partners. Documentation of veteran status is not required.

F. **Public Lands Day Access.** The public will not be charged any standard amenity fees at REA sites, or any use fees at non-REA recreation sites on the nationally recognized Public Lands Day. This waiver of fees does not apply to expanded amenity fees at REA sites, or uses or activities that would normally be required to have a use authorization, such as group activities or recreation events. Waiver of fees does not apply to recreation sites managed by non-Federal partners.

28. **Incidental Recreation Right-of-Way Use.** Reclamation's use of rights-of-way is limited to those activities and facilities, if any, authorized in the original conveyance agreement between Reclamation and the fee landowner. If a reserved right-of-way provision does not provide adequate authority for incidental recreation use or recreation facility construction, the recreation use will not be authorized unless additional authority is obtained from the underlying fee title owner.

29. **Recreation Use Authorizations.** Recreation use authorizations for controlled use on lands and waterbodies will be issued in agreement with approved planning documents and the appropriate management agreement if there is a partner. Recreation use examples requiring a use authorization may include, but are not limited to, boat regattas and racing, fishing and water skiing tournaments, and commercial activities such as outfitting and guiding services.

A. **Recreation Use Authorizations Issued by Reclamation.** The issuance of certain types of use authorizations are reserved by Reclamation and issued by Reclamation pursuant to 43 CFR part 429. A value for the use authorization and a revenue collection and disposition process will be determined before issuing a use authorization

[3]Contact your local staff or Reclamation's Native American Affairs Group, Washington, DC, for guidance in implementing Indian Sacred Sites (EO 13007).

for recreation. Use authorizations for certain uses that would normally be prohibited, such as fireworks, can be obtained but will be issued pursuant to Subpart D of 43 CFR part 423. Reference will be made to both Subpart D and 43 CFR part 429 to ensure that the proper authorities are used when issuing recreation use authorizations for use of Reclamation lands and waters.

B. **Recreation Use Authorizations Issued by Non-Federal Partners.** In compliance with 43 CFR 429.5, non-Federal recreation managing partners may issue limited recreation use authorizations that are not reserved by Reclamation and retain appropriate fees. Use authorizations that may be issued by a non-Federal managing partner will be outlined in the recreation management agreement. When use authorizations are issued by a non-Federal managing partner, their rules and regulations will be followed.

C. **Recreation Use Authorizations Issued by Federal Partners.**

(1) Federal recreation partners that have entered into a management agreement with Reclamation may issue recreation use authorizations that are not reserved by Reclamation and retain appropriate fees. Use authorizations that may be issued by a Federal managing partner will be outlined in the recreation management agreement. When authorized permits are issued by a Federal managing partner, their rules and regulations will be followed.

(2) Where Reclamation has transferred jurisdiction of lands to another Federal agency, that agency is responsible for issuing all land use authorizations and retaining appropriate fees pursuant to their rules and regulations.

30. **Review and Evaluation.** An appropriate number of reviews and evaluations will be conducted at all recreation areas located on lands remaining under the jurisdiction of Reclamation, regardless of who manages the area (i.e., Reclamation, Federal, or a non-Federal recreation managing partner). These reviews and evaluations do not apply to areas where jurisdiction of the land resources has been jurisdictionally transferred to another Federal agency. Reviews and evaluations of recreation areas will be comprised of local and/or external review teams comprised of technical specialists that are qualified to assess the conditions and issues associated with the recreation area, facilities, and programs. Technical specialists will include, among others, recreation planners, electrical and civil engineers, accessibility coordinators, water quality specialists, and health, safety, sanitation, and food service professionals, as well as specialists that have life safety codes credentials. The reviews and evaluations will be conducted on a 10-year cycle or at other times, as appropriate (e.g., a review and evaluation is required prior to the expiration or termination of a management agreement). Offices will make every effort to schedule the internal and external reviews and evaluations concurrently with other required reviews, whenever possible.

A. **Ten-Year Cyclical Review and Evaluation.** During any established 10-year cycle, both a local and an external review and evaluation will be conducted no matter who manages the area. A review and evaluation is not applicable to areas where jurisdiction has been transferred to another Federal agency. During the 10-year cycle, the internal review and evaluation will occur first followed by an external review that is scheduled within a reasonable timeframe that allows for correction of identified deficiencies. These types of reviews and evaluations will include, among other things, a review of business practices, O&M activities, visitor services, approved planning documents, management agreements, security plans, law enforcement requirements, health and safety requirements to include life safety items, etc. Within 90 days of the review and evaluation, a final review and evaluation report will be prepared and sent to the regional office, PPS, review participants, and managing partners, if applicable.

(1) **Local Review and Evaluation.** During each 10-year cycle, a local review and evaluation will be scheduled and conducted by the Reclamation area office directly responsible for the administration and/or oversight of the recreation area. To accommodate participants' schedules, area offices will coordinate all reviews and evaluations with their regional office and others, as appropriate. A regional office representative will attend each local review and evaluation scheduled by an area office.

(2) **External Review and Evaluation.** In addition to the local review and evaluation during each 10-year cycle, an external review and evaluation will be conducted for all recreation areas. The responsibility for the external review schedule and coordination will be the responsibility of the regional recreation coordinator in consultation with the area office staff to ensure a balanced workload over any 10-year period. Each respective regional recreation coordinator will ensure that the review and evaluation team lead is from outside the region where the review and evaluation is being conducted and that the review team includes appropriate specialists who are Reclamation employees or specialists from outside the agency (e.g., if a life safety code expert is needed and one is not available within Reclamation, the region will contract for those services).

B. **Corrective Actions.** All review and evaluation reports will include applicable recommendations and required corrective actions for deficiencies. If a field review identifies operational or administrative deficiencies, a timetable will be established to correct the deficiency. Area managers will act promptly within budgetary or other constraints to ensure that the necessary corrective measures are taken in a timely manner. To assist in prioritizing corrective actions and for budgeting purposes, review and evaluation teams will place recommendations into the following three priorities:

(1) **Priority 1.** Recommendations involving matters of great importance that address remedial action(s) that will need to be taken in a prescribed period to ensure public health or safety and/or to prevent structural failure or resource loss.

(2) **Priority 2.** Recommendations covering a wide range of important matters where action is needed to prevent or reduce further damage to a facility or resource or where action is needed to increase effective management of the area.

(3) **Priority 3.** Recommendations covering matters of less importance but believed to be sound and beneficial to the operation of a facility or area.

C. **Exceptions to 10-Year Cyclical Review and Evaluation.** At times, exceptions to a scheduled local and external review and evaluation may be warranted as follows:

(1) **Capability of the Managing Partner.** When a recreation partner manages an area, the capability and proven performance of the partner, the size and complexity of the area, and the issues will determine the level and actual frequency of a local and external review and evaluation (i.e., an area or regional office will schedule a review and evaluation as often as they determine to be necessary).

(2) **Non-Renewal of a Management Agreement.** When a management agreement is about to expire and there are no plans for renewal or a management agreement is about to be terminated, a close-out review and evaluation will be conducted within 12 months prior to the expiration or termination date and thereafter, as necessary. These types of reviews and evaluations will focus on, among other things, fixed assets owned by the partner or Reclamation, removal of fixed assets, fixed assets that will remain for the benefit of the recreating public, compensable fixed assets, restoration of disturbed lands, and agreement terms related to expiration or termination. Refer to Paragraph 12 for further details related to termination or expiration of a management agreement.

(3) **Renewal of a Management Agreement.** When a management agreement is about to expire and there are plans for renewal, a review and evaluation will be conducted 2 years prior to the expiration date. This review and evaluation will correspond to the requirement that negotiations for renewing a management agreement with a partner will begin 2 years prior to expiration. Refer to Paragraph 13 for further details. This type of review and evaluation will assist Reclamation in negotiating a new management agreement and identifying what agreement articles and stipulations may be added, deleted, or modified to match conditions in the field.

D. **Authorized Existing Private Exclusive Recreational or Residential Use**. Pursuant to 43 CFR 429.32, Reclamation is required to review all recreational or residential private exclusive use on Reclamation lands at least every 5 years to ensure compliance with certain established criteria. In addition, reviews will be conducted at least 6 months prior to the expiration of a recreational or residential private exclusive use permit. Reclamation offices will follow the direction provided in 43 CFR 429.32 when conducting these types of reviews.

E. **Coordinating Reviews and Evaluations.** Whenever possible and feasible, reviews and evaluations will be conducted concurrently with other reviews (e.g., recreation, concession, land management, accessibility, private exclusive recreational or residential use reviews, resource management plan monitoring, and Comprehensive Condition Assessment reviews, as well as environmental audits).

31. **Disputes.** Disputes between Reclamation and its managing partners will be resolved through informal negotiations and discussions. In the event that such disputes fail to reach resolution, either party may request a formal, nonbinding arbitration process. Each party will select one member for the arbitration panel and, together, these two members will select the third (neutral) panel member. The panel will treat each party equally and fairly. Recommendations must be made by a majority of the panel members. If either party disagrees with the arbiter's recommendation, he or she may file an appeal with the Secretary of the Interior under 43 CFR part 4, Subpart G. The Secretary's determination will be final and binding.

32. **Routine Site Visits.** During routine site visits to recreation areas, Reclamation employees will document and report to the proper Reclamation authority any observed health and safety violations or problems, unlawful activities or suspicious behavior, existing or potential resource or facility damage, and any other observed problems within the recreation area. Depending on the severity of the problem identified, corrective or abatement actions will be implemented as soon as possible. Refer to Paragraph 33.G. for additional information on reporting incidents and suspicious activities.

33. **Reporting Requirements.**

A. With the Federal Government's ongoing emphasis on performance and budget integration to improve planning and performance, Reclamation is required to report specific information pertaining to its recreation goals, targets, and program results.

(1) Assisting in improving upon existing recreation performance measures through the Performance Assessment Rating Tool (PART) review.

(2) Aligning budgets with the recreation program.

(3) Aligning recreation programs and performance measures with established Government Performance Results Act (GPRA) goals.

B. **Government Performance Results Act.** Pursuant to GPRA and the Department's Strategic Plan, Reclamation field offices will collect required GPRA goal data and summit quarterly reports to the regional GPRA recreation coordinator, who will then submit them to the regional GPRA coordinator.

C. **Performance Assessment Rating Tool.** PART is a systematic method of assessing the performance of program activities across the Federal Government. Field offices

will provide necessary recreation and concession information to PART managers to further Reclamation's overall effort in assessing recreation and concession program performance. To maintain the quality of Reclamation's recreation program, field offices will integrate operational decisions with strategic and performance planning.

D. **Activity-Based Costing Management.** To satisfy a commitment to the President's Management Agenda, Reclamation will link the full costs of resources to business processes and outputs through a methodology commonly referred to as Activity-Based Costing (ABC). Under ABC, Reclamation has one recreation end outcome goal which is to improve the quality and diversity of recreation experiences and visitor enjoyment on Department lands. The end outcome goal has a series of intermediate outcome strategies that will be implemented by Reclamation to achieve the end outcome goal.

E. **Comprehensive Condition Assessment.** In accordance with applicable Department requirements and Real Property EO 13327, Reclamation will conduct Comprehensive Condition Assessments (CCAs) of all constructed assets that meet the $50,000 threshold in current replacement value. For those recreation facilities identified in the initial 2004 inventory, Reclamation offices will ensure that existing and any new recreation facilities with a replacement value greater than $50,000 be inventoried on a 5-year basis. In addition, each field office will conduct an annual condition assessment of recreation facilities that have a current replacement value greater that $5,000. This brief and informal annual site review will be conducted to simply verify the continued existence of a facility and any changes in its maintenance condition. Refer to the guidelines developed by the PPS Maintenance Services Office, 84-57000, for further information on how the CCA inventories are applied to Reclamation's reserved and transferred works.

F. **Federal Real Property Profile.**

(1) In accordance with the President's Management Agenda for Real Property Assessment Management in the Federal Government, and as created by the Federal Real Property Council in response to EO 13327, Reclamation offices will submit appropriate recreation information to regional Federal Real Property Profile (FRPP) Coordinators and then to the Reclamation-wide FRPP Coordinator for entry into FRPP database. The FRPP is a Government-wide database of assets. Assets in the FRPP are all unique records that are assigned a real property unique identifier; therefore, Reclamation offices will annually report in perpetuity any assets with a real property unique identifier before the end of each calendar year. **Note:** The Office of Management and Budget is responsible for ensuring that all Federal agencies are in full compliance with the mandates and any established performance metrics that arise from these activities in the form of a real property asset management scorecard.

(2) Reclamation offices will report only those recreation sites that Reclamation has title to and that are included in the FRPP at the major asset level. Assets at the

major asset level are grouped (e.g., dam, reservoir, irrigation/drainage system, municipal and industrial system, recreation site, etc.) by feature or geographic location (site), where it is appropriate to do so. Reclamation offices will not report any assets at the component or subcomponent level because performance or cost data is not kept at this level.

G. **Incidents and Suspicious Activities**. All incidents, including those occurring on lands managed by a partner, must be reported through Reclamation's Emergency Notification System. Suspicious activities must be reported to the Regional Special Agent or the Law Enforcement Office at intel@do.usbr.gov.

34. **Statistical Data.** Pertinent information on constructed recreation facilities on Reclamation lands and waterbodies will be entered into the official real property automated data system. At the end of each calendar year, Reclamation's Recreation Use Data Report (RUDR) will be updated by the area offices and entered into the RUDR automated data system. PPS, Land Resources Office, 84-53000, is responsible for the development and maintenance of centralized and comprehensive land and recreation databases consistent with departmental needs.

35. **Signage.** Reclamation and its partners will ensure that appropriate signs and markers are located and maintained at each project to interpret, guide, inform, and protect the health and safety of visitors and employees. The nondiscretionary elements of Reclamation's Sign Guidelines (i.e., Federal Highway Administration standards, Reclamation Safety and Health Standards, U.S. Aids to Navigation System, and accessibility requirements) will be followed when planning, designing, fabricating, procuring, installing, and maintaining recreation-related signs. Signs will conform to the official common elements of Reclamation's Visual Identity Program and incorporate Reclamation's tagline, *"Managing Water in the West."* Refer to RM D&S, *Incorporation of Visual Identity into Outdoor Public Use Area Signage*, ADM 05-03, for additional requirements for signage. The placement of signs on Reclamation lands and waterbodies is limited to those that support Reclamation and its managing partners programs and services; private parties are not allowed to display signs on Reclamation lands.

36. **Recreation Internet Website.** PPS, Land Resources Office, 84-53000, will ensure that Reclamation's recreation internet homepage is updated as new information becomes available. By the end of each calendar year, regional offices will provide PPS with updates, as appropriate.

37. **Public Safety.** Reclamation and its partners will do what is reasonably possible to protect the health and safety of visitors and staff and make every effort to identify and provide reasonable safeguards against known hazards.

38. **Accessibility.** Reclamation and its managing partners will provide appropriate program and facility access to the public including those individuals with mobility, hearing, visual, and cognitive or mental disabilities.

39. **Public Outreach and Involvement.** All Reclamation offices with recreation responsibility will seek input and involvement of all parties who are interested in the assessment of recreation resource needs and the development of recreation programs (i.e., Reclamation will provide meaningful opportunities for the public to provide input for Reclamation's consideration when making decisions). Reclamation offices will distribute factual and timely recreation information to the public. Public outreach programs will be used to enhance recreational opportunities through development of cooperative efforts in planning for needed services and facilities, production of informational materials, and/or co-sponsorship of conferences or special events.

EXHIBIT 2

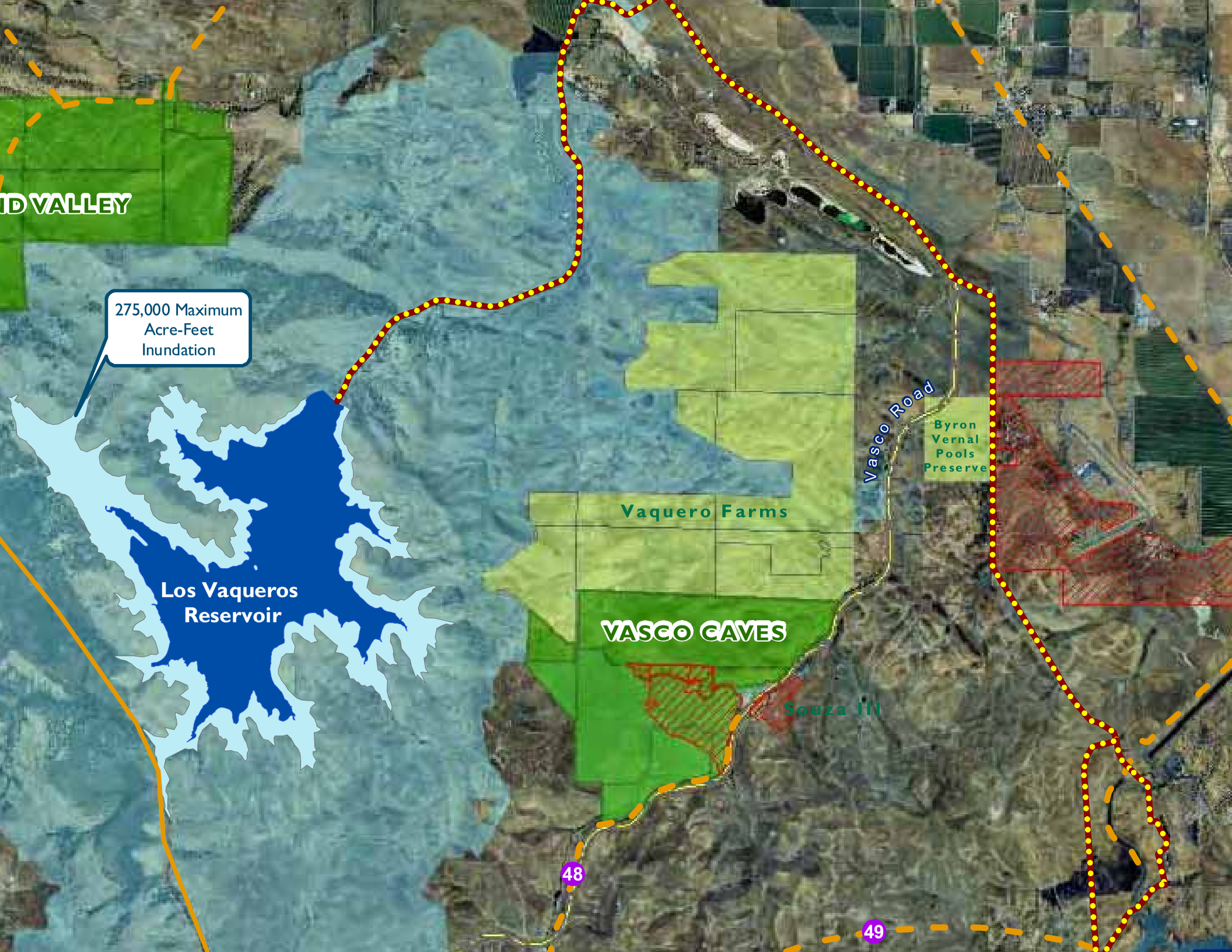
ID VALLEY
275,000 Maximum Acre-Feet Inundation
Los Vaqueros Reservoir
Vaquero Farms
VASCO CAVES
Souza III
Vasco Road
Byron Vernal Pools Preserve
48
49

EXHIBIT 3

BRAD OLSON
East Bay Regional Park District
2950 Peralta Oaks Court
P.O. Box 5381
Oakland, CA 94605-0381
(510) 544-2622
bolson@ebparks.org

Overview: Twenty-five years of professional experience planning, acquiring, restoring developing, and managing open space and parklands in northern California.

Professional History

East Bay Regional Park District, Environmental Programs Manager. 1996 to present.

Natural Resource Management:

- Developed and manage the District's Resource Enhancement Program. Work with State and federal regulators, local land use agencies, elected officials, land owners, land trusts, developers and the environmental community to protect, acquire, restore and manage plant and animal habitats in Alameda and Contra Costa counties. Secured approval for 32 Projects that acquired 2,510 acres of parkland and provided $33,000,000 in funding for acquisition, restoration and management of these lands. These include the following example projects:

  1. *Brushy Peak Preserve:* Negotiated $4,500,000 in agreements to acquire, restore and manage 800-acres of open space. Developed conservation easements and long-term land management plans for special-status species, wetlands, grasslands and public access. Developed endowments for park maintenance and habitat management. Managed construction of approximately four acres of new stock pond and seasonal wetlands that contain breeding populations of California tiger salamander and California red-legged frog.

  2. *Eastshore State Park:* Manage development of seven restoration and public access projects along the Emeryville, Berkeley, Albany and Richmond shorelines. Including creation of new wetlands and coastal habitats, special-status species management, community stewardship, public access facility development, construction management, and funding for long-term management.

  3. *Martinez Regional Shoreline:* Negotiated agreements to restore an 80-acre tidal marsh for special-status species and new public access facilities at Martinez Shoreline in Contra Costa County. Oversaw preparation of restoration, management and monitoring plans, and obtained $5,000,000 in project funding. Managed construction of new tidal wetlands and riparian habitat along Alhambra Creek, which provided new habitat for California clapper rail and saltmarsh harvest mouse.

- Represent the District on a ten-agency multi-species Habitat Conservation Plan for a 170,000-acre planning area in eastern Contra Costa County. Developed and approved Joint Powers and Implementing Agreements. Serve as District lead in land acquisition funding, resource manage plan development and long-term land management funding.

Manage District implementation of the Plan, including land acquisition and restoration project development. These include the following examples:

1. *Black Diamond Mines Regional Preserve:* Manage development of a stock pond providing breeding habitat for California tiger salamander and California red-legged frog, and manage District construction of a freshwater wetland and riparian enhancement project on a tributary of Sand Creek near Brentwood.

2. *Vasco Caves Regional Preserve:* Managed rehabilitation of stock ponds that provide breeding habitat for endangered amphibians, and manage development of a new seasonal wetland in the head waters of Brushy Creek near Byron.

Recreation Management:

- Jointly developed and implemented $10,000,000 in restoration and public access projects for the 72-acre Berkeley Meadow at Eastshore State Park. These projects provide for restoration of plant and animal habitats, and for construction of interpretive trails, fencing, gates, exhibits and benches. Manage a community stewardship program with local schools, environmental organizations and businesses to educate people about the value of the local wildlife and plants.

- Managed planning and implementation of a restoration and public access project at Martinez Regional Shoreline. The plan provided for development of a new staging area, picnic facilities, trails, boardwalk, interpretive exhibits and benches.

Environmental Compliance and Interagency Communication:

- Prepare restoration and management plans, and CEQA documents, prepare and present staff reports and resolutions, coordinate hearings before the District's elected Board of Directors at public meetings, Board committee's and interagency liaison meetings. Coordinate and staff Board committees, prepare staff reports, serve as expert witness, conduct presentations, and provide technical and policy assistance to Board members on complex and sometimes controversial proposals.
- Review documents, prepare correspondence, and provide public testimony on proposed plans, projects and programs that affect District interests. These include State and Federal regulatory agencies, land management agencies, water districts, Board's of Supervisors, and the City Council's and commissions of 33 cities and special districts.

Program and Financial Management:

- Prepare budget objectives, funding requests and accomplishment reports for the General Manager and Board of Directors on Capital projects and on-going programs. This includes development and management of forty capital projects to acquire parklands, develop infrastructure, provide public access, restore plant and animal habitats and provide management endowments.
- Collaborate with agency managers to develop strategic plans to implement the District's Master Plan objectives. This includes process mapping, capital project development, communications, and Geographic Information Systems services.

Resource Management International, Supervising Principal Consultant. 1994 to 1996.

- Managed and performed special-status species surveys, delineated jurisdictional wetlands, prepared permit applications and mitigation plans, and obtained State and Federal Regulatory permits for various developments throughout northern California. Managed and reviewed project team work products, conducted technical training, prepared scopes of works, cost estimates, and administered project budgets.
- Managed and implemented a remedial restoration plan for a failed tidal wetland restoration project on Corte Madera Creek. Established new performance goals and success criteria, and a maintenance and monitoring program. Managed a project team and contractors, prepared contracts, and completed work on-budget and on-time

Port of Oakland, Associate Port Environmental Planner. 1991 to 1994.

- Managed preparation of the $60,600,000 Oakland Airport Roadway Project in Alameda County. Prepared the scope, budget and schedule, selected and hired consultants, reviewed technical reports, and managed a multi-disciplinary team. Conducted public scoping meetings and chaired an interagency technical advisory committee.

Caltrans, District Biologist. 1987 to 1991.

- Performed surveys in serpentine communities on San Francisco Water District Lands for special-status species, identified project impacts, formulated mitigation measures and evaluated various project alternatives in San Mateo County.
- Characterized the ecology of Mt. Tamalpais, Golden Gate National Recreation Area and Muir Woods near State Route 1. Identified sensitive resources and routing alternatives to avoid resources potentially impacted by highway replacement. Coordinated studies with regulatory agencies, conservation organizations, citizens groups and elected officials.
- Performed a wetlands assessment , special-status species surveys and an inventory heritage oak trees affected by Highway 12 widening near Kenwood in Sonoma County. Coordinated with elected officials, Sonoma County Public Works and Regional Parks Departments, and conservation organizations, including the Native Plant Society.

Natural Resource Conservation Service, Soil Conservationist. 1983 to 1987.

- Conducted special-status species surveys and managed preparation of an EIR/EIS and a Biological Assessment for the Marsh Creek flood control project near Brentwood. Project studies were later used for the Los Vaqueros Reservoir project.

College Education

Bachelor of Science, Natural Resources Planning and Interpretation, Humboldt State, 1983.

Associate in Arts, General Education, Diablo Valley College, 1980.

Continuing Education and Training

- Communications in Real Estate Acquisition. International Right of Way Association.
- Jurisdictional Delineation of Wetlands: Army Corps of Engineers. Huffman Assoc.
- Revegetation and Restoration Planning. Society for Ecological Restoration.
- State of the Estuary Conferences. Various San Francisco Bay Area locations.
- Restoring Diversity: Is Reintroduction an Option for Endangered Plants?. St. Louis.
- Habitat Evaluation Procedures Certification. U.S. Fish and Wildlife Service.
- California Environmental Quality Act. Association of Environmental Professionals.
- Hazardous Materials and Waste Operators Training. Environmental Systems inc.
- Community First Aid and CPR, plus annual refresher courses. American Red Cross.
- Advanced Open Water Scuba Diving Certification. Pacific Assn. of Diving Instructors.

Professional Memberships/Affiliations

- Rare Plant Chair (1989-2001) and Rare Plant Scientific Advisory Committee (1991-2001) - California Native Plant Society, East Bay Chapter.
- Board of Directors (2000-2004) and moderator/presenter at several technical sessions at several conferences – California Society for Ecological Restoration.
- Research Affiliate (on-going) - UC Berkeley and Jepson Herbaria with research projects for Mt. Diablo, Big Creek Preserve and Serpentine Plant Communities.

Publications

- "Martinez Resource Enhancement Project" in *Ecesis*, Winter 2002 and Spring 2005.
- Contributor to Ertter and Bowerman. *Flowering Plants and Ferns of Mt. Diablo*. 2002. Jepson Herbarium.
- Contributor to *The Weed Worker' Handbook*. 2004. The Watershed Project and California Invasive Plan Council.
- *Status of Rare, Threatened and Endangered Vascular Plants in Alameda and Contra Costa Counties*, 3rd Ed. Mar. 1994. California Native Plant Society.

Honors and Awards

- Letter of Appreciation from Janet Nichols, Sonoma County Board of Supervisors, for environmental work on Highway 12 widening in Sonoma County.
- Excellence in Transportation Award for the Martinez Regional Shoreline Enhancement Project, from the California Department of Transportation
- Rare Plant Conservation Award from David Magney, President, California Native Plant Society for outstanding contributions to rare plant conservation.
- Letter of Appreciation from Charles Roberts, Port of Oakland Executive Director, for contributions to the growth and development of the Port of Oakland.
- Letter of Appreciation from John Kopchik, Executive Director of the East Contra Costa County Habitat Conservancy for contributions to the development and implementation of the East Contra Costa Habitat Conservation Plan.
- Letter of Appreciation from Steve Ritchie, Executive Project Manager of the South Bay Salt Pond Restoration Project for participation in the Stakeholder Forum for development of this 15,000 acre restoration project.

EXHIBIT 4

Vasco Road Wildlife Movement Study Report

Submitted on March 30, 2009 to:

Leigh Chavez, Environmental Planner
Contra Costa County
Public Works
Department
255 Glacier Dr., Martinez, CA 94553

Prepared By:
Mark Mendelsohn, Wendy Dexter,
Eric Olson, Samantha Weber
CONDOR COUNTRY
CONSULTING, INC.
411 Ferry Street, Suite 6
Martinez, CA 94553-1145

Introduction

A nineteen-month-long study of wildlife movement was conducted along a 2.5-mile section of the Vasco Road Safety Improvement Project (Stations 245+00 thru 370+00). The East Contra Costa County Habitat Conservation Plan and the Natural Community Conservation Plan (ECCC HCP/NCCP) require that a wildlife movement study of at least twelve months be performed for this project. This report outlines the methods employed and provides the final update on the animal movement trends observed in this study.

Methods & Trends

Condor Country Consulting staff has employed several methods to obtain a clear picture of what vertebrate species move across this section of road, where and when they are moving, and which landscape features are most often used. The four general methods employed were scented track stations, road mortality surveys, trapping using modified box minnow traps, and remotely-triggered camera stations. Because San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF), California tiger salamander (*Ambystoma californiense*; CATS), and California red-legged frog (*Rana draytonii*; CRLF) are the special status species of greatest local concern according to the East Contra Costa County Habitat Conservation Plan, the above methods were designed to detect movement of these species. The movement patterns of other vertebrates in the study area were also recorded and are included.

A few obstacles encountered in the study design forced revisions to the methods, as discussed below. However, the study design revisions were effective and the results gathered were sufficient to complete the study.

Study Area

The study area is defined as encompassing the road, the existing rights-of-way, and a 100 to 200 foot buffer beyond the rights-of-way for a 2.5-mile stretch of Vasco Road (Figure 1). The study area begins north of a passing lane at engineering station 370+00 and extends southward through the valley where Brushy Creek and an unnamed tributary meet, terminating at engineering station 240+00. From stations 370+00 to 300+00 the buffer area extends 100 feet beyond the rights-of-way, increases to 200 feet between stations 300+00 and 246+00, then narrows to 100 feet between stations 246+00 and 240+00.

Approximately 14 miles southeast of Mount Diablo, the study area lies one mile north of Brushy Peak, and two miles southeast of Los Vaqueros Reservoir. Land uses adjacent to the road include cattle ranching, watershed protection, outdoor recreation, and wind energy production. The study area generally consists of flat to rolling, hilly topography dominated by grasslands dotted with both large and small rock outcrops. Brushy Creek and its unnamed tributary run generally parallel to Vasco Road within the study area. Brushy Creek crosses under the road in two locations within the study area while the unnamed tributary crosses in one location. Riparian vegetation is associated with both creeks.

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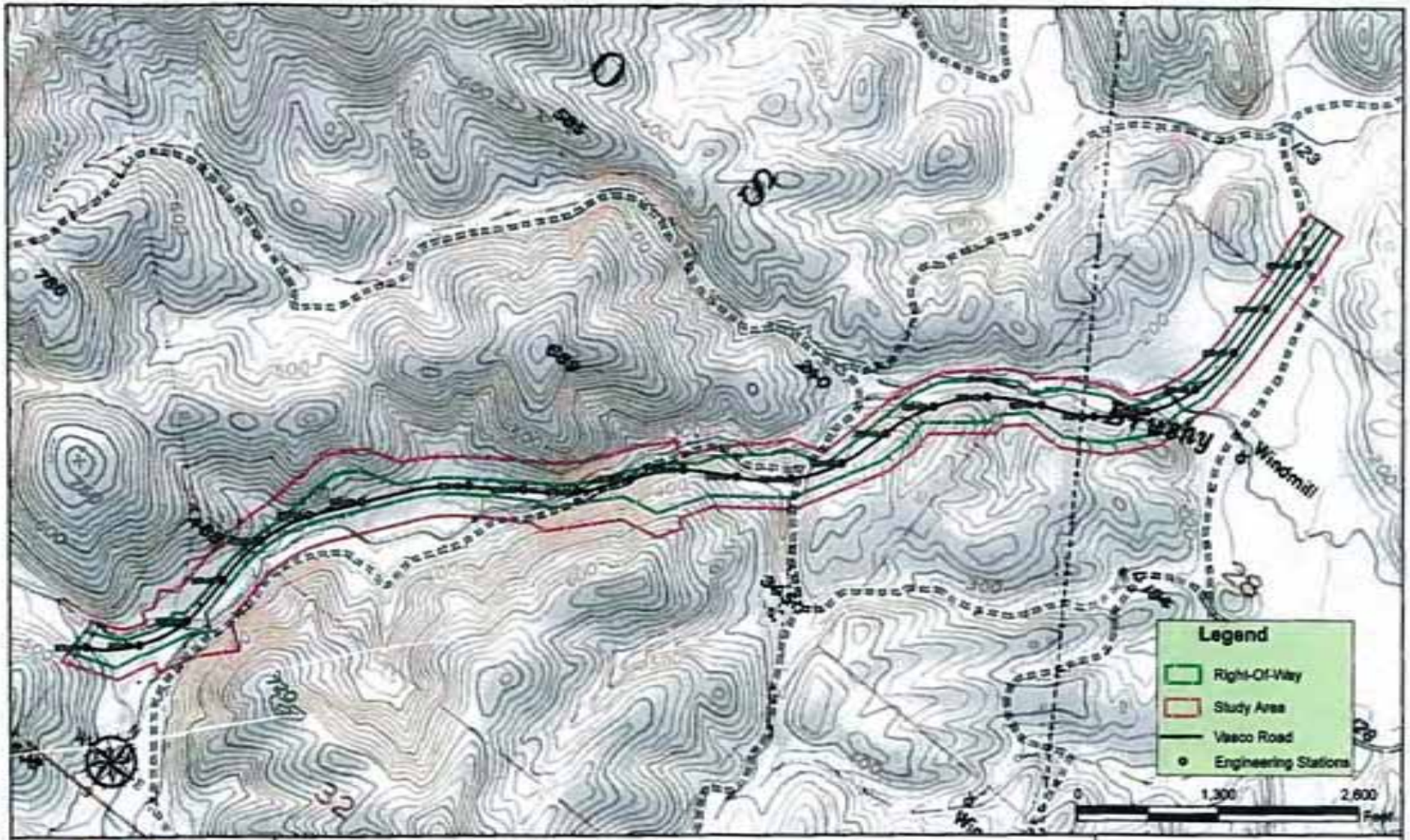
Legend
Right-Of-Way
Study Area
Vasco Road
Engineering Stations
0
1,300
2,600
Feet
Windmill
CONDOR COUNTRY
Vasco Road Wildlife Movement Study
Study Area
Figure 1
Contra Costa County
Public Works
Department

When Vasco Road was originally constructed in 1995, several features were incorporated into the construction to facilitate wildlife movement under the road. Within the study area, these features include two culverts (VCU15 and VCU16) specifically installed as wildlife passage at both ends of the study area. In the north, CATS fence ties into the north side of culvert VCU0. In the south, CATS fencing was installed on both guard rails that border a small portion of the south end of the study area. This fencing terminates at the north end of the guard rail within the study area. The terminus of the south end extends outside the study area and it has not been determined whether the south terminus meets an undercrossing.

Surveys

The data included in this summary encompasses information gathered from July 2007 to February 20, 2009. Each sampling method (track stations, road mortality surveys, trapping, camera stations) yielded important information, contributing toward an overall picture of how, when, and where wildlife cross Vasco Road.

Tracking Surveys

Methodology

The tracking surveys were designed to detect wildlife use of and movement within the study area, and were adapted from carnivore activity studies (Linhart and Knowlton 1975, Conner et al. 1983, Lyren et al. 2006) to specifically detect San Joaquin kit fox. Condor Country Consulting installed four one-kilometer long transects, two on each side of Vasco Road, consisting of five stations each spaced approximately 250 meters apart, for a total of 20 tracking stations. Transects were placed at locations where there was evidence of existing animal traffic (e.g., wildlife trails, fresh scat, active burrows) and to cover potential crossing locations other than culverts or bridges. Because lures were used, stations were established some distance from the road, whenever possible, to avoid luring animals into harm's way. At each station, a one-meter square patch of ground was cleared of vegetation and debris, and then dusted with gypsum powder. The chief adaptation of the methods cited above was the scented lure. A puree of cod liver oil and mackerel, known to attract San Joaquin kit fox (USFWS 2002, Harrison et al. 2002), was used, rather than commercially available carnivore lures. The use of the scent lure was otherwise the same, i.e., placed upon a rock which was then centered in each station.

Condor Country Consulting ran three sampling sessions in the summer of 2007 (July, August and September), for five consecutive days each. The sampling period commenced by opening the transects: ensuring the meter-square stations were smooth, clear of vegetation, and covered in gypsum powder, and fresh-scented lure was placed at every station. Both gypsum and lure were refreshed whenever necessary during the sampling session, typically daily. Once the stations were "open" (powdered and scented), Condor Country Consulting checked each station first thing every morning to detect, identify (to species when possible), and record wildlife tracks (e.g., footprints, tail drags, and scat). If the gypsum powder had been disturbed, it was redistributed / replenished so that the station was ready to record new information.

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Table 1. Species observed on scented track stations along Vasco Road (VE = east side of road, VW = west side of road) between July-September 2007.

	Track Station																				
Species*	VE1-1	VE1-2	VE1-3	VE1-4	VE1-5	VE2-1	VE2-2	VE2-3	VE2-4	VE2-5	VW1-1	VW1-2	VW1-3	VW1-4	VW1-5	VW2-1	VW2-2	VW2-3	VW2-4	VW2-5	Total
COYO	1	1		3		2		3	3	4	1	4	3	4	2	2	4	4	2	3	46
STSK					4	6	4	5	4	2	3	6		1	6	1			2		44
UNK MOUSE	1	1	1	3	1	2	2	1	7	3	3	5	2	5	1				2	1	41
UNK LIZARD	1					2	2	1	1		9	7	1	2	1	4			1		32
DECO			3	1			4					6				8					22
UNK BIRD			1	1		2	1		2			4		1	2	1		1	1	1	18
RACC					4	4								1			1		4		14
BOBC	1	1	1			2	2	1				1	2							1	12
DCAT						2	1	2	1		1		1							1	9
GRSQ					1						1					2			1		5
OPOS					3	1													1		5
BADG				**2**									1						**1**		**4**
UNK SNAKE									1			1		1		1					4
HUMA																1		1			2
Grand Total	4	3	6	10	13	23	16	13	19	9	18	34	10	15	12	20	5	6	15	7	258

* Special status species in **BOLD**

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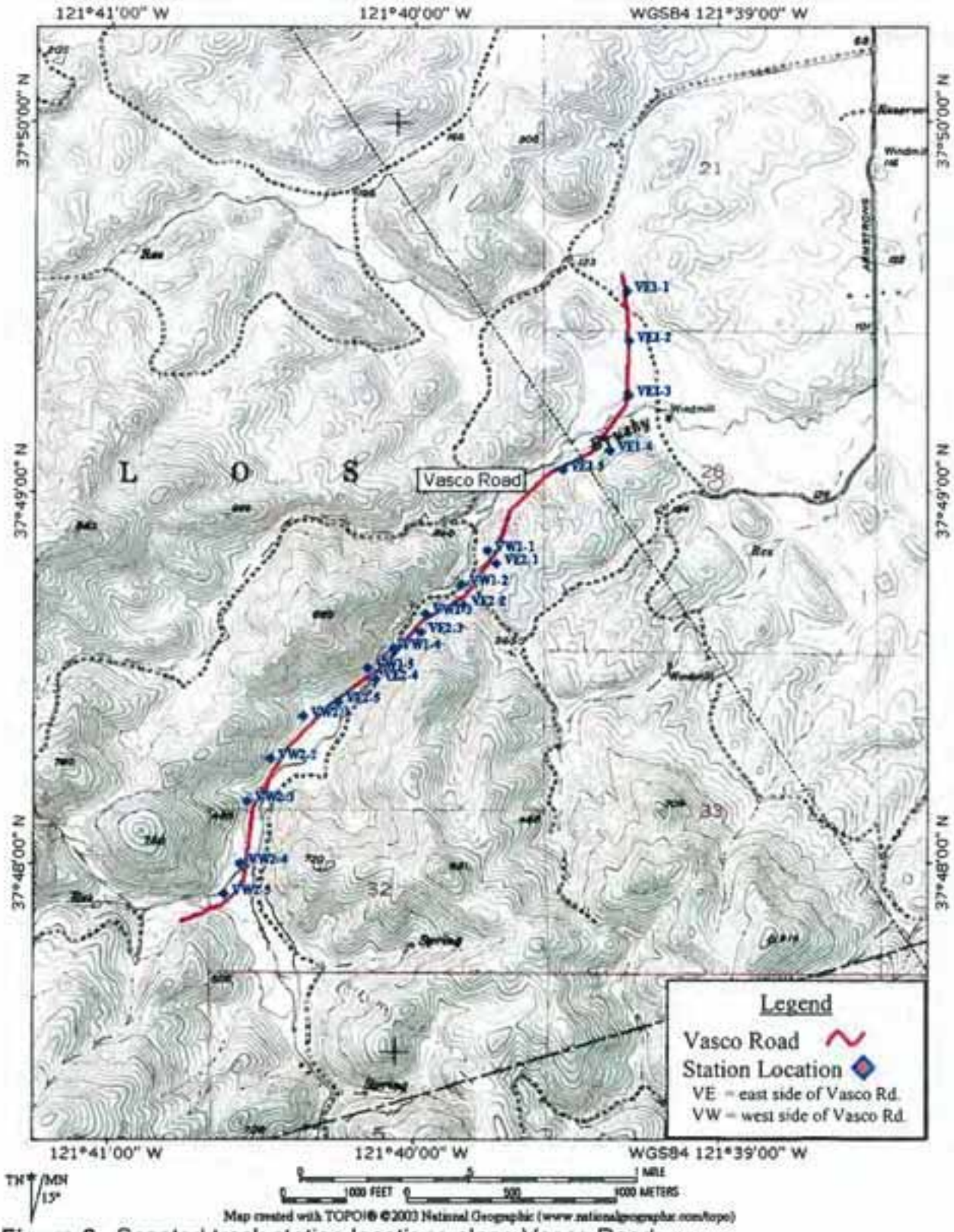

Figure 2. Scented track station locations along Vasco Road.

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Results

Results of the tracking station surveys are summarized in Table 1. Species codes, common names, and scientific names can be found in Appendix 1. Track station locations and names are depicted in Figure 2.

Mortality Study

Methodology

Mortality surveys were performed from November 11, 2007 through February 18, 2009. These surveys were designed to determine which terrestrial vertebrate species use the road and to define areas with high-volume vertebrate mortality. During the wet seasons (November through April), a survey was performed each night that rain started before 7:30 p.m. and on each morning following a night with rain forecast (according to NOAA's weather.gov website) to be 30% chance or greater. Mortality surveys were performed throughout the week, including weekends. The November through April mortality surveys were designed to detect amphibians using the road as passage between breeding and upland aestivation habitat and coincided with trapping (see below).

The May through October 2008 dry season mortality surveys were conducted twice weekly, in conjunction with the camera station monitoring (see below). These dry season surveys were intended to detect terrestrial mammals and reptiles. However, all identifiable roadkill were recorded during all mortality surveys.

Each mortality survey consisted of two people walking the 2.5-mile length of Vasco Road's shoulder within the study area, against traffic, in both directions. All vertebrate roadkill discovered in the traffic lanes, median, or shoulders were recorded to species and age class when possible. GPS coordinates were taken for every roadkill observed. Condor Country Consulting removed all roadkill after recording to avoid double-counting individuals. Binoculars and flashlights were used to assist with these surveys. Upon discovering a live animal attempting to cross the road, when safe for personnel, the animal was moved off the road to safety. Specifically, California tiger salamanders and red-legged frogs were moved to the nearest refugium sufficient to protect them, as requested and authorized by USFWS and CDFG representatives.

Methodology Revisions

Several revisions to the original methodology were made for safety and in response to field conditions and suggestions from agency representatives. During weeks between November and April when the forecast chance for precipitation was under 30%, Condor Country Consulting conducted a once per week mortality survey in order to ensure at least weekly coverage of roadkill. For safety reasons, it was determined that bridges would only be crossed in a vehicle, not on foot.

At night in inclement weather, a safety modification to the walking methodology was made such that one person walked (with the flow of traffic on the shoulder) while the other person drove slowly on the shoulder behind the walker, with a flashing light bar and flashing chevrons to warn

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other drivers. This method was used at night due to the significant increase in surveyors' visibility to other vehicles by use of the flashing light bar to warn other drives, and the utilization of the safety vehicles' headlights increased the probability of detecting roadkill at night.

Another modification to the original methodology was that Condor Country Consulting recorded roadkill observed incidentally (temporally) outside of the formal surveys, which enabled us to detect one species (red fox; not presented in Table 2) otherwise not detected by the mortality surveys.

Table 2. Number of each species detected during mortality surveys along Vasco Road, 11/11/07 - 2/18/09.

Species*	Total Dead	Total Alive	Species*	Total Dead	Total Alive
AQGS	1		RACC	2	
ARSA	5		ROPI	2	
BADG	**5**		SALZ	5	
BLRA	1		SAVS	1	
BNOW	1		SJPM	20	
BUOR	2		SLSA	1	
BUOW	**2**		STSK	5	
CAPM	5		TOWA	1	
CATS	**50**	1	UNK AMP	52	
CAVO	6		UNK BIRD	12	
CLSW	6		UNK CANIS	2	
COYO	6		UNK FROG	3	
CRLF	**120**	8	UNK MAML	41	
DCAT	2		UNK MOUSE	150	
DDOG	1		UNK RABBIT	6	
DECO	38		UNK SNAKE	4	
DEMO	114		UNK SPARROW	1	
FLIZ	53		UNK VERT	19	
GCSP	1		WCSP	7	
GOSN	84		WEKI	1	
GRSQ	25		WEME	4	
HOMO	4		WERA	24	1
KISN	37	1	WESJ	1	
LTWE	1		WESK	3	
MUSK	1		WETO	175	3
NISN	9		WHRM	8	
NORA	2		WTSW	2	
PATR	138	8	YBRA	2	
PRFA	**1**		Grand Total	1339	23

*Special Status Species in **Bold**

Finally, at the request of USFWS and CDFG Condor Country Consulting gathered historic roadkill data from Contra Costa County's Animal Control department. The County's animal

control officers do not regularly patrol Vasco Road, responding only to calls of injured or dead animals in the area. These supplemental data have contributed to our general understanding of the relative frequency of mortality by species (Appendix 2).

Results

Table 2 presents the results of the road mortality surveys from November 11, 2007 to February 18, 2009. Species codes, common names, and scientific names are listed in Appendix 1. Information on animals discovered outside the official survey area or survey times is available upon request.

Live animals listed in Table 2 are incidental detections recorded during the mortality survey. These observations, although not part of the sampling protocol, are reported since they are detections of live, focal species (see CRLF and CATS numbers). However, since these observations were not a part of the formal survey, they are not discussed. More information on these observations is available upon request.

Analysis

In general, large numbers of amphibians have been killed in the wet months, and large numbers of reptiles and small mammals have been killed in the dry months. Although the number of medium and large mammals killed within the study area and period is small, it may be significant that badgers (5) and coyotes (6), both carnivores, are killed in proportionally greater numbers than other medium to large mammals, and specifically more frequently than other carnivores (e.g., bobcat [0]) that are commonly detected in the area by remote sensing cameras. At the end of the winter rains, amphibian detections dropped markedly and reptile and mammal detections increased. Peak detections of roadkill occurred during the spring. Some interesting patterns in California tiger salamander and California red-legged frog mortality were noted: California tiger salamanders appear to be more active (or at least killed by vehicles in higher numbers) during rainfall events (Figure 3) as do California red-legged frogs (Figure 4). One tiger salamander was encountered in June, and this occurrence was associated with a dry lightning storm that moved through the area.

Statistical analysis of the mortality distribution data for CATS (Figure 5) and CRLF (Figure 6) yielded no statistically significant pattern. Engineering stations were used to divide the linear study area into quadrats one thousand feet long (e.g. 240+00 through 250+00) for this analysis. A total of 13 quadrats resulted. Conclusions were derived by calculating the index of dispersion ($I = s^2/$) (s^2 = variance, = mean) and using it to derive chi-square values ($\chi^2 = I\,(n - 1)$) (Krebs 1989). The chi-square value was then compared with Figure 3.5 in Krebs (1989) to determine the spatial pattern, and Poisson 95% confidence intervals (6.686 - 20.848 for 12 degrees of freedom; Rohlf and Sokal 1995) for statistical significance. The chi-square for California tiger salamanders (x^2 = 13.75) fell within the confidence interval for the Poisson distribution, suggesting that California tiger salamander road mortalities were distributed in a random pattern along Vasco Road. The same test performed on CRLF data also found mortalities distributed randomly along the road (χ^2 =18.54).

As apparent in Figures 5 and 6, mortality locations for both species were spread throughout the entire study area. However, clusters of mortalities are evident for both species in two locations. Both locations are associated with constructed barriers. One barrier to amphibian movement is the CATS fencing on the guardrails on the south end of the study area. The other is a retaining wall associated with bridge VB2. The retaining wall supports the northwest abutment of the bridge. Where each barrier ends, CATS and CRLF moving along the barrier moved onto the road and were struck. Although these clusters were not statistically significant, they are biologically significant, representing the effectiveness of barriers in directing amphibian movement.

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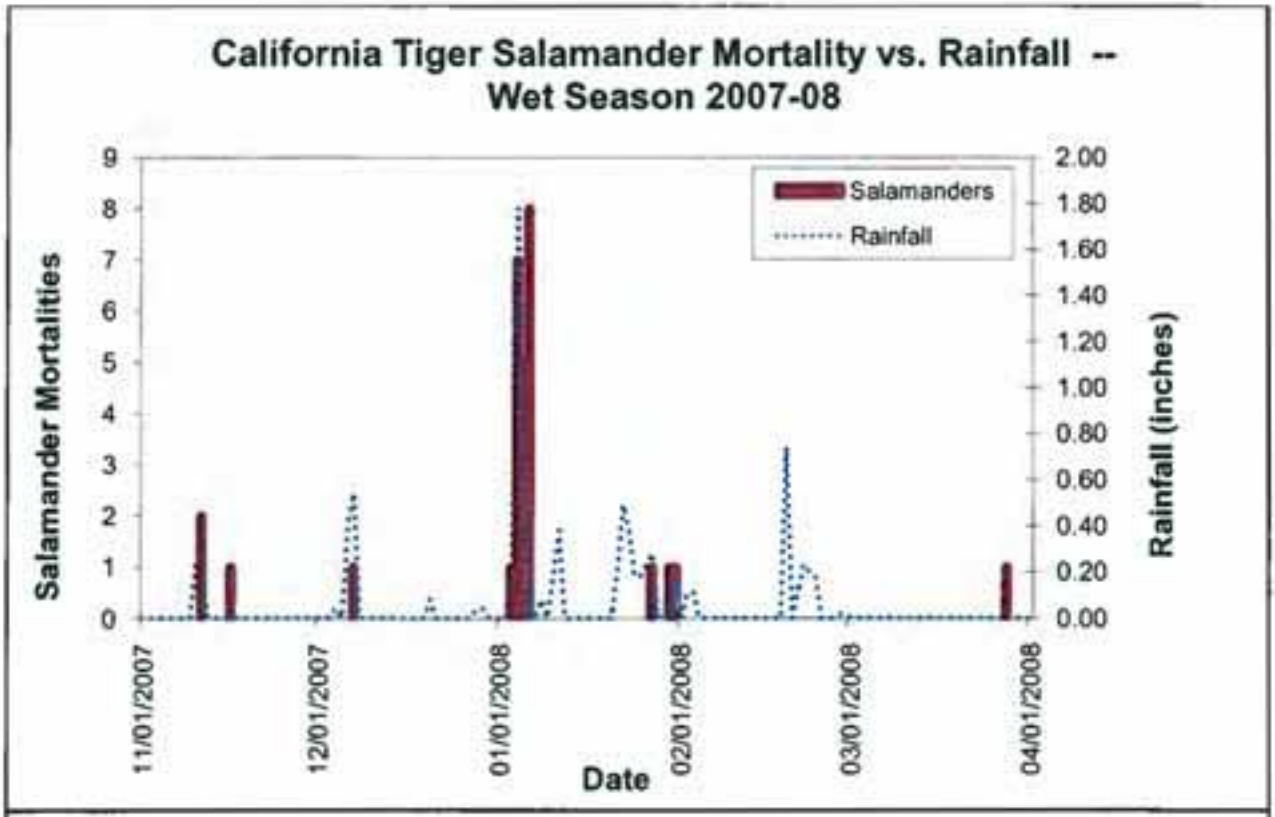

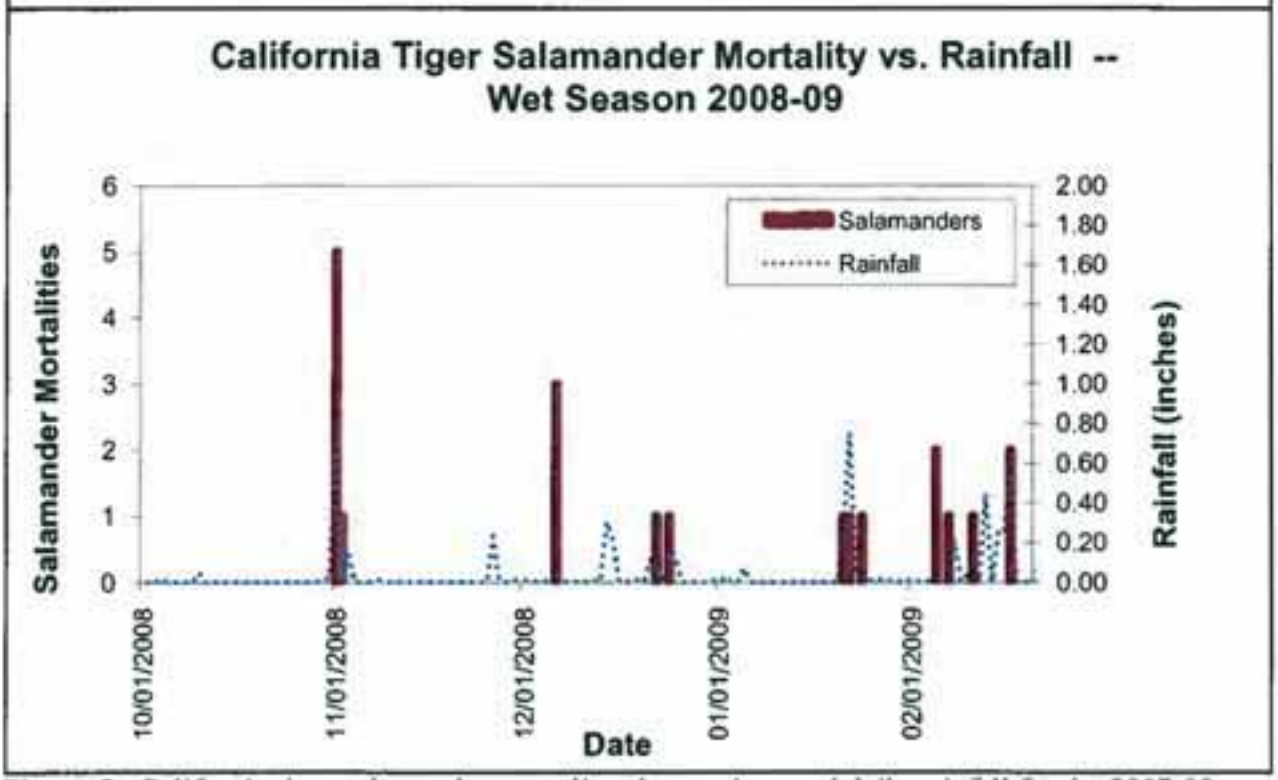

Figure 3. California tiger salamander mortality observations and daily rainfall for the 2007-09 wet seasons.

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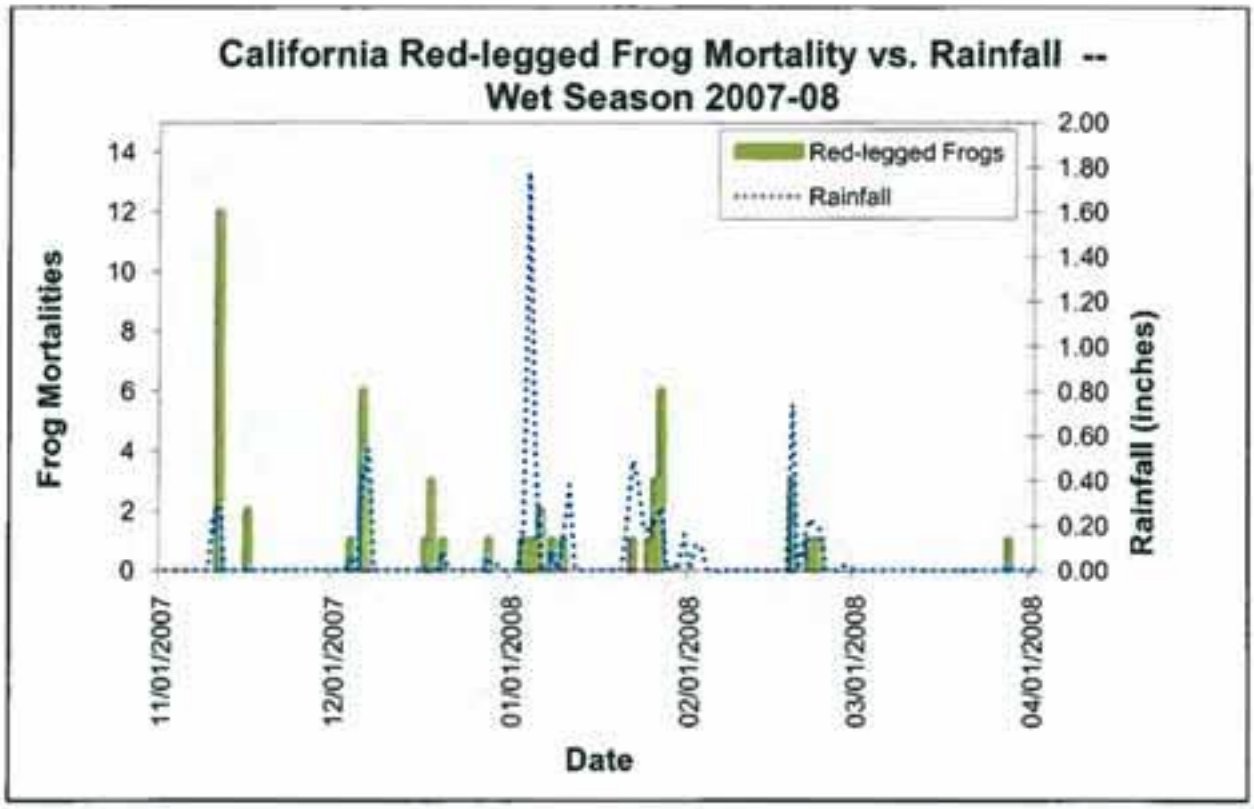

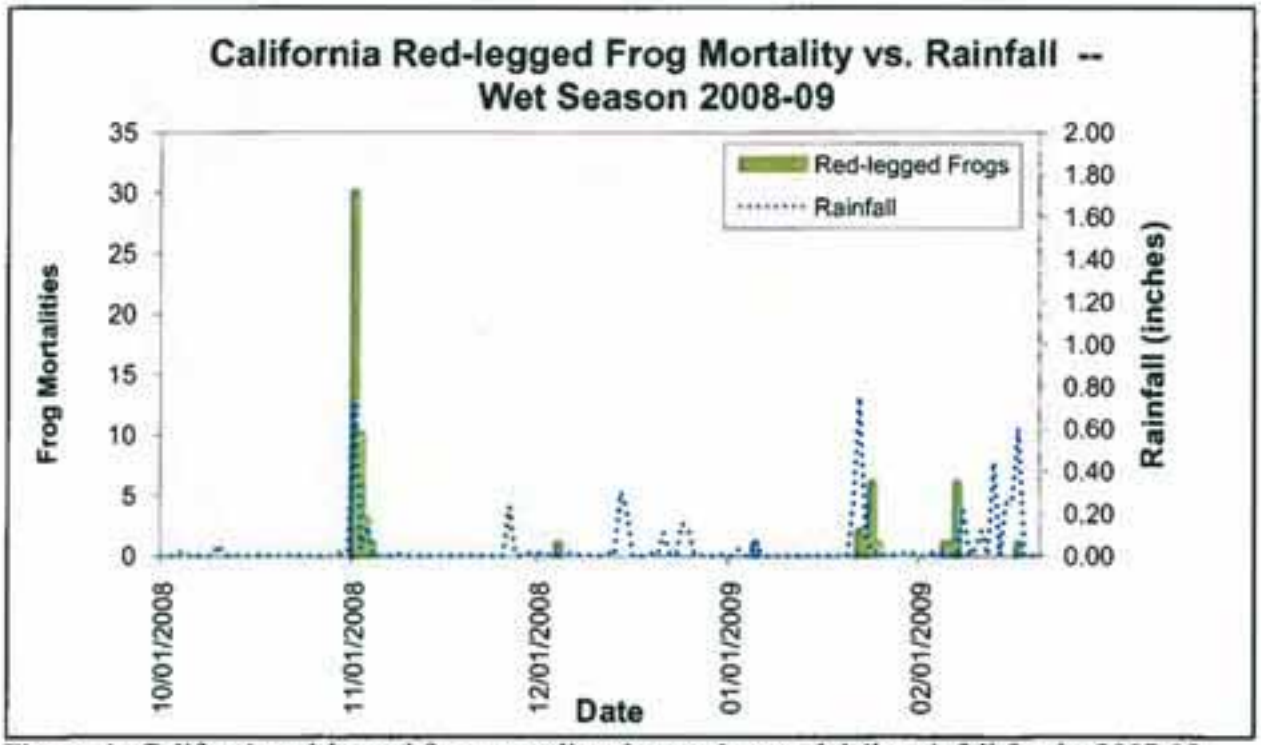

Figure 4. California red-legged frog mortality observations and daily rainfall for the 2007-09 wet seasons.

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Trapping

Methodology

Originally, three trapping arrays were installed at three culverts in the study area to detect amphibian movement during rain events. Of the four detection methods employed, trapping was expected to yield the most information on red-legged frog movement. In November 2007, coinciding with the first road mortality survey, an array with drift fence and five modified box minnow traps was installed at the end nearest breeding habitat of each of three accessible culvert undercrossings. Drift fences formed a triangular shape for the culvert arrays, with three traps targeting animals exiting the culvert and two traps targeting those headed toward the culvert opening.

Traps were activated on nights between November 2007 and April 2008, and November 2008 through February 18th, 2009, whenever the forecast reported a 30% chance of rain or better (NOAA), in conjunction with mortality surveys (see mortality survey section). Condor Country Consulting checked traps in the morning, starting just before or at dawn, recorded the species, sex, age class, and reproductive condition information when possible, released the animals, and closed the traps.

Methodology Revisions

Installation of more culvert trapping arrays was planned, but the design of the culvert openings (e.g., steep slope, concrete apron, etc.) precluded all but the three culverts mentioned above. In some cases, the features of the culvert openings precluded use by wildlife (e.g., severely eroded slopes, large vertical drop from culvert ending to apron).

Therefore, in early January 2008, at the request of USFWS and CDFG representatives, an additional eight linear arrays with four traps each were installed on the east side of Vasco Road. Each of these eight arrays consisted of a straight line of drift fence, parallel to the road, with a trap on both sides of the fence at both ends (four traps), and targeting animals traveling to or from Vasco Road.

To further supplement the culvert arrays, and also at the request of the agencies, Condor Country Consulting shortly thereafter installed a final two arrays near the southern end of the study area with two traps each. The traps were installed along the pre-existing metal mesh salamander fences, which were built during the construction of Vasco Road to direct animals away from the road. One of these two arrays was located at the northern end of the salamander fence, attached to the guard rail support posts on the west side of Vasco Road, and the other array was located on the east side. This expansion of trapping arrays increased the probability of detection as wildlife attempt to cross Vasco Road. The final total number of traps was 51 (see Figure 7).

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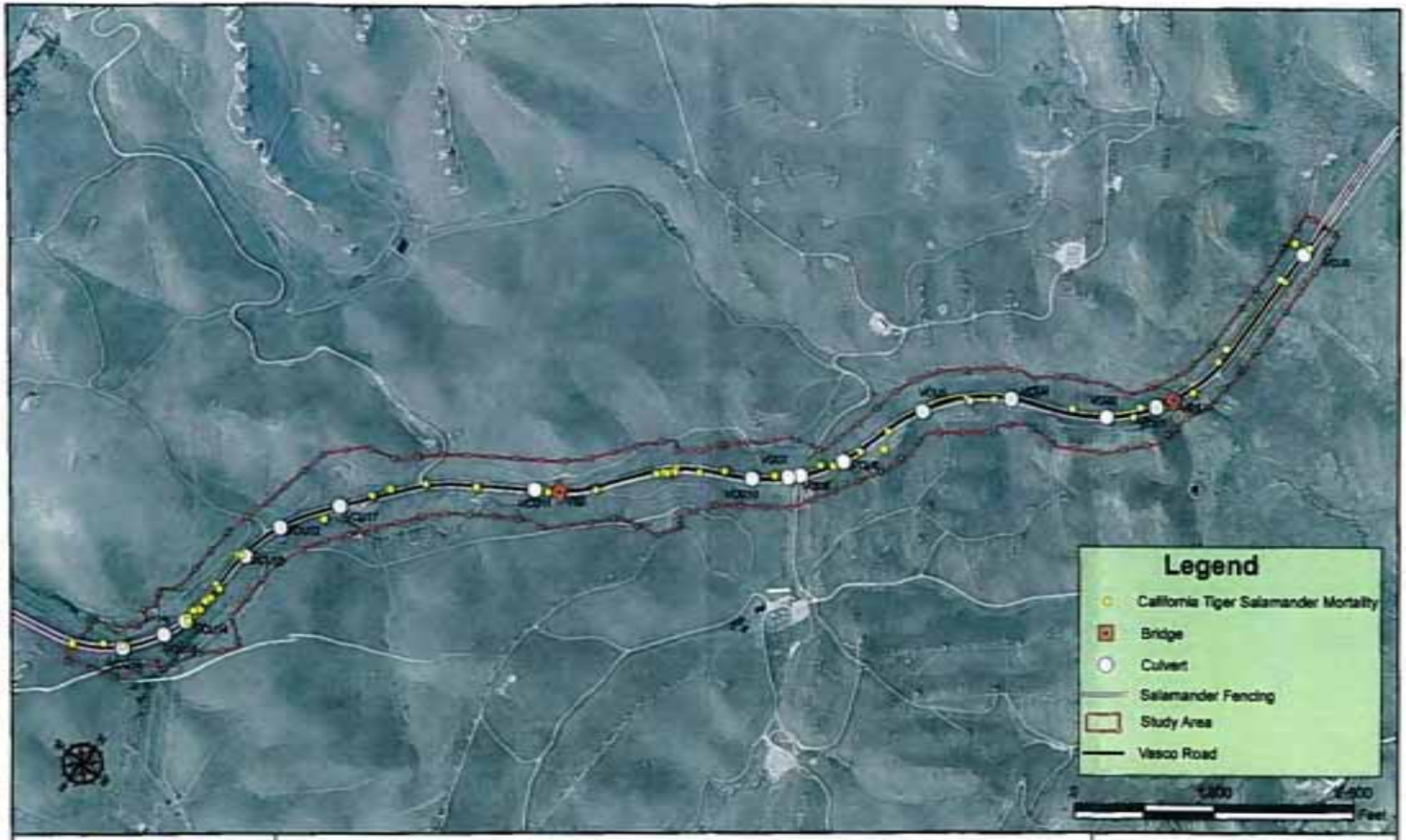


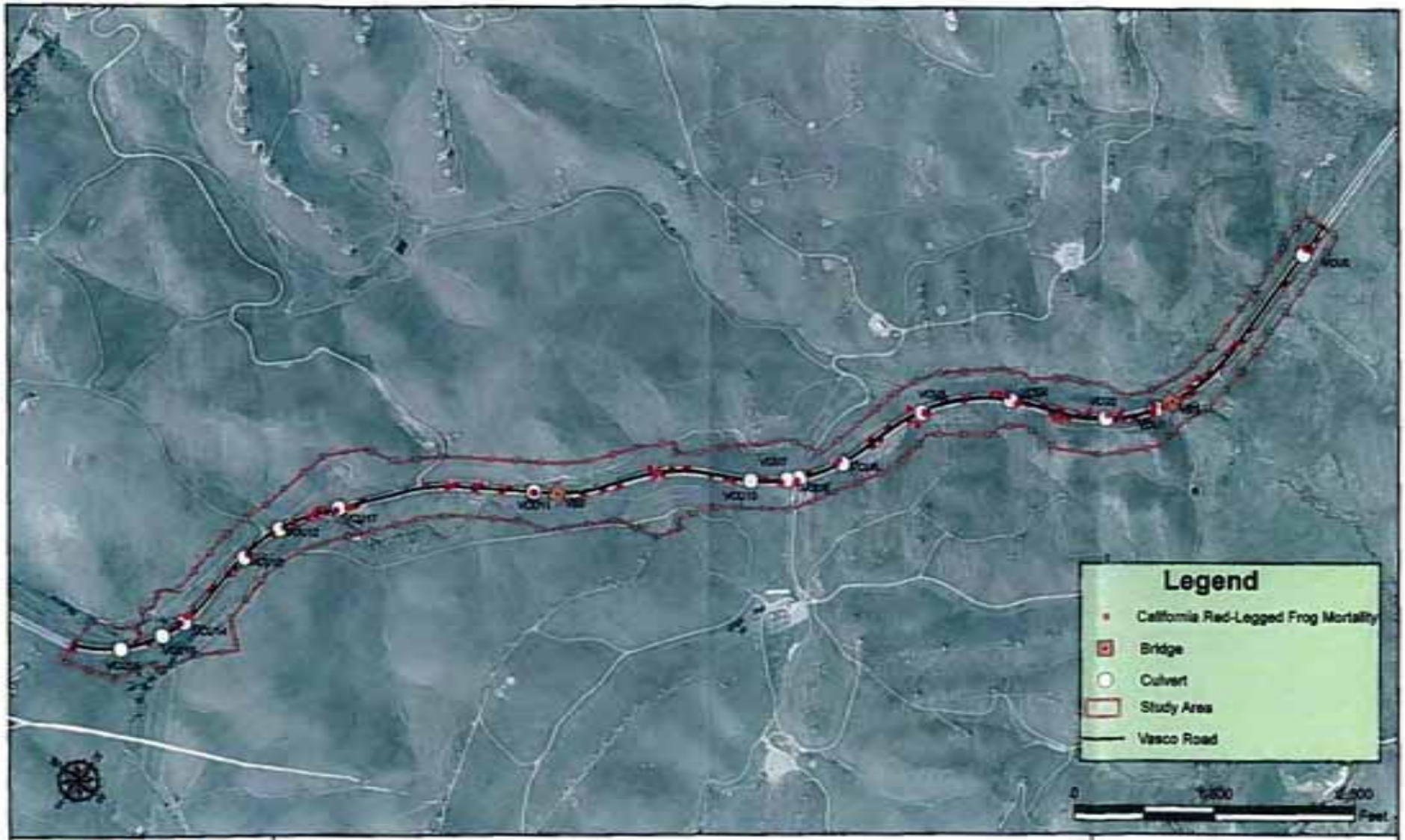
CONDOR COUNTRY

Vasco Road Wildlife Movement Study

California Tiger Salamander Mortality Locations

Figure 5

Contra Costa County Public Works Department



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Vasco Road Wildlife Movement Study

California Red-Legged Frog Mortality Locations

Figure 6

Contra Costa County Public Works Department

Results

Summary results of the trapping surveys are presented in Table 3. Species codes, common names, and scientific names are listed in Appendix 1. Trap site locations are shown in Figures 1 and 7.

The trapping arrays detected fewer California tiger salamanders (7) and California red-legged frogs (15) than did the road mortality surveys (51 [1 alive] and 128 [8 alive], respectively). Small mammals made up the majority of captures in traps, accounting for 514 of the 586 total animals captured. The Pacific treefrog (*Pseudacris regilla*) made up the majority of the other captures (38 of 62).

Table 3: Species captured during trapping surveys November 11, 2007 to February 18, 2009. Special status species in **BOLD**.

	Species (number of individuals)																
Array	CAPM	**CATS**	CAVO	**CRLF**	DEMO	HOMO	ORSH	PATR	SJPM	SLSA	UNK MAML	UNK MOUSE	UNK SHREW	VASH	WETO	WHRM	Grand Total
VC1W			1	**5**	40			32				1				6	85
VC2W		**1**	2	**3**	24			1		1						11	43
VC3W			4		61		2	2			2	1	3		1	22	98
VF2E		**4**		**1**	4					1						4	14
VF1W		**1**	2		27										1	3	34
VL1E	1				28							1				12	42
VL2E				**1**	19			2				1				18	41
VL3E				**1**	29			1	1			1		1	1	13	48
VL4E	1				42	1					2	1				3	50
VL5E			1		28					1			2			5	37
VL6E			1	**1**	14					3						3	22
VL7E		**1**	2	**1**	20					2						6	32
VL8E				**2**	20		1			1		2				13	39
Unk Array			1														1
Grand Total	2	**7**	14	**15**	356	1	3	**38**	1	9	4	8	5	1	3	119	586

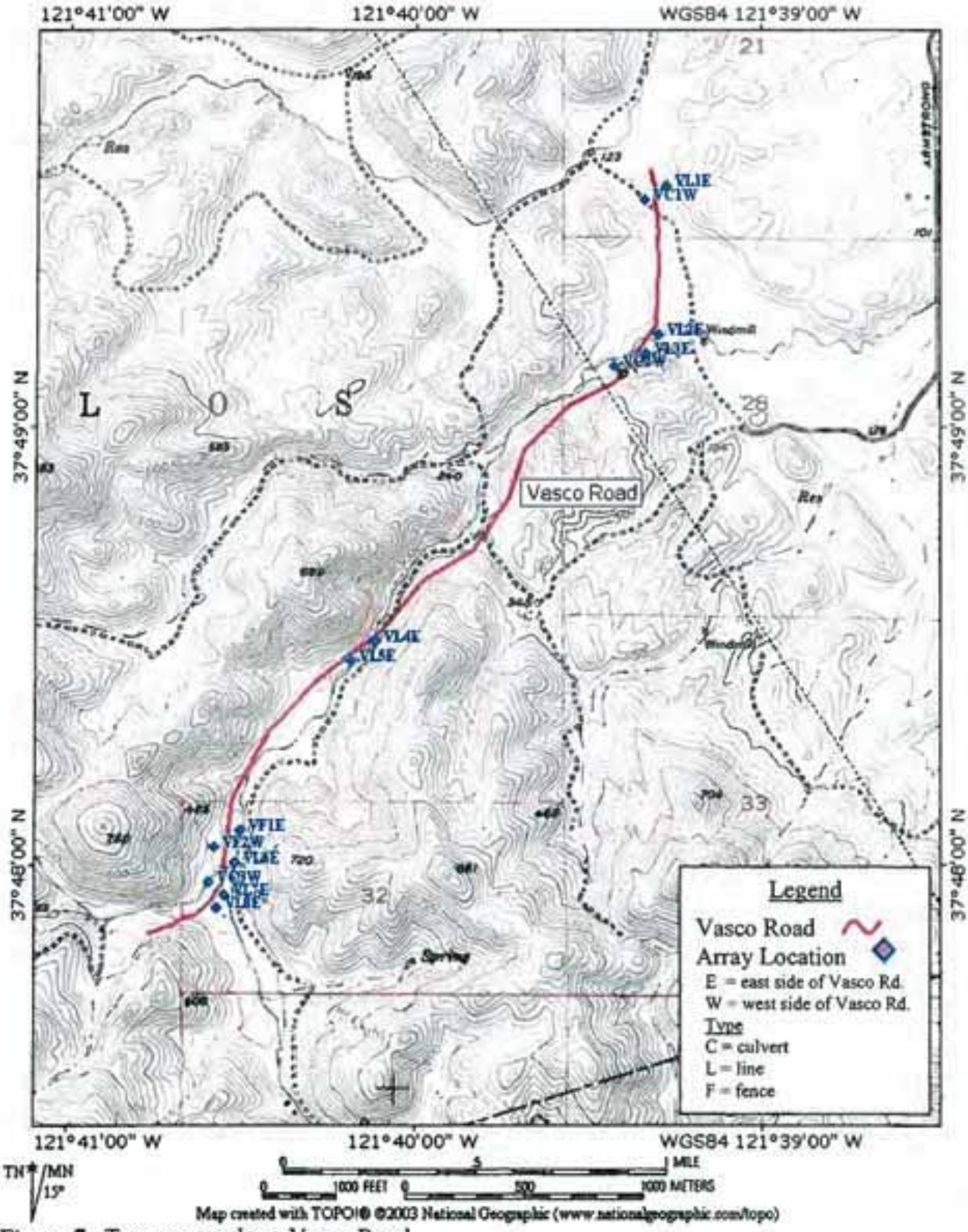

Figure 7. Trap arrays along Vasco Road.

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Camera Stations

Methodology

Condor Country Consulting proposed using remotely-triggered camera stations to detect primarily San Joaquin kit fox and other mammal movement through existing undercrossings within the Vasco Road study area. In fall of 2007, each undercrossing was categorized as either a culvert or bridge, photographed, recorded by location (GPS), and any unusual features were noted. Originally, seven culverts in the study area were to receive two cameras each, for a total of fourteen cameras. Condor Country Consulting then selected and ordered the wildlife remote camera setups (Camtrakker's Digital Ranger model), along with solar panel setups to power each camera. These cameras operate under either a passive-infrared (triggered by a combination of motion and heat) or time-lapse (with 5, 10, and 15 minute intervals) setting. Cameras were checked twice per week to ensure appropriate operation to collect data.

Methodology Revisions

It was determined after the start of this project that more undercrossings were present than originally observed on aerial photos. Condor Country Consulting documented 16 culverts (including one that accommodates vehicle passage) and two bridges. After reviewing research methodologies in recent literature (Lyren et al. 2006), speaking with colleagues (USGS, pers. comm.), and considering the cost of each setup, Condor Country Consulting decided to use a single camera on one end of the 15 smaller culverts. The drive-through culvert and both bridges would have two cameras each. This resulted in a total of 21 camera stations. Due to the difficulty in resetting cameras after data collection (see below) it was determined that data collection would only occur once per week. Because the number of photographs taken by each camera during each week was well below the maximum capacity of the camera's memory cards, weekly collection was sufficient.

Camera Set-up Difficulties

Initial camera deployment had been planned in the late winter of 2007-2008, ahead of the majority of mammal movement, and in an attempt to capture amphibians moving back to their aestivation sites during the wet season. However, unforeseen obstacles delayed the deployment of cameras considerably.

The final shipment of custom-made cameras and solar panels was not received until late February 2008. Solar panels were installed on posts; camera brackets and power cables were installed to prepare for camera deployment. Upon initial testing of the remote-camera systems in the field, it was determined that the camera lens would not stay open to take photos.

After considerable testing in the field and office, with little help from the camera manufacturer, the problem was identified and corrected. There were other problems with the fit of the camera in the housing that also caused units to fail. Only about one-fifth of the cameras functioned well enough to be deployed. Those five cameras were installed in mid-April, 2008. The cameras were set in the amphibian detection (time-lapse, TL) mode, in which a photo was taken every five minutes throughout the day and night.

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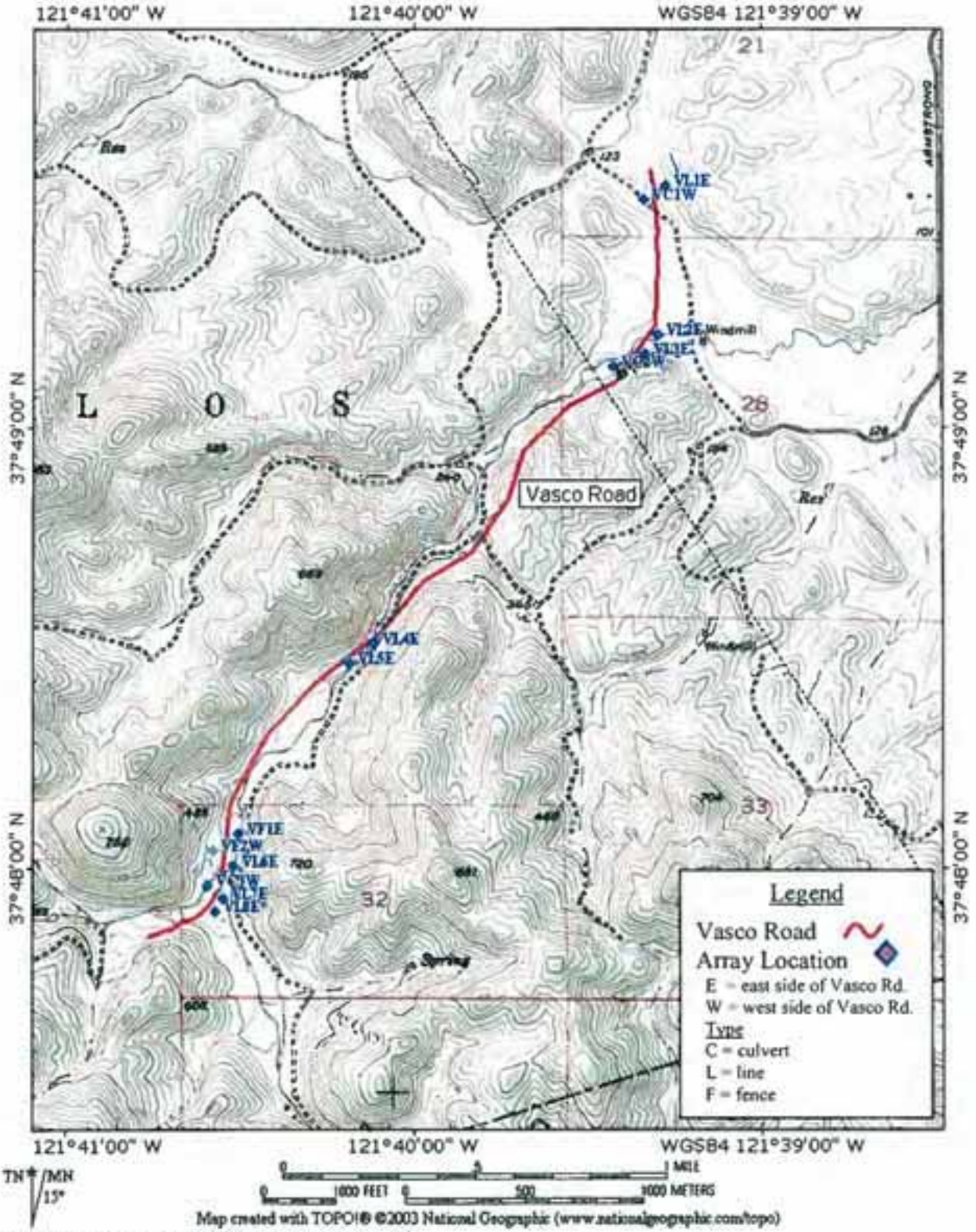

Figure 7. Trap arrays along Vasco Road.

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During the first two weeks of operation, similar camera problems occurred with the five "functioning" units. All cameras were returned to the manufacturer for repair in early May after having switched the cameras into heat and motion (HM) mode. In HM mode a photo is triggered when the camera's sensors picked up the movement of heat within its range. This switch from TL to HM corresponded with our seasonal shift from amphibian to mammalian movement.

Receiving cameras back from the manufacturer in waves, as many as 14 (of a total 21) cameras were deployed in HM mode by the end of May, when the first theft incident occurred. The cameras and some solar panels were stolen from five camera stations over Memorial Day weekend, 2008. The thieves circumvented the security measures that were in place to protect the cameras. Then, in the first week of June, equipment from an additional six camera stations were stolen. All remaining equipment was immediately removed from the study area.

For several weeks, Condor Country Consulting staff consulted with colleagues and technical experts on how to better secure the cameras and solar panels in the field. By August, a multi-level security design was finalized. On August 15, 2008, after receiving a prototype of the metal box, a single camera setup was deployed to test the new security measures. Photos from the camera were downloaded for several weeks while the remainder of the metal boxes were being fabricated.

In the beginning of September, a Contra Costa Water District employee reported spotting a San Joaquin kit fox within a mile or two of the northern end of the study area. In an attempt to capture this individual in a photograph, another camera was deployed at the northernmost culvert (VCU0) without a metal box, but attaching it with security hardware. Over the next couple weeks, after receiving all of the metal boxes, the remaining cameras were installed and a metal box was added to the setup at VCU0. By the end of September 2008, all 14 cameras that remained in our possession were deployed (11 of the original 25 cameras were stolen). See Figure 8.

Upon deployment, cameras were set to take photos when triggered by HM, from the end of September until November 1, 2008. After then, they were set to take photographs every five minutes, TL mode, with the goal of detecting amphibians during the rainy season (winter). The cameras were set to take photographs at the highest resolution (7 megapixels). Each camera was checked once weekly for maintenance and data collection. The cameras functioned well from October 2008 through February 2009, with only occasional malfunctions, and one instance where the camera was returned to the manufacturer for repair.

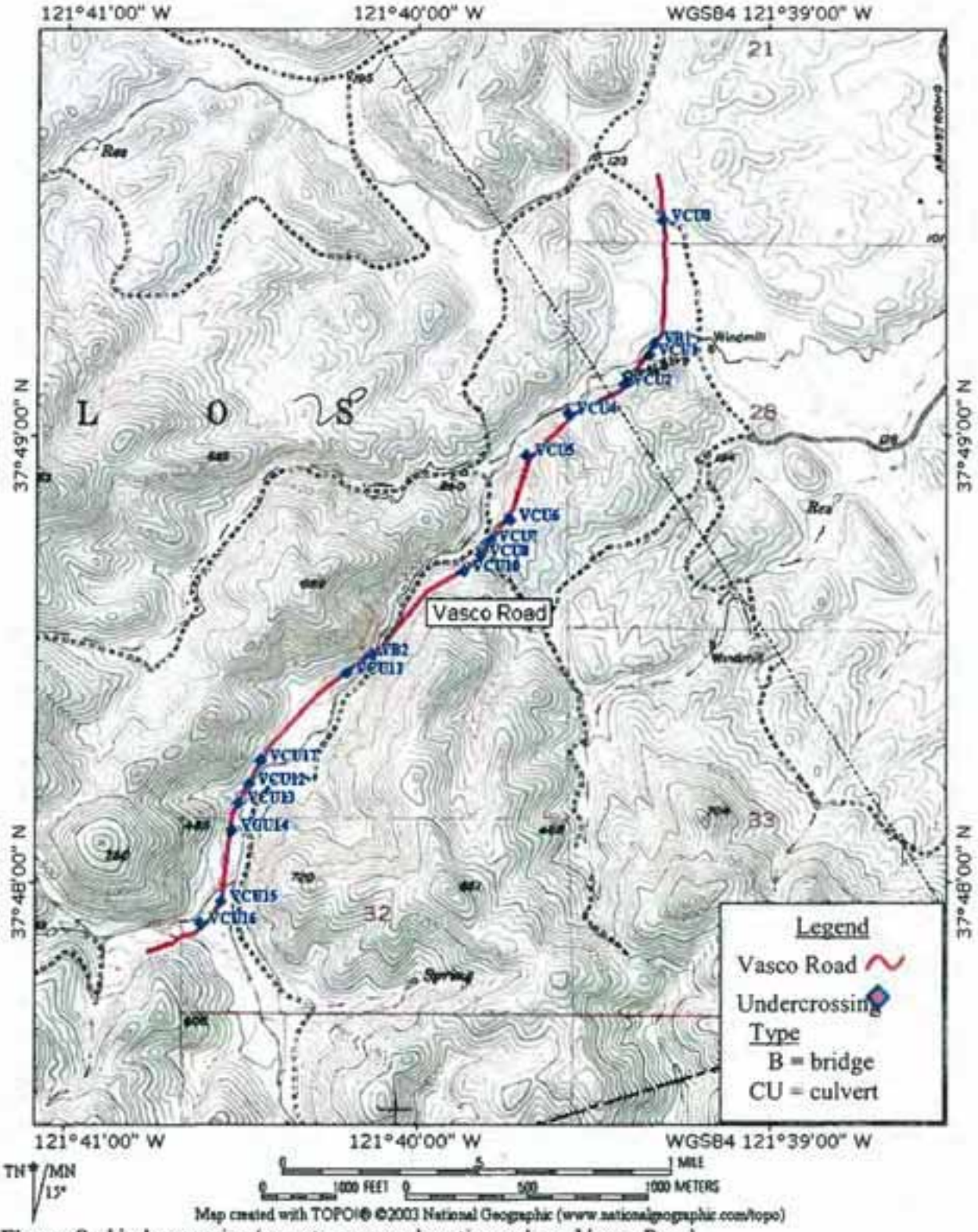

Figure 8. Undercrossing/remote camera locations along Vasco Road.

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Results

Camera station results are summarized in Table 4 with species codes, common names, and scientific names found in Appendix 1. A map of camera station locations within the study area can be found in Figures 1 and 8. Nine-hundred eighty seven animal photographs from the remote camera stations were collected through February 20, 2009. Staff was able to identify 71 percent of animals photographed to species level. The remaining 29 percent of the resulting photos were blurry, dark, or otherwise insufficiently clear to identify the animal to the species level. However, many within the 29% were identified to group (hawk, mouse, etc.), and a few were identified to a finer level (e.g., sparrow, wren, alligator lizard *(Elgaria sp.)*), to contribute to the understanding of which species or groups travel near or through which features.

The remote cameras have detected a number of species utilizing the culverts and bridge undercrossings (Table 4). Two separate calculations describe minimum and maximum number of species detected at each camera site. "Total species categories" are all those individual species photographed and identified at each site plus all the unknown types (categories) of animals photographed at each site. The "Total species categories" minus any unknown animal categories which potentially overlap with known, equals the "minimum number of species." For example, VCU5 has a total of two "total species categories": opossum and unknown vertebrate. The "minimum number of species" detected at that site is one, since an opossum is also a vertebrate.

Some of the species the cameras detected, such as the bobcat, were not detected during the road mortality surveys. Spotted skunks were not detected by either the mortality survey or the tracking stations, and are considered species sensitive to the effects of habitat fragmentation and isolation. Some photographs of both bobcats and spotted skunks have been collected which offer irrefutable evidence of species presence; whereas track identification skills can always be questioned. Bobcats appeared at nine of the camera stations, and spotted skunks appeared at four.

By February 20th, 2009, eight of the camera stations detected seven or more species. Six of the remaining nine camera stations detected five or more species. No kit foxes have been detected. Gray fox, domestic cat, bobcat, and coyote have been detected, however, so this method can detect mid- to large-sized carnivores.

All 11 camera stations that functioned through the end of the study have produced wildlife photographs. All cameras were inactive while security was being improved from early June through mid-September. Ten camera locations were inactive from mid-December through the end of the study because stolen equipment was not replaced. Four of the eight inactive stations have not produced photos (stations VCU6, VCU7-E, VB2L, and VCU12), while the other six inactive stations had produced photos prior to the theft incidents (VB1L, VCU2, VCU5, VCU8, VCU10, and VCU13).

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Table 4. Species detections at remote camera stations May 1, 2008 to February 19, 2009.
Undercrossing name (approximate diameter in feet)

Species/ taxonomic categories	VB1L* (100 ft)	VB1U (100 ft)	VB2U (100 ft)	VCU0 (4 ft)	VCU1 (1.5 ft)	VCU2* (1.5 ft)	VCU4 (4 ft)	VCU5 (4 ft)	VCU7-W (21 ft)	VCU8* (4 ft0	VCU10 (2 ft)	VCU11 (4 ft)	VCU13* (1.5 ft)	VCU14 (10 ft)	VCU15 (4 ft0	VCU16 (4 ft0	VCU17 (1.5 ft)	Total stations
BLPH		X	X						X	X	X			X		X		7
BOBC				X	X	X				X	X		X		X	X	X	9
CAPM												X				X		2
CLSW														X				1
COYO		X					X		X						X	X		5
CRLF			X	X	X													3
DCAT		X			X	X			X									4
DCTL									X						X	X		3
DECO	X	X					X						X			X		5
DEMO				X	X		X					X	X		X	X	X	8
FLIZ	X	X			X	X						X	X		X		X	8
GOSN														X				1
GFOX		X																1
GRSQ	X	X	X	X	X	X	X						X			X	X	10
HOMO				X	X						X							3
HUMA		X							X									2
MODO	X																	1
NOHA	X																	1
OPOS			X	X	X	X		X			X	X						7
POGO															X			1
POSS VERT		X	X	X	X		X		X	X	X	X		X	X	X		12
RACC				X							X					X		3
ROPI		X																1
ROWR		X			X						X							3
RTHA		X																1
SALZ									X									1
SAPH																X		1
SJPM															X			1
SLSA					X													1

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SOSP					X													1
SPSK				X	X		X				X							4
STSK		X	X	X	X		X		X	X	X	X	X			X	X	12
UNK AMP			X															1
UNK BIRD	X	X	X						X			X		X	X			7
UNK CANIS							X									X		2
UNK FROG							X											1
UNK HAWK		X																1
UNK LIZARD									X									1
UNK MAML	X	X		X			X		X		X	X				X		8
UNK MOUSE		X	X	X		X	X		X			X	X		X	X	X	11
UNK RODENT		X																1
UNK SKUNK				X														1
UNK SPARROW									X					X				2
UNK VERT	X	X	X	X	X		X	X	X		X	X	X	X	X	X	X	15
UNK WREN		X																1
WCSP		X							X									2
WEKI		X																1
WEME	X																	1
WTSW	X																	1
YRWA									X									1
Total species categories	10	22	10	14	15	6	12	2	16	4	11	10	8	7	11	16	7	
Minimum # species	5	15	6	10	13	6	7	1	10	3	8	6	6	4	8	11	5	

* indicates a camera which was stolen, so only operated for a portion of the time period described

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Although the cameras were deployed somewhat sporadically over a period of six months, the dataset is comprehensive enough to detect patterns in mammalian use of undercrossings during the warmer, drier months of 2008. The camera data, combined with the roadkill data, clearly show that bobcats are using multiple undercrossings to safely move from one side of the road to the other, and domestic cats, ground squirrels, opossums, and spotted and striped skunks have successfully done so many times as well.

Camera data suggest that bobcats are avoiding the larger undercrossings, preferring culverts 1.5 to 4 feet in diameter. Bobcats have been documented using nine different culverts, with diameters as small as 18 inches and no greater than 48 inches. This finding contradicts Haas' (2000) study, that,

1) found that undercrossing use by bobcats in his study increased as undercrossing height, width, and/or openness increased, and;
2) suggests that large mammal (including bobcats) activity through undercrossings less than one meter in height is highly unlikely.

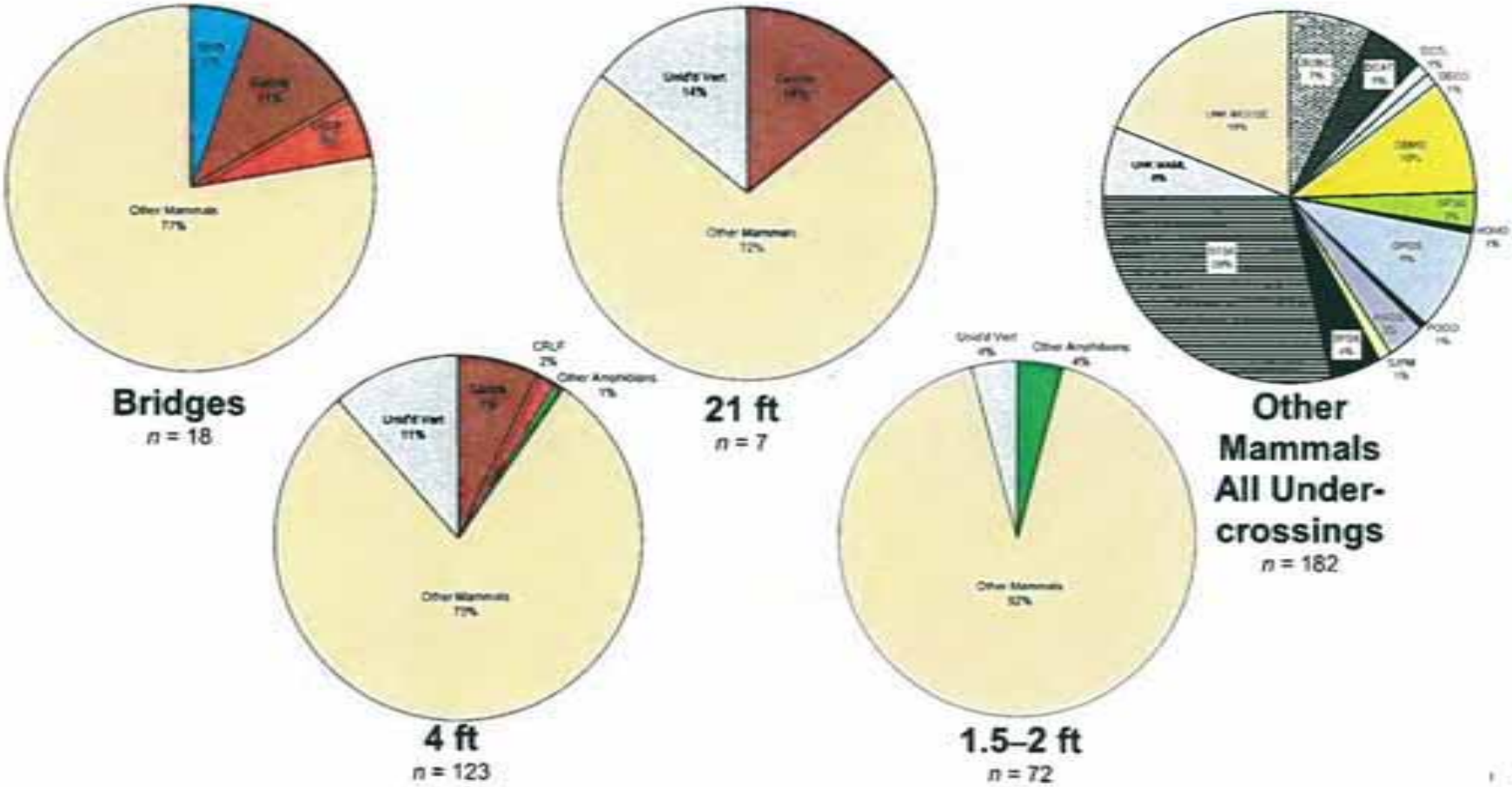
The cameras have documented coyotes using the largest-sized undercrossing (100 foot bridge span), the drive-through culvert (20 feet diameter), and three culverts 48 inches in diameter. There are no instances of coyotes being detected in smaller culverts. These results support those of Haas (2000), who never recorded coyotes using undercrossings less than one meter in height.

As of November 3, 2008 a second attempt to detect amphibian movement through culverts was initiated by converting the cameras to the time-lapse mode, with 5 minute intervals. This method is relatively untested with amphibians, but it was hoped that it would detect amphibian traffic through the culverts, if they were using them to a significant degree. The attempt to capture amphibian movement was successful.

The cameras photographed two amphibian species using three different culverts. California red-legged frogs were photographed in a 100-foot bridge undercrossing (VB2U), a culvert four feet in diameter (VCU0), and another culvert 18 inches in diameter (VCU1). These detections occurred between December 23 2008 and February 14, 2009. The second amphibian species we detected was a slender salamander in VCU1, an eighteen inch culvert, from November 19, 2008, through January 24, 2009.

Review of remotely triggered images indicate that species use of undercrossings varies by the size of the undercrossing. Chart 1 depicts the percentage of each species grouping crossing through an undercrossing. Of particular interest is the fact that both canids (coyotes, grey foxes, and unidentified canids) and CRLF were only using culverts four feet in diameter and larger. Given the small sample size, these pie charts may not fully represent the entire size range of undercrossings canids and CRLF will use within the study area. However, it is generally true that as diameter increases, the diversity of species that can use the culvert increases. This may not have been the case at VCU14. The 10'X10' box culvert has standing water during all times of year which seems to reduce its usefulness as a wildlife crossing. The only vertebrate

Chart 1. Percentage of Species Groups Crossing through Various Sizes of Undercrossings within the Study Area[1]



[1] Notes: The following caveats apply to these pie charts: 1) only the first of a series of consecutive photos of the same individual were counted; 2) only photos of animals crossing through the undercrossing were included; 3) each photo with an animal detection counted as one photo, even when there was more than one individual in the frame; 4) groups were defined as follows: CRLF formed its own group, separate from the group containing all other amphibians, all Canidae members were combined into one group, the rest of the mammals into another group, all birds together, all reptiles together, and all unidentified vertebrates into a final group; 5) we excluded "possible vertebrate" occurrences since they could not be confirmed as vertebrate detections; and 6) there was no vertebrate crossing detected by the cameras for VCU14, the 10-foot box culvert.

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categorized as crossing this feature was a gopher snake. In addition, this culvert harbors a nesting colony of cliff swallows, and although many images of this species were gathered, none were determined to be crossing. For informational purposes, a pie chart showing the percentage of those mammal species lumped under the "Other Mammals" category that crossing through the undercrossings Each is listed by its species code.

As expected, the HM (summer) technique captured a higher percentage of mammals (warm, fast moving animals) than did the TL (winter) mode, with mammals dominating at almost 90% of the animals detected. The TL mode apparently samples across a more evenly distributed variety of wildlife species groups—again, though, the difference in season is also an important factor.

When comparing large undercrossings (20+ feet) and the two techniques, with HM mode, 33% of the animals detected were canids, 67% were birds. With TL, the same undercrossings show birds at 61%, canids dropped to 0%, other mammals weighed in at 24%, and reptiles were 4% of all detections. There were canids detected via TL, but the proportion of canids relative to other species detected is so low it drops out of the chart. Nevertheless, if the priority is to capture canid presence, clearly HM is the more effective of the two means. If detecting amphibians is the priority, TL is the method called for.

For mid-sized undercrossings (4 to 10 feet in diameter), canids comprise 21% of detected species when using HM (summer) mode, other mammals are 72%, and birds make up the remainder of detected animals (7%). When time-lapse is used in these same undercrossings, canids drop to only 2% of detected animals, other mammals are 73%, reptiles appear at 3%, birds drop to 2%, CRLF appears at 1%, and other amphibians are 1% of the detected animals.

Finally, for the smallest undercrossings (1.5 to 2 feet in diameter), the familiar pattern appears. For HM mode, other mammals comprise 89% of individuals detected, reptiles are 9%, and birds are 1%. Canids are not detected in the smallest undercrossings at all, although carnivores are represented (see BOBC in Table 4). For TL mode, other mammals are 69% of species observed, other amphibians jump up to 15%, CRLF are 2% (so total amphibians are 17% of detections), birds comprise 4%, and reptiles are 2% of individuals detected using these smallest undercrossings.

Conclusions

After 19 months of collecting data, a strong dataset that allows for the development of recommendations on the most effective measures for allowing wildlife to safely cross Vasco Road has been collected. Wildlife moving across Vasco Road were observed by various means and with varying degrees of success. The compilation of all datasets, in combination with individual species' life history requirements, and an analysis of the effectiveness of varying types of crossings and fencing, is currently being conducted to formulate recommendations for improving animals' ability to move safely across Vasco Road, even after it has been widened and a median barrier has been installed. The recommendations will include the number, size,

placement, and spacing of undercrossings in addition to fencing and maintenance recommendations.

Several basic observations regarding the data can be made. In general, wildlife mortalities on Vasco Road occurred throughout the entire study area, regardless of undercrossing location. Large numbers of California red-legged frogs (120) and California tiger salamanders (50) were found killed on Vasco Road, frequently associated with early-season rain events. Wildlife frequently use the road surface rather than existing undercrossings, despite Vasco Road having been designed specifically to facilitate safe passage of frogs, salamanders, and kit fox.

It appears that for most species, continuous fencing between existing undercrossings is necessary to reduce mortality levels. Undercrossings of specific sizes may also need to be added to reduce mortality for particular species. Given the existing mortality levels for California red-legged frog and California tiger salamander, the installation of additional fencing and undercrossings, even with the proposed road-widening and median barrier installation, has the strong potential to improve the survivorship of animals attempting to pass from one side of Vasco Road to the other.

Although a relatively new approach to documenting amphibian movement, this study's success in using cameras to document undercrossing utilization by amphibians is promising for further researchers' efforts.

Finally, mortality surveys provide valuable, specific information to measure the success, or lack thereof, of wildlife crossing. Few other techniques provide the sort of concrete information these surveys do; they detect what species are being killed, how many, where, when, and in association with what features (and other variables). Mortality surveys and remote cameras combine to provide invaluable, at times incontrovertible, feedback regarding which species are moving and where.

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Appendix 1. Species list with code, common name and scientific name.

Code	Common Name	Scientific Name
AMCR	American crow	*Corvus brachyrhynchos*
AMKE	American kestrel	*Falco sparverius*
AQGS	Aquatic garter snake	*Thamnophis atratus*
ARSA	Arboreal salamander	*Aneides lugubris*
BADG	Badger	*Taxidea taxus*
BLPH	Black phoebe	*Sayornis nigricans*
BLRA	Black rat	*Rattus rattus*
BNOW	Barn owl	*Tyto alba*
BOBC	Bobcat	*Felis rufus*
BUOR	Bullock's oriole	*Icterus bullockii*
BUOW	Burrowing owl	*Athene cunicularia*
CAPM	California pocket mouse	*Chaetodipus californicus*
CATS	California tiger salamander	*Ambystoma californiense*
CAVO	California vole	*Microtus californicus*
CLSW	Cliff swallow	*Petrochelidon pyrrhonota*
COYO	Coyote	*Canis latrans*
CRLF	California red-legged frog	*Rana draytonii*
DCAT	Domestic cat	*Felis domesticus*
DCTL	Domestic cattle	*Bos taurus*
DDOG	Domestic dog	*Canis lupus familiaris*
DECO	Desert cottontail	*Sylvilagus audubonii*
DEMO	Deer mouse	*Peromyscus maniculatus*
FLIZ	Western fence lizard	*Sceloporus occidentalis*
GCSP	Golden-crowned sparrow	*Zonotrichia atricapilla*
GFOX	Gray fox	*Urocyon cinereoargenteus*
GOSN	Gopher snake	*Pituophis catenifer*
GRSQ	California ground squirrel	*Spermophilus beecheyi*
HOMO	House mouse	*Mus musculus*
HUMA	Human	*Homo sapiens*
KISN	Common kingsnake	*Lampropeltis getula*
LTWE	Long-tailed weasel	*Mustela frenata*
MODO	Mourning dove	*Zenaida macroura*
MUSK	Muskrat	*Ondatra zibethicus*
NISN	Night snake	*Hypsiglena torquata*
NOHA	Northern harrier	*Circus cyaneus*
NORA	Norway rat	*Rattus norvegicus*
OPOS	Opossum	*Didelphis virginiana*
ORSH	Ornate shrew	*Sorex ornatus*
PATR	Pacific treefrog	*Pseudacris regilla*
POGO	Botta's pocket gopher	*Thomomys bottae*
POSS VERT	a vertebrate animal was possibly observed, but could not be confirmed (used in photo ID)	

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Code	Common Name	Scientific Name
PRFA	Prairie falcon	*Falco mexicanus*
RACC	Raccoon	*Procyon lotor*
RFOX	Red fox	*Vulpes vulpes*
ROPI	Rock pigeon	*Columba livia*
ROWR	Rock wren	*Salpinctes obsoletus*
SALZ	Southern alligator lizard	*Elgaria multicarinata*
SAPH	Say's phoebe	*Sayornis saya*
SAVS	Savannah sparrow	*Passerculus sandwichensis*
SJPM	San Joaquin pocket mouse	*Perognathus inornatus*
SLSA	Slender salamander	*Batrachoseps attenuatus*
SOSP	Song sparrow	*Melospiza melodia*
SPSK	Spotted skunk	*Spilogale gracilis*
STSK	Striped skunk	*Mephitis mephitis*
TOWA	Townsend's warbler	*Dendroica townsendi*
UNK AMP	Unknown amphibian	
UNK BIRD	Unknown bird	
UNK CANID	Coyote or Fox	*Canidae* family
UNK CANIS	Coyote or Domestic dog	*Canis latrans* or *Canis familiaris*
UNK FROG	Unknown frog	
UNK HAWK	Unknown hawk	
UNK LIZARD	Unknown lizard	
UNK MAML	Unknown mammal	
UNK MOUSE	Unknown mouse species	
UNK RABBIT	Unknown rabbit	*Sylvilagus audubonii* or *S. bachmani* or *Lepus californicus*
UNK RODENT	Unknown rodent	
UNK SHREW	Unknown shrew	
UNK SKUNK	Unknown skunk	*Mephitis mephitis* or *Spilogale gracilis*
UNK SNAKE	Unknown snake	
UNK SPARROW	Unknown sparrow	
UNK VERT	information on animal not conducive to identification even to vertebrate class	
UNK WREN	Unknown wren	
VASH	Vagrant shrew	*Sorex vagrans*
WCSP	White-crowned sparrow	*Zonotrichia leucophrys*
WEKI	Western kingbird	*Tyrannus verticalis*
WEME	Western meadowlark	*Sturnella neglecta*
WERA	Western rattlesnake	*Crotalus oreganus*
WESJ	Western scrub-jay	*Aphelocoma californica*
WESK	Western skink	*Eumeces skiltonianus*
WETO	Western toad	*Bufo boreas*
WHRM	Western harvest mouse	*Reithrodontomys megalotis*
WTSW	White-throated swift	*Aeronautes saxatalis*
YBRA	Western yellow-bellied racer	*Coluber constrictor*
YRWA	Yellow-rumped warbler	*Dendroica coronata*

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APPENDIX 2

Contra Costa County Animal Services Department
Wild animal impounds from Vasco Road, Byron, CA
Year 2000 through January 25, 2008

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Contra Costa County
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Wild animal impounds from Vasco Road, Byron, CA

		DEAD	STRAY
2000	COYOTE	6	0
	MUSKRAT	1	0
	OPOSSUM	0	1
	RABBIT SH	2	0
	RACCOON	3	0
	WILD	1	0
	Total	**13**	**1**
2001	COYOTE	11	0
	OPOSSUM	3	0
	PRAIRIE DOG	1	0
	RABBIT SH	4	0
	RACCOON	3	0
	SQUIRREL	1	0
	Total	**23**	**0**
2002	COYOTE	7	0
	FOX	1	0
	RACCOON	6	0
	SQUIRREL-GROL	3	0
	Total	**17**	**0**
2003	BOBCAT	1	0
	COYOTE	6	0
	OTTER RIVER	1	0
	Total	**8**	**0**
2004	COYOTE	9	1

		DEAD	STRAY
2004	DEER	1	0
	OPOSSUM	1	0
	OWL	0	2
	SKUNK	4	0
	Total	**15**	**3**
2005	COYOTE	6	0
	DEER	1	0
	RABBIT SH	1	0
	RACCOON	1	0
	Total	**9**	**0**
2006	BARN OWL	1	0
	COYOTE	10	1
	OPOSSUM	3	0
	OTTER	1	0
	RABBIT SH	2	0
	RACCOON	1	2
	SKUNK	4	0
	Total	**22**	**3**
2007	BADGER	2	1
	COYOTE	17	1
	DEER	1	0
	HAWK	1	0
	OWL	2	0
	RABBIT SH	1	0
	RACCOON	2	0
	SKUNK	2	0
	Total	**28**	**2**
2008	COYOTE	1	0
	Total	**1**	**0**
Total		**136**	**9**