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MEMORANDUM

To: Shawna Purvines, Principal Planner, El Dorado County
From: Cathy Spence-Wells, Principal
Subject: Biological Resources Policy Update Decision Points 2 and 3
Date: January 20, 2015
Attachment(s): Figures 1-3

1.0 INTRODUCTION

At the Board of Supervisors hearing on January 13, 2015, the approach, timeline, and 10 decision points for the Biological Resources Policy Update project were presented to the Board for approval. The Board generally agreed with the steps and timeline proposed to update the General Plan biological resources policies. In addition during the January 13 hearing, Decision Point 1 was presented to the Board and direction was given to prepare an AB 1600 Fee Nexus Study and revise the in-lieu fee with updated methodology, assumptions, and property values. During the January 26 hearing, Decision Points 2 and 3 will be presented to the Board for direction. This memo provides a detailed analysis of Decision Points 2 and 3 to facilitate the Board's discussion.

The timeline presented at the January 13 hearing provided for Decision Points 4 through 8 to be heard by the Board in February and Decision Points 9 and 10 to be heard in March. Based on our preparation for those hearings to date, we anticipate that it would be beneficial to allow more time for discussion of Decision Points 4 through 7. We recommend postponing discussion of Decision Point 8 to the March hearing.

2.0 DECISION POINT 2: OAK RESOURCE MEASUREMENT METHODOLOGY

Determine which method of oak resource measurement (woodland area or canopy cover area) will be used for impact calculations and mitigation area determination.

Options: Use oak canopy or oak woodland as the unit of measurement for determining oak resource impacts and quantifying mitigation requirements.

Analysis: Initial information regarding this decision point was presented to the Board on July 28, 2014. The following summarizes and expands on that discussion:

- The Kuehl Bill (also known as Senate Bill 1334 and codified as California Public Resources Code Section 21083.4) requires that the County determine whether a project within its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment and identifies mitigation alternatives for project-related impacts to oak woodlands.
- The 2004 General Plan uses the term oak woodland interchangeably and in the same context as oak canopy, resulting in some confusion and need for interpretation. The County's Interim Interpretive Guidelines for Policy 7.4.4.4 currently provide that oak canopy is to be used as the unit for measuring oak resources and determining mitigation requirements.
- Oak canopy represents the ground surface area directly beneath the dripline (or canopy edge) of an oak tree. In areas with dense tree cover, driplines may overlap. Oak canopy is relatively easily mapped and understood by the public. While oak canopy is a component of an oak woodland, it excludes other woodland vegetation (understory plants, other plant species) and does not consider other factors that contribute to wildlife habitat value.
- Oak woodlands include oak trees and canopy, may encompass some of the areas between tree canopies, and may include other associated tree or understory shrub species. Based on the California Fish and Game Code, an oak woodland is defined as "an oak stand with greater than 10% canopy cover." The 10% canopy cover threshold is related only to an oak tree-dominated native vegetation community where the oak tree canopies cover at least 10% of the ground surface area of that vegetation community. In other words, under California Fish and Game Code, an oak woodland is defined as a stand of oak trees where the tree canopy covers at least 10% of the total ground area within that stand. The 10% canopy cover threshold is not related to parcel or other land use boundaries. Oak woodland delineation is sometimes less easily mapped, but incorporates areas and features that contribute to habitat value. A comparison of conceptual oak canopy and oak woodland mapping is presented in Figure 1, which was presented to the Board on July 28, 2014. Additionally, a comparison of the variation in oak woodland canopy cover is presented in Figure 2, which shows two areas in El Dorado County that are both classified as oak woodlands.

Issues relevant to the decision to use oak canopy or oak woodland as unit of measurement are presented below:

- <u>Consistency with State Regulations:</u> As noted, the Kuehl Bill requires that the County determine whether a project may result in impacts to oak woodlands. Oak canopy is a component of an oak woodland but does not reflect the entirety of the biological resources present within an oak woodland. Wildlife habitat values considered in oak

woodland measurement include tree species composition, understory vegetation (type and location), the structure and distribution of trees within a stand, and food and shelter sources for different wildlife species. Oak canopy mapping does not consider these values. Using oak woodland as the unit of measurement does consider these values and would be consistent with the Kuehl Bill.

- Impact and Mitigation Determination: There are five distinct types of oak woodland in the County encompassing approximately 250,000 acres. When mapping oak woodland, the type of woodland (e.g. valley oak woodland, blue oak woodland) is classified. This classification is important as it is linked to habitat for special-status wildlife species. In El Dorado County, numerous special-status species rely on oak woodlands for habitat, including golden eagle, pallid bat, yellow-breasted chat, among others. Delineation of oak woodlands for a project site is conducted during biological site evaluations when vegetation mapping is completed.

  When determining project-related impacts to oak woodlands, the type of oak woodland is considered and replacement/compensation for the same woodland type may be necessary to mitigate impacts to special-status species habitat. From a biological perspective, different wildlife species use different vegetation communities and mitigation of impacts to specific vegetation communities is typically required. Mapping oak canopy will typically not allow for determination of impacts by oak woodland type and would require additional analysis to link oak canopy mapping data with oak woodland type mitigation needs. Additionally, using oak canopy as the method of measurement may not be sufficient to address impacts to special-status species habitat. If oak canopy is used as the method of measurement, the potential exists for projects to be required to mitigate both impacts to tree canopy and impacts to oak woodland habitat. If oak woodland is used as the method of measurement, mitigation for oak woodland impacts would cover oak resource mitigation and habitat mitigation needs.

- Conservation Easement or In-Lieu Fee Determination: To date, easement and fee determination for mitigation purposes has been based on oak woodland acreage. Using oak canopy as the method of measurement would require additional analysis while updating the in-lieu fee program and refining the Priority Conservation Areas (PCAs). Specifically, mapping the amount of oak canopy within the PCAs and General Plan impact areas would be necessary so that it can be demonstrated that the PCAs include enough canopy coverage to mitigate anticipated impacts. This would increase the necessary time and cost for completing the Biological Resources Policy update project.

- Current County Mitigation Requirements and Process: The current process for evaluating oak resource impacts under the Interim Interpretive Guidelines for General

Plan Policy 7.4.4.4 (Option A) requires that a Tree Survey, Preservation, and Replacement Plan be prepared for a project that may impact oak woodlands. This Plan is required to evaluate on site oak woodlands and determine the extent of coverage by oak canopy and the oak canopy impacts resulting from a project. Utilizing oak woodland as the unit of measurement is not expected to add additional time or cost to the preparation of such plans. Option A mitigation requires that a project retain a minimum percentage of the canopy onsite, using a sliding scale related to the density of the canopy – a site with sparse canopy must retain a higher percentage of the canopy, while a site containing dense canopy allows more canopy removal. Option A also requires replacement planting of oak trees based on a formula designed to restore the area of canopy removed. To reflect use of oak woodland as the unit of measure, the mitigation requirements in Option A would also need to be reconsidered and analyzed.

Recommendation: Using oak woodland as a method of measurement is the recommended approach as it: retains consistency with state regulations (Kuehl Bill), considers the habitat value of oak woodlands and eliminates the potential need to mitigate both oak canopy and oak woodland, and minimizes the time and cost needed to update the in-lieu fee program and PCAs. Using oak woodland as a method of measurement will also result in consistent interpretation of County regulations. Proposed policy revisions will be brought back to the Board for consideration following the completion of the workshops related to the 10 Decision Points.

3.0 DECISION POINT 3: ROADWAY UNDERCROSSING REQUIREMENTS

Determine whether General Plan policy should require project-specific wildlife movement studies for future 4-, 6- and 8-lane roadway projects.

Options: Determine that General Plan policy language should require project-specific wildlife movement studies to evaluate the need for wildlife undercrossings for future 4-, 6- and 8-lane roadway projects or determine that current General Plan policy language regarding undercrossings is adequate.

Analysis: The intent of this decision point is to consider wildlife movement related to the construction of new roads of 4 or more lanes, or the widening of roads to 4 or more lanes. At the Board's direction, this could apply to County road projects and roads associated with development projects. Wildlife movement, other than roadway undercrossings, will be addressed in a future decision point about Important Biological Corridors (IBCs).

The Decision Points and Timeline memo (December 31, 2014) characterized this decision point as determining whether to require roadway undercrossings and to establish design criteria for any required undercrossings. However based on our review and analysis of available data, as

summarized below, we recommend that the Board instead first define the County's broader policy approach to this issue. Further discussion regarding the need for and design of undercrossings can be considered at a future hearing.

Generally, roads that cross through or along wildlife movement corridors experience higher than average animal mortality rates and also present higher hazards for motorists. Undercrossings that facilitate wildlife movement may reduce the potential for significant adverse effects to public safety and may support the County's efforts at minimizing the effects of habitat fragmentation by maintaining connections between areas of natural habitat.

In addition, the California Environmental Quality Act (CEQA) Appendix G checklist requires analysis of a project's effects on wildlife movement. Specifically an analysis of whether projects "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of any native wildlife nursery sites" is required. This includes all discretionary projects, including roadways and land development. Current General Plan Policy 7.4.2.8 B states that the County will consider wildlife movement during construction of all future 4- and, 6-lane roadways, and when feasible, will preserve and enhance natural undercrossings that could be utilized for wildlife movement.

The Circulation Map for the General Plan (Transportation and Circulation Element, Figure TC-1) identifies a number of 2025 improvements for 4-, 6- and 8-lane roadways:

- 4-lane, undivided road: Bass Lake Road
- 4-lane, divided road: Silva Valley Parkway, El Dorado Hills Boulevard, Green Valley Road, Bass Lake Road, White Rock Road, Starbuck Road, Missouri Flat Road
- 6-lane, divided road: Latrobe Road, White Rock Road, El Dorado Hills Boulevard
- 4-, 6- and 8-lane freeway: US 50 (from the Sacramento County line to Pollock Pines)

Phase 1 of the Integrated Natural Resources Management Plan (INRMP) including preparation of a study meant to address wildlife movement corridors within the County, and the issue of north-south wildlife movement across Highway 50 in particular. However, the question posed in this decision point was not addressed in Phase I INRMP studies. The Wildlife Movement and Corridors Report (December 7, 2010) focused on connectivity and movement needs for vertebrate species in the plan area in the context of existing roads and development. This report was received and filed by the Board of Supervisors, but was not adopted. The report evaluated the potential value of improving existing under-crossings along US 50 and identifies potential wildlife undercrossing locations along US 50. The report evaluated methods to retrofit existing transportation structures (e.g., culverts) and construction of new crossing structures to replace linkages lost when US 50 was initially constructed approximately 50 years ago. This report,

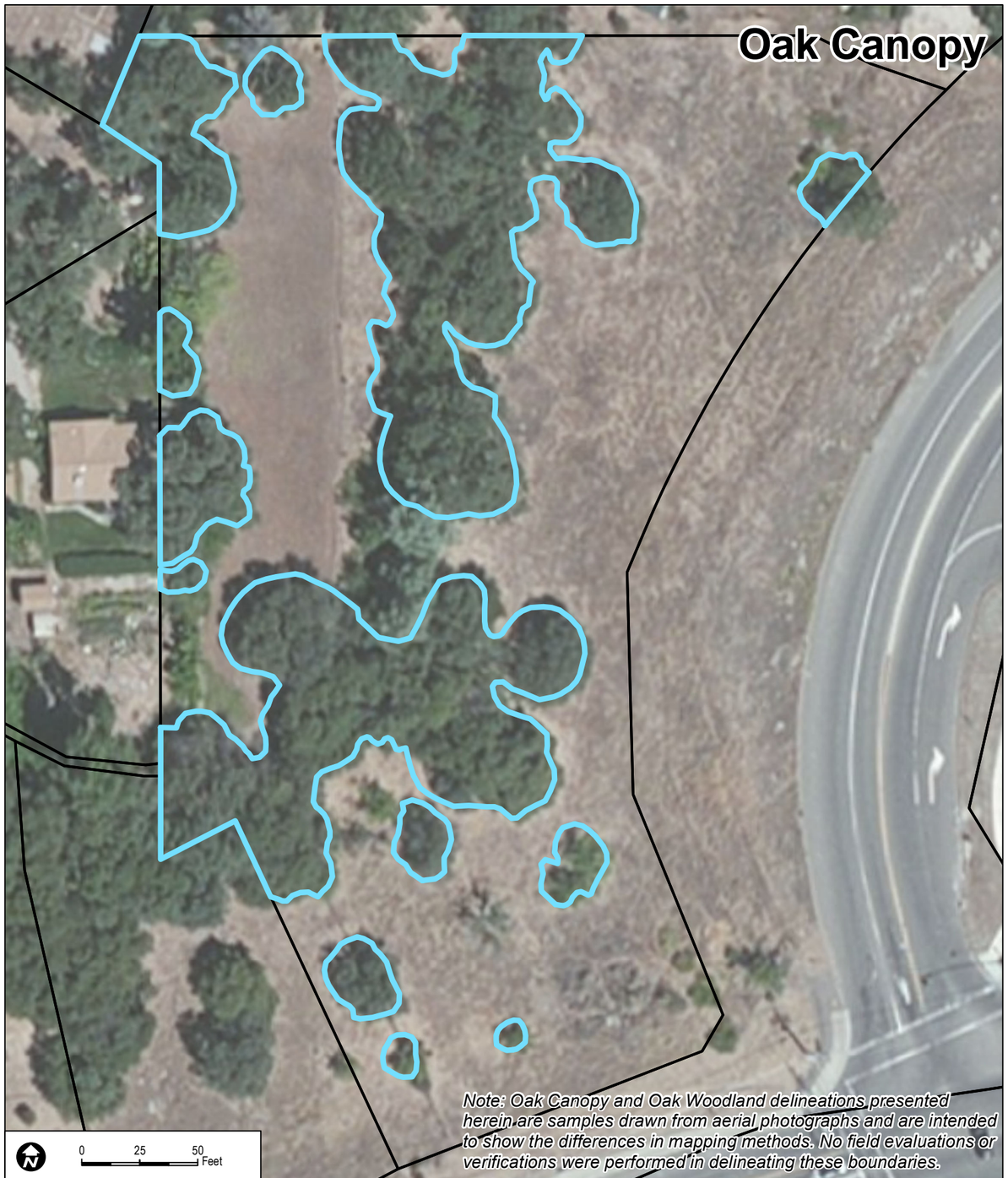
along with an Indicator Species Report received and filed but not adopted by the Board, and a Habitat Inventory and Mapping Report, were intended to form the basis for further analysis and decision-making during the INRMP Phase 2. Under the Board's direction to update the biological resource policies consistent with a mitigation/conservation approach, Phase 2 of the INRMP will not be developed. In the absence of the INRMP, the General Plan policies and implementation measures would be an appropriate place to address wildlife movement.

Figure 3 overlays existing and planned high-volume roadways (such as 4-, 6-, and 8-lane roadways from the General Plan Transportation and Circulation Element) with the elements of the Habitat Inventory and Mapping Report (including IBCs, migratory deer herds, road density, etc.). Figure 3 also includes the five potential wildlife undercrossing locations along US 50 identified in the Wildlife Movement and Corridors Report. Although this report does not address other future 4- and 6- lane County roadway projects, overlaying the information from these reports in this figure allows identification of areas where the roadways could potentially form a barrier to wildlife movement and have an adverse effect on established wildlife movement patterns and roadway safety. As shown in Figure 3, future 4-, 6- and 8-lane County roads are primarily located in already heavily populated areas in western El Dorado County and generally away from identified IBCs and PCAs. This preliminary review suggests that there would be limited 4-, 6- and 8-lane roadway projects requiring wildlife undercrossings.

To allow the Board to better understand the costs associated with wildlife undercrossing construction, retrofitting and maintenance, the Wildlife Movement and Corridors Report describes a Caltrans undercrossing project between Greenstone Road and El Dorado Road. This project cost just under $1 million for the installation of a 12'x12' box culvert to allow the passage of deer and other large mammals. The Wildlife Movement and Corridors Report also notes that retrofitting existing culverts to include ledges for smaller mammals costs between $17 and $20 per linear foot. The total cost of retrofitting 3,000 linear feet of culvert crossings identified in the wildlife movement and corridors report is $60,000. The cost of maintenance (twice yearly) of approximately 15 existing culverts under US 50 is $15,000 a year.

Wildlife movement studies are a key tool for identifying wildlife affected by a project and the need for, number of, and design criteria (size, spacing) for wildlife undercrossings. Such studies were previously anticipated to be prepared with INRMP Phase 2 and would have supported the County in considering wildlife movement during construction of future 4- and 6- lane roads, in compliance with General Plan Plan Policy 7.4.2.8 B. At the project-specific level, wildlife movement studies can be completed as part of the biological resource evaluation required for the development review process, and appropriately take into account the conditions of the project site and surrounding property to determine whether wildlife undercrossings are warranted and, if so, the type, size, and locations that would best mitigate a project's impacts.

Recommendation: Based on current data, there are a limited number of 4-, 6- and 8-lane planned roadways where potential wildlife undercrossings may need to be considered. As described above, CEQA Guidelines require an evaluation of wildlife movement impacts, and any appropriate mitigation, on a project and cumulative basis; however the Guidelines do not require particular studies to support the evaluation. It is recommended that the General Plan policy language be revised to require wildlife movement studies to evaluate project-specific impacts on public safety and wildlife for projects that include new roads of 4 or more lanes or the widening of roads to 4 or more lanes. This would ensure a consistent approach within the County to evaluating and mitigating the effects of roadway projects on wildlife movement and associated public safety. Proposed revisions to the policy will be brought back to the Board following the completion of the workshops regarding the 10 Decision Points.



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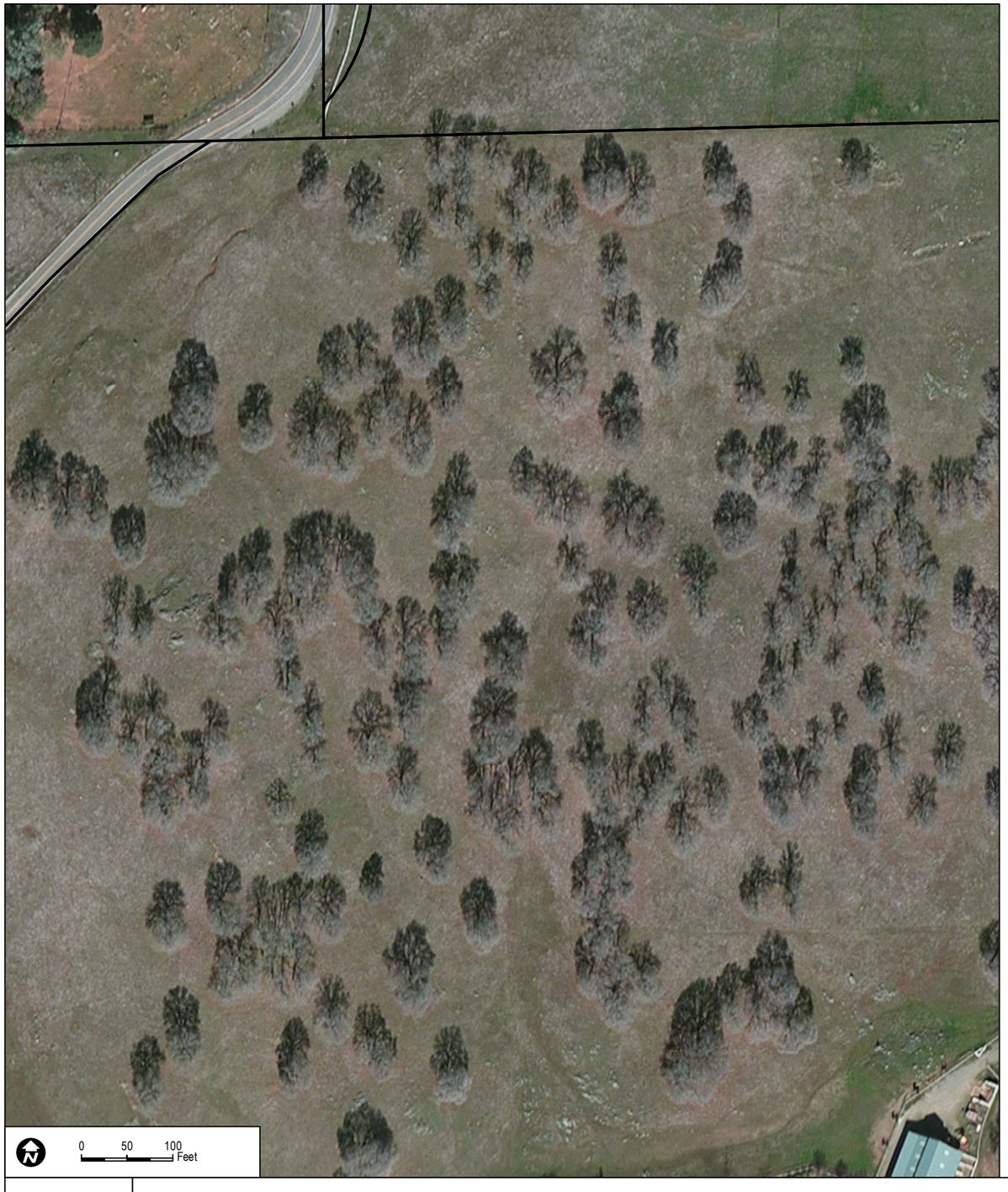
SOURCE: ESRI 2014; El Dorado County 2014

FIGURE 1

Example Comparison of Oak Canopy and Oak Woodland Mapping Methods

Biological Resources Policy Update Decision Points 2 and 3



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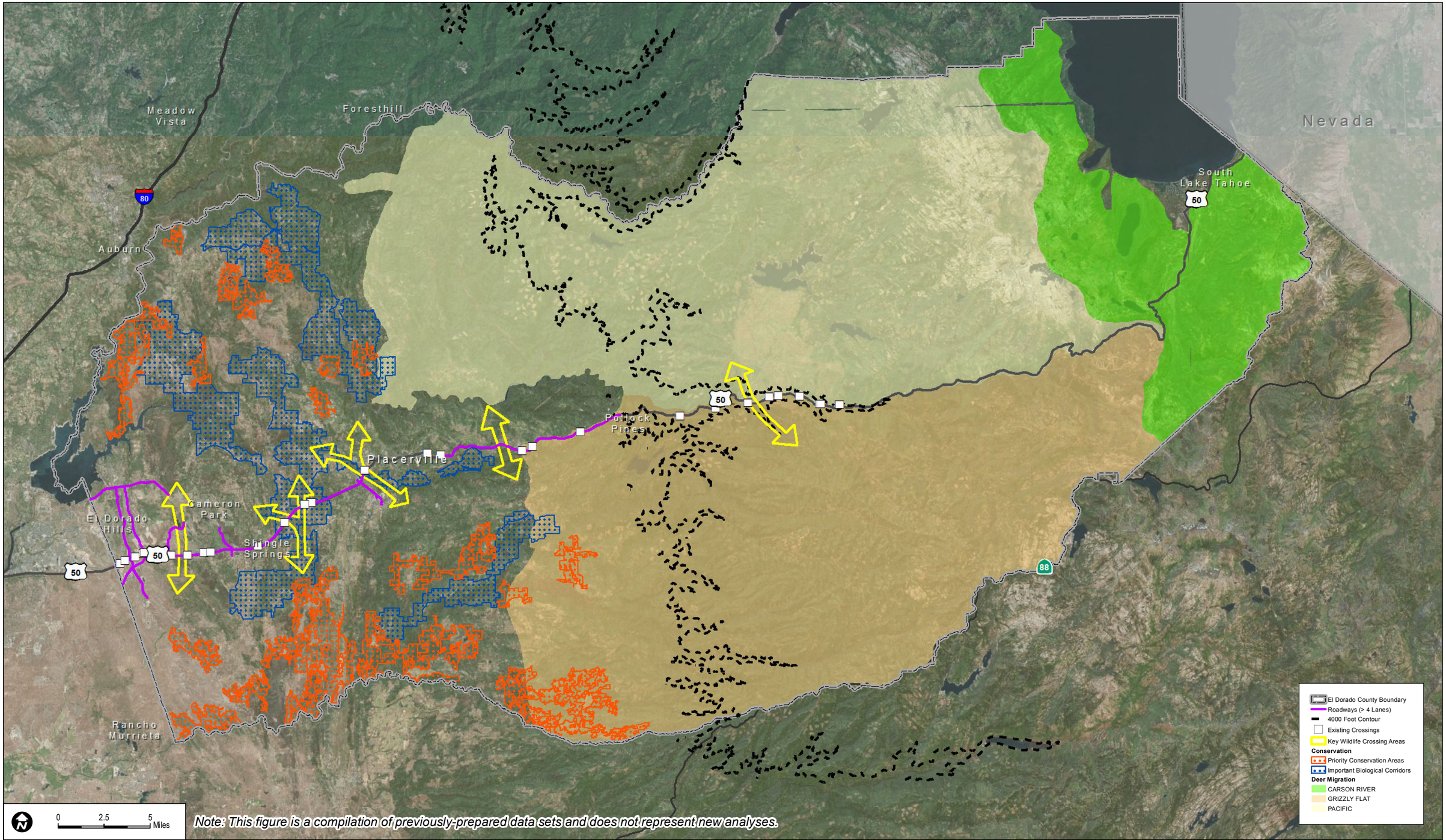
SOURCE: ESRI 2014; El Dorado County 2014; USFS 2011

FIGURE 2

Comparison of Oak Woodland Areas

Biological Resources Policy Update Decision Points 2 and 3



Note: This figure is a compilation of previously-prepared data sets and does not represent new analyses.

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SOURCE: Bing Maps 2014; CPAD 2014; FRAP 2006; El Dorado County 2014

FIGURE 3

Wildlife Movement

Biological Resources Policy Update Decision Points 2 and 3