



Shawna Purvines <shawna.purvines@edcgov.us>

General Plan Biological Resources Policy Update

Richard Boylan PhD <drboylan@outlook.com>

Wed, Nov 25, 2015 at 10:58 AM

To: PlannerShawna Purvines -EDC <shawna.purvines@edcgov.us>, "planning@edcgov.us" <planning@edcgov.us>

Cc: Supervisor Brian Veerkamp-3 <bostthree@edcgov.us>, Supervisor Ron Mikulaco-1 <bosone@edcgov.us>,
Supervisor Shiva Frentzen-2 <bostwo@edcgov.us>

County Planning staff:

This is comment on the [Draft ORMP Revised November 2015](#) (Oak Resources Management Plan).]

The mitigation standards section regarding in-lieu fees has a table which displays unrealistically-low costs per acre for locating, resourcing, planting and maintenance of oak tree plantings for seven years (\$7954). Given the costs of professionally-trained contract foresters or woodland biologists, the proposed costs of Initial Management and Monitoring (\$2,300) and Long-Term (7 years) Management and Monitoring (\$875) and Administration over seven years (\$379) are laughably low. These costs need to be realistically calculated. An upward adjustment factor of 150% of these figures would be conservative. Higher figures would be credible.

Please correct the Mitigation Measures section of the ORMP to reflect *realistic* costs.

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Revised NOP for Bio Resources

Cheryl <Cheryl.FMR@comcast.net>

Wed, Dec 23, 2015 at 1:44 PM

To: Shawna Purvines <shawna.purvines@edcgov.us>

Hi Shawna—

I've attached **three (3)** files for the General Plan Biological Resources Policy Update and Oak Resources Management Plan **Revised Notice of Preparation**. These files include:

- Comments for the revised NOP, dated December 23, 2015
- Comments submitted for the initial NOP, dated August 17, 2015
- Comments submitted for the BOS meeting of September 29, 2015

I will also bring hard copy to your office today. The envelope will include the three files attached to this email, plus a disk (and disk copy) that contains the files and reference materials used to support the documents.

Please acknowledge receipt of comments and the disks via Cheryl.FMR@comcast.net.

Thank you—

Cheryl Langley

Shingle Springs Resident

3 attachments



1. Revised_NOP_Comments.Dec 23, 2015.pdf
993K



2. Aug_17_2015 NOP Comments.pdf
8665K



3. Sept_29_2015_BOS Comments.pdf
645K

Cheryl Langley
5010 Mother Lode Drive
Shingle Springs, CA 95682

Ms. Shawna Purvines, Principal Planner
EDC Development Agency, Long Range Planning Division
2850 Fairlane Court
Placerville, CA 95667

December 23, 2015

RE: Revised Notice of Preparation for the Biological Resources Policies Update & Oak Resources Management Plan

Ms. Purvines:

Thank you for the opportunity to comment on the revised Biological Resources Policy Update (**BRPU**) and Oak Resources Management Plan (**ORMP**).

In addition to comments submitted for this revised NOP, I have included comments submitted for the initial NOP (resubmitted here), and comments provided to the Board of Supervisors (BOS) at the September 29, 2015 meeting. (Specifically, I include the latter set of comments to support/add to discussion within this document.)

Based on these previously submitted comments, and other materials, I have the following requests for information to be included in the draft Environmental Impact Report (dEIR) for the BRPU/ORMP.

Retention of Option A

After reviewing the revisions to 2004 General Plan policies, the proposed ORMP, the BRPU, and Dudek memorandum (17A), it is clear that these policy revisions emphasize making oak mitigation the least onerous possible. This is good news for project applicants, but mitigation measures *must be effective*. The elimination of the Integrated Natural Resources Management Plan (INRMP), the disbanding of the Plant and Wildlife Technical Advisory Committee (PAWTAC), the elimination of Option A (oak retention standards), the reduction of tree sizes for mitigation plantings (from 15-gallon to acorns), the expansion of the number and kind of projects exempt from oak mitigation (including County road improvement projects) all signal a desire to make mitigation for the loss of oak woodland as “simple” and as affordable as possible, both for the County (which has struggled with oak mitigation projects), and for developers.

But this asset—oak woodland—*is* worth protecting. And, retention of **Option A requirements in no way impedes development**—but it *does* serve to make certain a project has been assessed to determine if there is a way **the developer can meet project objectives while at the same time retain the maximum number of oaks possible on-site**. If it is *demonstrated* a project cannot meet fruition *and* Option A oak retention standards, Option B “kicks in,” and other on- or off-site options for oak mitigation become available. **Why is this process—project evaluation as it relates to oak retention—deemed obstructive or impractical?** Aren’t our oak resources worth a serious project evaluation?

Members of the public have *continually* requested Option A retention standards be retained, and requested an equal-weight (co-equal) project alternatives analysis. Such an analysis would provide the BOS with the information necessary to make an informed decision and possibly approve a project alternative that could effectively reduce or avoid significant impact to oak resources. Without such an analysis, it is doubtful this project alternative will be evaluated to the extent necessary to make such a

determination. And, importantly, the BOS—in their July 22, 2015 meeting—*agreed* it was important to evaluate oak retention standards. But without an equal-weight analysis, a meaningful project alternative will not be prepared. Thus—by default—retention of Option A has been roundly rejected before a complete analysis has been conducted. In effect, **it has been predetermined that the County is “not going there.” This is contrary to the purpose and spirit of California Environmental Quality Act (CEQA) analysis.** And it sends message to the public that *“your participation in the process is not welcome here.”*

This is disturbing, and perhaps more so because the resource at stake cannot be easily replaced. And, while BOS members are charged with making decisions that will impact this resource, at least some are not conversant in biological principles, and Dudek does not correct misconceptions when BOS members make statements that lay bare their lack of understanding. While it may at times prove uncomfortable to correct a BOS member during public discussions, the consultant is there to provide expertise. When they do not, this is a failure of their responsibility to the BOS, and to the public, and serves to undermine their own credibility. And most importantly, it is a disservice to the resource being impacted.

The result? BOS members vote—make important decisions with long-term implications—without understanding basic biological or legal principles, or the seriousness and longevity of their decisions. And, while it is not the responsibility of the *public* to educate the BOS, that is where the task has come to rest—in the three minutes granted to any given individual—during meeting opportunities that County staff has purposefully limited to meetings during the workweek days/hours that fundamentally **limit public participation** in this **expedited** process:

NOTE: *“In recognition of the Board’s desire to expedite completion of this process, this approach would potentially limit public input to focused Planning Commission and Board meetings. The TGPA/ZOU process has used this approach to receive public comment rather than the public outreach program currently identified for input on revisions to the policies.”*

(Source: Document 7B under Meeting Details, PROCESS APPROACHES FOR THE OAK WOODLAND MANAGEMENT PLAN.)

This expedited process—based on a request by development interests for an **“interim policy”**—was no more than suggested than taken up by Long Range Planning’s Ms. Purvine who said—at the same meeting at which the request was launched—*“I’d actually like to look into that a little bit further and bring back a discussion on that.”*¹ That initiated a cascade of activity that evolved into an *expedited* BRPU and ORMP. But repeated requests by members of the public to evaluate the retention of Option A have fallen on deaf ears.

Retention of Option A was vilified by suggesting it would impose constraints on economic development, and may even constitute “property taking” by rendering some properties undevelopable.² But no such results could come to pass with implementation of Option B, whose development is clearly one of the primary thrusts of this ORMP. In this instance, Option A would simply provide a “first screening” of projects; it would not be the “last word” on project development or on a project’s ultimate impact on oak woodlands. But retention of Option A *could* serve to protect woodlands when a project *could* meet fruition while accommodating resident oaks.

¹ **Source of Quote:** Planning Commission meeting of Aug 15, 2014; TGPA/ZOU meeting RE: Biological Resources.

² Dudek. 2015. Memorandum from Kathy Spence-Wells to Shawna Purvines, September 18, 2015; 17A, page 8.

Request for Information

- I request a co-equal analysis of a project alternative based on retaining Option A (oak retention standards).
- In the past, Option A was considered restrictive to development interests largely because Option B *was not available*. With the availability of Option B (contingent upon approval of this ORMP), explain why Option A is not being evaluated in a co-equal analysis, especially in light of CEQA guidelines that state EIRs must describe alternatives “...which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...”(14 CCR 1526.6[a]). (In fact, there is probably no other alternative—other than the **No Project** alternative—that could reduce the project’s significant impacts more than this alternative; it is a viable project alternative that deserves co-equal analysis.)

Oak Regeneration as a Mitigation Element

Because this notion of oak regeneration as a viable/plausible mitigation element seems to be persisting, it is necessary to expand on this topic.

First of all—this is not mitigation. Saying something will simply replace itself post-loss contradicts the meaning/purpose of mitigation. To identify *non-action* in this instance as mitigation defies logic, and it also defies scientific study on the topic. It is simply not credible. Even if this approach were *legally* defensible, **it is not supported by fact**.

I have cited numerous studies that discuss blue oak (*Quercus douglasii*) regeneration as inadequate to support the long-term survival of this woodland species in numerous areas of California (see discussion/citations in comments on the initial NOP, and in the September 29, 2015 comments to the BOS; reference materials are included for both documents [on disk] with this submitted material). These documents contain citations that describe the problems with blue oak regeneration (the species that will be most impacted [and replanted] as a result of development projects in EDC).

I add to this discussion on oak regeneration here. In a study by Swiecki, et al.,³ an in-depth evaluation was undertaken to assess the status of blue oak regeneration and determine how environmental and management factors influence blue oak sapling recruitment. This study was conducted in the counties listed in the table below on study sites of at least 150 acres in size dominated by blue oak

County	Regeneration Adequate to Maintain Blue Oak Woodland?		Comments
	Yes	No	
Napa		X	This study site had the highest number of blue oak saplings but there were fewer plots with an increase in blue oak density than a decrease in density; there were few small seedlings.
Glenn		X	No blue oak saplings were present anywhere in the entire study site

³ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

San Benito	X		The blue oak stand at this site appears to be viable; regeneration appears to be moderate—more plots showed an increase in blue oak density than a decrease
Yuba	X		More plots showed an increase in blue oak density than a decrease; about a quarter of the saplings originated as stump sprouts in an area where blue oaks were cut in 1989; 7 % of the sprout-oriented saplings were dead; mortality was higher among seedling-origin saplings (mesic site)
Mendocino		X	No blue oak saplings were present anywhere in the entire study area; a few seedlings were observed
Tulare		X	Recruitment was sparse; current levels of recruitment are insufficient to support offset mortality
Tehama		X	Blue oak saplings were uncommon, as were seedlings; sapling recruitment was inadequate to maintain current stand densities
Amador		X	Blue oak saplings and seedlings were uncommon; very little regeneration has occurred since the Gold Rush; current recruitment is insufficient to maintain stand; conversion to grassland appears inevitable
San Luis Obispo		X	Recruitment is insufficient to offset mortality
Monterey		X	Recruitment is insufficient to offset mortality
Madera		X	No blue oak saplings were seen in the study area; a few small seedlings were seen; there was no regeneration of woody species in the study area
Santa Clara		X	No blue oak saplings were seen in the study area but some seedlings were seen; this stand had the highest mortality of those studied
Contra Costa		X	Recruitment lags far behind mortality at this study site
Tulare		X	Mortality was far in excess of sapling recruitment

Tuolumne	Variable, but ultimately described as a site with more plots with “net loss” than “net gain”	Stump sprout-origin saplings outnumbered those of seedling origin (sprouts from previous tree removal) at this site (75% of saplings were of sprout origin); virtually the entire stand appeared to be second growth; a few seedlings were seen, particularly along creeks; although regeneration had apparently been successful in some portions of the site, blue oak had been eliminated from some large areas and no recolonization of these large clearings has occurred
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Swiecki study conclusions include:

- *“...it appears that most locations are losing blue oak density at the stand level due to unreplaced mortality.”*
- *“These observations support the assertion that current recruitment is inadequate to maintain existing tree populations in at least some areas.”*
- *“...the conversion of blue oak woodland to grassland is not likely to be easily reversed.”*
- *“...the extent of blue oak woodlands will continue to decrease due to unreplaced mortality...”*
- *“Because our study locations are distributed throughout the range of blue oak, we are confident that the trends we observed can be generalized over much of the range of blue oak.”*
- *“In many stands, sapling blue oaks are absent or rare.”*
- *“In most stands, the percentage of the stand area which is likely to show a decrease in blue oak density and canopy cover is greater than the percentage that may show an increase in density and canopy cover.”*

Blue Oak Regeneration in EDC

During the various meetings and workshops on the BRPU/ORMP, some individuals have brought up the issue of oak regeneration—presumably in “defense” of oak removal—and have stated—*anecdotally*—that there are more trees in EDC now than in the past. There have also been figures brought up (undocumented) to “substantiate” gains in EDC oak woodland.

The most current study I was able to find to quantify blue oak woodlands in EDC was presented in the report *“Monitoring Land Cover Changes in California.”*⁴ (**NOTE:** The northeastern California project area covers Amador, Butte, **El Dorado**, Lassen, Modoc, Nevada, Placer, Plumas, Sierra, Sutter, Yolo and Yuba counties.)

⁴ USDA Forest Service & California Department of Forestry and Fire Protection Fire and Resource Assessment Program. 2002. *Monitoring Land Cover Changes in California; California Land Cover Mapping and Monitoring Program. Northeastern California Project Area, January, 2002.*

Report findings are as follows:

For **blue oak woodland** (all owners):

- 509 acres with small, moderate, large woodland decrease (1.55% decrease)
 - 194 acres with small, moderate, large woodland increase (0.59% increase)
- 32,878 acres total
Net decrease of 315 acres or 0.96%

For **blue oak/foothill pine woodland** (all owners):

- 119 acres with small, moderate, large woodland decrease (0.66% decrease)
 - 95 acres with small, moderate, large woodland increase (0.53% increase)
- 17,995 acres total
Net decrease of 24 acres or 0.13%

TOTAL for **blue oak** and **blue oak/foothill pine woodlands** combined: **1.09% decrease**

Table C-14 Acres of Classified Change in El Dorado County by Hardwood Cover Type and Owner Class

	National Forest		Other Public		Private		All Owners	
	Acres	%	Acres	%	Acres	%	Acres	%
Blue Oak Woodland								
LDVC	0	0	0	0	17	0	17	0
MDVC	0	0	4	0	82	0	86	0
SDVC	5	6	11	1	390	1	406	1
NCH	71	93	1,576	97	30,386	97	32,033	97
SIVC	0	1	15	1	155	0	170	1
MIVC	0	0	0	0	22	0	22	0
LIVC	0	0	0	0	2	0	2	0
NVG	0	0	23	1	119	0	142	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	77	100	1,628	100	31,173	100	32,878	100
Blue Oak / Foothill Pine								
LDVC	0	0	0	0	3	0	3	0
MDVC	0	0	1	0	23	0	24	0
SDVC	0	4	3	0	89	1	92	1
NCH	4	82	1,097	99	16,637	99	17,738	99
SIVC	1	14	4	0	76	0	81	0
MIVC	0	0	0	0	14	0	14	0
LIVC	0	0	0	0	0	0	0	0
NVG	0	0	9	1	34	0	43	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	5	100	1,113	100	16,877	100	17,995	100

LDVC – large decrease in vegetation cover; MDVC – moderate decrease in vegetation cover; SDVC – small decrease in vegetation cover; NCH – little to no change in vegetation cover; SIVC – small increase in vegetation cover; MIVC – moderate increase in vegetation cover; LIVC – large increase in vegetation cover; NVG – non-vegetation change; CLD/SHA – cloud or shadow
 Refer to Appendix D for WHR type descriptions.

Source: USDA Forest Service & California Department of Forestry and Fire Protection, *Monitoring Land Cover Changes in California; California Land Cover Mapping and Monitoring Program.*

McCreary⁵ also weights in on this topic of regeneration.

For nearly a century, there has been concern that several of California's 20 native oak species are not regenerating adequately (Jepson 1910). Such concern was partially responsible for the establishment of the Integrated Hardwood Range Management Program (IHRMP) in 1986, a cooperative effort between the University of California, the California Department of Forestry and Fire Protection, and the California Department of Fish and Game to promote oak woodland conservation (Standiford and Bartolome 1997). Evidence indicating that there is an "oak regeneration problem" in California has been based largely on observations of a paucity of young seedlings and saplings in the understories of existing oak stands. Describing the foothill woodland in the Carmel Valley, White (1966) stated that "A prevailing characteristic . . . is the lack of reproduction . . . with very few seedlings." Bartolome and others (1987) also concluded that "current establishment appears insufficient to maintain current stand structure for some sites." And Swiecki and Bernhardt (1998) reported that of 15 blue oak locations evaluated throughout the State, 13 were losing stand density at the stand level due to unreplaced mortality.

The species that are having the most difficulty regenerating are all members of the white oak sub-genera of *Quercus*, and include blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), and Engelmann oak (*Q. engelmannii*) (Muick and Bartolome 1987; Bolsinger 1988). Blue and valley oak are endemic to the State, while Engelmann oak, which actually has a far narrower distribution range than the other 2 species, does extend into Baja California (Griffin and Critchfield 1972). Concern about poor

Request for Information:

- Please include in the NOP a discussion of why oak regeneration is being evaluated as a possible "mitigation" element. Discuss what is to be accomplished by this approach—if accepted—and who will benefit. Discuss the impact on oak woodland mitigation if this approach is implemented.
- Describe the science that *supports* the notion that relying on oak regeneration is a plausible approach to impact mitigation. Also provide scientific studies that *refute* this approach to impact mitigation.
- Identify other California counties that have used—or entertained the idea of using—oak regeneration to "*offset development impacts to oak woodlands.*" If other counties have used this approach, identify those counties and present their rationale for using this approach, and if this approach was actually pursued, the outcome of that decision (impact on oak resources).
- Describe what makes this approach viable under CEQA mitigation guidelines.
- Keeping in mind that blue oak is the species that will be most impacted by development projects—and that it is the species that will make up the bulk of mitigation efforts—discuss how its declining ability to regenerate can possibly be used as a mitigation element.
- From a workshop PowerPoint presentation (Document 5D), mitigation is identified as "*strategies to reduce impacts.*" "Reducing impacts" implies an active process. How does relying on a *natural process* (especially one in decline), meet this criterion?

Use of Acorns for Oak Woodland Replacement

The poor natural regeneration of blue oak woodlands means the viability of acorn plantings, too, will be problematic, making replacement of woodlands via the planting of acorns a fragile, ineffective strategy. According to A Planner's Guide to Oak Woodlands:⁶

...the same factors that prevent or limit **natural regeneration** can also take a heavy toll on artificial plantings. **To be successful, relatively intensive site preparation, maintenance, and protection must usually be provided for several years.**

⁵ McCreary, D. and J. Tecklin. 2005. *Restoring Native California Oaks on Grazed Rangelands*. USDA Forest Service Proceedings RMRS-P-35.

⁶ Giusti, G.A. et al (editors). 2005. *A planner's guide for oak woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

Thus, while it may be tempting to think planting acorns will provide a low-cost alternative to container-planting, acorns are prone to failure and could ultimately cost project developers *more* than container-planting. The excessive replacement of dying seedlings, the necessity for irrigation, weed and rodent control, and tree shelter or fencing placement (and replacement) means in-field acorn propagation will be costly and burdensome.

Studies have shown that mortality from direct seeding of acorns is high. According to Young,⁷ “Approximately 40% of the field-planted acorns disappeared in the first two months after planting, probably taken by ground squirrels or other seed predators.” And, according to Swiecke:⁸

A blue oak seedling observation plot was established just outside the study area in 1988 (Swiecki et al 1990), but was destroyed by ground squirrels before permanent markers could be installed. A second seedling plot located about 3 km south of the study area was resurveyed in July 1993, at which time only 6.5% of the seedlings tagged five years earlier were still surviving.

Not only is acorn planting fraught with difficulties and failure, the results—even under the best of circumstances—will be dismal. Blue oaks are slow growers. Harvey⁹ showed that many of the blue oak saplings less than four feet tall were between 40 and 100 years old. (**NOTE:** Both sets of comments submitted previously [August 17, 2015; September 29, 2015] include a discussion of blue oak growth rates and additional studies/citations, which see.)

Request for Information

- If acorn planting is to be pursued as a mitigation element under this ORMP, provide specific details/requirements for planting that include specific site treatment, monitoring, replacement schedules, equipment, and measures that will be employed to ensure success.
- Describe (and establish) a **performance standard** for acorn *and* sapling (container) plantings. That is, commit to a canopy coverage standard to be attained within X number of years (say 5 years, for example).

⁷ Young, T.P. and R.Y. Evans. 2002. *Initial Mortality and Root and Shoot Growth of Oak Seedlings Planted as Seeds and as Container Stock Under Different Irrigation Regimes*. Department of Environmental Horticulture, University of California, Davis; Final Report.

⁸ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

⁹ L.E Harvey. 1989. *Spatial and Temporal Dynamics of a Blue Oak Woodland*. Ph.D. Thesis, University of California, Santa Barbara.

Cattle Grazing on Conservation Easements

From the draft revised ORMP, November, 2015; Page 24:

4.2 Management of PCAs

Existing oak woodlands within the PCAs identified as mitigation for project impacts, whether on or off a project site, will be protected from further development through a conservation easement granted to the County or a land conservation group approved by the County or by acquisition in fee title by a land conservation group. Management activities would be conducted by land conservation organizations and may include, but are not limited to, one or more of the following activities, as determined appropriate and/or necessary through monitoring of the sites: inspections, biological surveys, fuels treatment to reduce risk of wildfire and to improve habitat, weed control, database management, and mapping. Agricultural use (i.e., grazing) shall be allowed in conserved oak woodlands as long as the activity occurred prior to the establishment of the conservation easement, the spatial extent of the agricultural use is not expanded on conserved lands, and the agricultural use does not involve active tree harvest or removal (e.g., fuelwood operations, land clearing for crop planting, etc.).

Livestock grazing can have serious implications for oak woodlands and wildlife. For instance, research conducted by Swiecki¹⁰ shows:

- Oak saplings are unlikely to be found in areas with high chronic levels of livestock browsing.
- In areas subject to at least moderate browsing, the majority of oaks are shorter than the browse line and show evidence of chronic browsing damage.
- Seedlings and saplings were more common in ungrazed natural areas than in grazed pastures.

To this end, Swiecki suggests:

- Alternative grazing regimes that reduce the duration and intensity of browsing pressure may help to reduce the negative impact of browsing on oak resources.
- In any gap-creating event (such as oak harvest or wildfire), livestock use should be minimized until oaks have grown taller than the browse line.

And McCreary¹¹ weighs in on this issue, too:

¹⁰ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

¹¹ McCreary, D. and J. Tecklin. 2005. *Restoring Native California Oaks on Grazed Rangelands*. USDA Forest Service Proceedings RMRS-P-35.

Timing of Grazing Study

In 1989, a UC Davis graduate student named Lillian Hall initiated an experiment at the SFREC to evaluate how planted oak seedlings fare in pastures where cattle have access (Hall and others 1992). She planted 1-year-old blue oak seedlings in pastures grazed by cattle at different stock intensities, and included a control where cattle were excluded. She found that damage to seedlings was significantly less in the winter and fall when the deciduous oaks did not have foliage and were apparently less appetizing to the cattle. Cattle did not seem to seek out or prefer young oaks. However, in the spring green-forage season, they appeared drawn to clover patches near seedlings and browsed the oaks in the process. Heavy damage to seedlings in the summer at all cattle densities probably resulted from the fact that the young oaks were often the only green vegetation in the grazed pastures, and were therefore more palatable than the dry annual grasses. Within each season, total damage also increased with increasing stock density.

While some researchers suggest livestock management techniques can *lessen* the impact of grazing in oak woodlands, it is clear that **the best approach is to not graze these areas** unless absolutely necessary. For instance—speaking in terms of “real world” observation—while only spring grazing is done on the property north of Highway 50 by the Scott Road exit (in Sacramento County), it is clear that the blue oak woodland on these pastures is in decline; oak regeneration is largely absent.

Conservation easements should be managed for wildlife and woodlands—that is the purpose of a conservation easement. But if grazing *is* allowed on conservation easements, management (protection) of young oak trees must be actively performed. These protective practices may make cattle grazing on protected lands impractical/costly.

Request for Information

- Describe the grazing regime (management practices) that will/will not be allowed on conservation lands. For instance, will grazing be restricted to certain times of the year?
- Discuss/disclose the following: If the livestock owner is also the land owner, will this person receive a property tax reduction for the land being established as a conservation easement? Or, will they be charged a fee for use of a conservation easement for grazing purposes? And, if a fee is charged, will it go into a fund to be utilized for conservation easement acquisition?
- Similarly, discuss the situation described in the bullet above in the case where the livestock owner is *not* the landowner. Will “land rental fees” be levied, and if so how much, and how will the fees be used?

Discuss the following:

- How might the presence of grazing livestock on conservation easements impact wildlife and wildlife habitat?
- How might the presence of grazing livestock impact the oak woodland (specifically survival of young oaks)?
- How might the presence of grazing livestock impact water features, and the wildlife/ecology of those water features (e.g., vernal pools, seasonal creeks, drainages, ponds, etc.)

- If grazing is to be allowed on conservation easements, provide examples of EDC properties where grazing has occurred and oak regeneration is “active” (successful). Identify the amount of time grazing has occurred on the property (both in terms of years grazed and duration of grazing per season), the size and makeup of grazing herds (cattle, sheep, other), and the age classes and species of the oaks present.

Impact to Riparian Zones / Riparian Setbacks

While Long Range Planning staff touted the establishment of *permanent* riparian setback under the Targeted General Plan Amendment/Zoning Ordinance Update (TGPA/ZOU), it was not made clear that these setbacks were being *reduced* under the TGPA/ZOU. The BRPU had established the following interim guidelines:

From the BRPU, page 13D, page 10:

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

The TGPA/ZOU reduced these interim guidelines to the following:

Title 130, Zoning Ordinance; Article 3, page 11:

Ministerial development, including single family dwellings and accessory structures, shall be set back a distance of 25 feet from any intermittent stream, wetland or sensitive riparian habitat, or a distance of 50 feet from any perennial lake, river or stream. This standardized setback may be reduced, or grading within the setback may be allowed, if a biological resource evaluation is prepared which indicates that a reduced setback would be sufficient to protect the resources.

All discretionary development which has the potential to impact wetlands or sensitive riparian habitat shall require a biological resource evaluation to establish the area of avoidance and any buffers or setbacks required to reduce the impacts to a less than significant level. Where all impacts are not reasonably avoided, the biological resource evaluation shall identify mitigation measures that may be employed to reduce the significant effects. These mitigation measures may include the requirement for compliance with the mitigation requirements of a state or federal permit, if required for the proposed development activity.

Any setback or buffer required by this subsection shall be measured from the ordinary high water mark of a river, perennial or intermittent stream, and the ordinary high water mark or spillway elevation of a lake or reservoir.

Because mitigation elements related to biological resources are the topic of this BRPU update, it is only reasonable that riparian setbacks should be evaluated, discussed, and developed under this BRPU process, not under the TGPA/ZOU process alone.

From the BRPU, 13C, page 35:

MEASURE CO-O

Prepare and adopt a riparian setback ordinance. The ordinance, which shall be incorporated into the Zoning Code, should address mitigation standards, including permanent protection mechanisms for protected areas, and exceptions to the setback requirements. The ordinance shall be applied to riparian areas associated with any surface water feature (i.e., rivers, streams, lakes, ponds, and wetlands) and should be prepared in coordination with Measure CO-B. [Policy 7.4.2.5]

When riparian setbacks were established under the TGPA/ZOU, it was clear that there was no scientific basis for setback size, and therefore no valid analysis of the impact of the reduction. This change in riparian setback distances needs to be evaluated within this dEIR (along with other numerous impacts to biological resources that are the result of TGPA/ZOU-based revisions.) Importantly—based on the importance of riparian systems—and the significant impact of the setback revision—setback revisions and/or additional mitigation measures are in order, and could be develop under this BRPU process.

For instance, it has been established that development and encroachment setbacks should include the entire *active floodplain*¹² of a creek or river to adequately preserve stream banks and associated riparian vegetation. And, while there is no single, abrupt, well-documented threshold setback width that would provide maximum benefits for all riparian functions (because riparian functions have different mechanistic bases and are affected by different site attributes), it is well known that most riparian functions would be affected if setbacks included a buffer of less than **66 feet beyond the active floodplain**.¹³ Consequently, narrower widths are not adequate for long-term conservation of riparian functions. (This conclusion is based on a review of the scientific literature.) A recent study of riparian buffers states that for first and second order stream segments¹⁴ **a minimum riparian setback that includes the entire active floodplain plus a buffer of 98 feet of adjacent land (on each side of the active floodplain)** is required; along higher order stream segments (i.e., third order and greater), and along those in or adjacent to conservation lands, **a setback of at least 328 feet—and preferably 656 feet from the active floodplain** is necessary to conserve stream and riparian ecosystem functions, including most wildlife habitat functions. Although these setbacks may seem large, even these setback distances would not be sufficient for the conservation of many wildlife species with large area requirements. (For instance, some species that live in riparian areas must move to other areas to reproduce, as is the case with pond turtles.)

¹² *Active floodplain* means the geomorphic surface adjacent to the stream channel that is typically inundated on a regular basis (i.e., a recurrence interval of about 2–10 years or less). It is the most extensive low depositional surface, typically covered with fine over-bank deposits, although gravel bar deposits may occur along some streams.

¹³ Jones & Stokes. *Setback recommendations to conserve riparian areas and streams in western Placer County*. 2005. February, 2005.

¹⁴ *First order* stream segments are upstream segments that have no tributaries, and *second order* segments are formed by the junction of first order segments.

The problem is simple: land uses (including agricultural uses) within recommended buffer setbacks preclude the effectiveness of setbacks.¹⁵ Conversion of large portions of a watershed to developed and agricultural land uses is associated with broad negative effects on riparian and stream ecosystems (Findlay and Houlihan 1996, Roth et al 1996, Booth and Jackson 1997, Magee et al. 1999, Doyle et al. 2000, Paul and Meyer 2001, Allan 2004, Hatt et al. 2004, Pellet et al. 2004, Wissmar et al 2004, and Jones & Stokes 2005).¹⁶

What Some Relevant Science “Says” About Stream/Riparian Setbacks

The following information was taken from Jones & Stokes, 2005.¹⁷

- Development and encroachment setbacks should include the entire *active floodplain* of a creek or river to adequately preserve stream banks and associated riparian vegetation. Because active floodplain boundaries are more stable and measurable than stream banks or the boundaries of riparian vegetation (that are dynamic and change with time), the boundary of the active floodplain—which can be readily delineated—is a preferable basis for determining setback widths rather than edges of stream banks, stream centerlines (or thalwegs), or any boundaries based exclusively on channel widths or vegetation.
- There is no single, abrupt, well-documented threshold width setback that would provide maximum benefits for all riparian functions. Rather, because riparian functions have different mechanistic bases, they are affected by different site attributes, and the relationship between setback widths and reduction of human effects differs among riparian functions. Nevertheless, several defensible arguments can be constructed regarding the appropriate width for a buffer to include within riparian setbacks. First, most riparian functions would be affected if setbacks included a buffer of less than 20 m (66 feet) beyond the active floodplain; consequently, narrower widths are not adequate for long-term conservation of riparian functions. This conclusion is based largely on a review of the scientific literature. In addition, stream incision and a discontinuous cover of woody plants reduces the benefits of narrow buffers. This variability in vegetation extent and structure reduces the effectiveness of narrow setbacks.

Recommendations for riparian setbacks are presented below:

- Apply to first and second order stream segments a minimum riparian setback that includes the entire active floodplain plus a buffer of 30 m (98 feet) of adjacent land (on each side of the active floodplain), or the distance to the nearest ridgeline or watershed boundary, whichever is less. (First order stream segments are upstream segments that have no tributaries, and second order segments are formed by the junction of first order segments.) Though the purpose of this setback would be to conserve stream and riparian functions; it would not be sufficient for the conservation of many wildlife species with large area requirements.
- Along higher order stream segments (i.e., third order and greater), and along lower order segments at selected sites (e.g., those in or adjacent to conservation lands), apply a setback of at least 100 m (328 ft), and preferably 150 m (656 ft), from the active floodplain for the purpose of conserving and enhancing stream and riparian ecosystem functions including most wildlife habitat functions. Along these larger stream segments, floodplains and riparian areas are more extensive, continuous, and structurally diverse than for lower order stream segments (e.g., first

¹⁵ Jones & Stokes. *Setback Recommendations to Conserve Riparian Areas and Streams in Western Placer County*. 2005. February, 2005.

¹⁶ *Ibid.*

¹⁷ *Ibid.*

and second order). These areas constitute corridors connecting a watershed's lower order stream segments, and, at a watershed scale, the riparian areas of these higher order segments contain particularly important habitats for most riparian-associated species.

- The conservation of wildlife habitat functions within these areas may be necessary for the persistence of their populations. For this reason, a wider setback, sufficient for the retention of wildlife habitat functions, is recommended along stream segments. Recommendations would result in a total setback width ranging from slightly more than 30 m (98 feet) on most first- and second order stream segments to over 150-200 m (492-656 feet) on higher-order streams.
- By basing these recommendations, in part, on the width of active floodplains, a variable, site-specific setback width that accounts for stream size is created. The width of the active floodplain provides a clear, functional basis for a variable width criterion that accomplishes the same purpose more directly than criteria based on stream order, slope, and other attributes of streams and their settings.

Riparian woodland restoration and enhancement measures should include:

- Where feasible, contiguous areas larger than 5 ha (12 ac) should be maintained, enhanced and linked to provide habitat refuge areas for sensitive species. These areas should be connected by riparian corridors more than 30 m (98 feet) wide on both sides of the channel wherever possible, in order to provide movement and dispersal corridors for wildlife.
- The preservation, restoration and linkage of large parcels of undeveloped and uncultivated lands adjacent to riparian areas will provide significant benefits to riparian species. Thus, large contiguous areas of riparian vegetation surrounded by "natural" uplands should be conserved to the greatest extent possible.
- Potential effects of adjacent land uses on riparian areas should be thoroughly evaluated during regional land use planning, and during the environmental review and permitting processes for specific projects, and these effects should be avoided to the maximum extent practicable.
- Re-creation of regular disturbance events (e.g., high water) on the floodplain will enhance vegetation and breeding bird populations in most systems (Riparian Habitat Joint Venture 2004).
- Within setbacks, most developed land uses would be incompatible with the conservation of stream and riparian functions. Developed land uses should be restricted to unavoidable crossings by roads and other infrastructure, because any structures or alterations of topography, vegetation or the soil surface are likely to affect both stream and riparian functions, and could result in substantial effects both on-site and downstream.
- For the purpose of long-term conservation of plant habitat functions, riparian setbacks should include the entire active floodplain, regardless of the current extent of riparian vegetation on that surface. The distribution of riparian vegetation is not static within the active floodplain, and the diversity of vegetative structure and species composition is strongly related to the hydrologic and geomorphic processes within the active floodplain. Therefore, conversion of any portion of the active floodplain to developed or agricultural land-cover types would affect hydrologic and geomorphic functions and affect plant habitat functions.
- Riparian-associated wildlife species differ in the specific habitat attributes they require in riparian systems. Consequently, structurally diverse vegetation, as well as the full range of naturally occurring physical conditions and disturbance regimes, are necessary to provide suitable riparian habitat for the entire community of associated wildlife species. Many riparian-

associated wildlife species use, and often require, both riparian and adjacent upland habitats for reproduction, cover, and/or foraging.

Recommendations for riparian setbacks by agricultural operations are presented below:

- Along first- and perhaps second-order streams, mitigation for adjacent agricultural uses would include filter strips and riparian buffers managed according to standards established by the National Resources Conservation Service. Such practices would improve the buffers' effectiveness for conserving some functions. Along first- and perhaps second-order streams, compatible developed land uses could include open space and low-density residential development, provided no impervious surfaces, infrastructure, or irrigation are placed within the setback.

Request for Information

- Please provide the scientific basis upon which riparian/stream setbacks were developed (such as peer-reviewed research documents, studies from universities, reports from State agencies with expertise in riparian/stream protection).
- Discuss why the riparian setback for a ministerial project is different from a discretionary project, given a hypothetically equivalent environment in each case.
- Discuss the criteria used to determine both the impacts/mitigations for discretionary development projects and the setback size(s) for discretionary projects.
- Include in the dEIR a discussion detailing whether the individual performing the Biological Resource Assessment will be required to consult with agencies with expertise in the field of riparian/stream protection, wildlife protection, etc., and include information from such consultations in the report.
- Discuss who will conduct the monitoring and reporting requirements for ministerial and discretionary projects. (If they will be conducted, who will conduct them, and the qualifications of individuals conducting the monitoring.)
- Describe any penalties or corrective actions that will be required for violations to prescriptive mitigations, and the criteria upon which these actions will be based.
- Identify actions that will be taken to revise ordinances and policies if mitigation measures established in the zoning ordinance are found not to be effective.
- Discuss the impact of livestock on riparian areas and identify the mitigation measures designed to reduce these impacts. If Best Management Practices (BMP) are employed, identify where those BMPs are documented, and discuss their efficacy in terms of mitigating impacts.
- It has been stated that developed land uses (including agricultural uses) within recommended buffer setbacks preclude the effectiveness of setbacks.¹⁸ Discuss why this is/ or is not the case.
- It is also widely believed that conversion of large portions of a watershed or region to developed and agricultural land uses is associated with broad negative effects on riparian and stream ecosystems.¹⁹ Discuss why this is/ is not the case.

¹⁸ Jones & Stokes. *Setback Recommendations to Conserve Riparian Areas and Streams in Western Placer County*. 2005. February, 2005.

¹⁹ Findlay and Houlihan 1996, Roth et al 1996, Booth and Jackson 1997, Magee et al. 1999, Doyle et al. 2000, Paul and Meyer 2001, Allan 2004, Hatt et al. 2004, Pellet et al. 2004, Wissmar et al 2004, and Jones & Stokes 2005).

- Discuss whether the existing riparian setbacks will result in unbuildable parcels in EDC. Quantify how many would become unbuildable if riparian setbacks were increased to protective levels (as discussed in the Jones & Stokes report).
- Discuss whether EDC has developed a database of important surface water features, and if not, when this will be developed. Discuss whether it is possible/legal for EDC to approve development projects that will impact these resources prior to the development of this database.

BRPU, 13D, page 10:

Policy 7.3.3.3 The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.

Agricultural Operations and Evaluation Under AB 32

Agricultural operations may be exempt from Public Resources Code 21083.4 (Kuehl) provisions under the TGPA/ZOU, but agriculture *is not* exempt from CEQA oak woodland biogenic greenhouse gas emissions (GHG) analysis. (There are no GHG exceptions or exemptions for any oak woodland conversion project.)

Request for Information

- Because the TGPA/ZOU adds 17,000 acres of agricultural land—some of which is currently designated Open Space—impact to oak woodlands is likely significant. While agricultural operations are exempt from oak mitigation (tree replacement measures), they are not exempt from the evaluation of impacts under AB 32. Therefore, this conversion of land from other zoning designations to agricultural land designations must be evaluated as an impact to oak woodlands under this dEIR.
- Discuss the following: Does the project fully account for direct and indirect oak woodland conversion biogenic soil/vegetation GHG emission effects, including carbon dioxide, methane, nitrous oxide and black carbon emission associated with biomass disposal (including from agricultural operations).

Valley Oak Replacement / Request for Information

- Include a discussion regarding valley oak (*Quercus lobata*). Specifically, given the designation of this species as a species of “*special concern*,” why is there no recognition of this fact in terms of enhanced mitigation to protect/replace this species?
- Discuss what mitigation elements will be included to protect this species of special concern.
- If specific mitigation elements are not to be included for this species, discuss why this is the case.
- Quantify the estimated decline of this species if special protections are not provided.

Tree Replacement Scenarios

There seems to be some confusion regarding the tree replacement

Replacement Tree Sizes:

During its June 22, 2015 hearing, the Board requested further clarification and discussion on the potential for allowing different sized container trees to be planted for mitigation. Currently, the draft ORMP requires individual native oak trees to be replaced with 15-gallon sized trees and allows replacement planting for oak woodland mitigation to utilize a variety of smaller sized containers (1-gallon (or equivalent)) or acorns (with a 3:1 replacement ratio).

Source: Dudek Memorandum, September 18, 2015; 17A, page 9.

I believe this is incorrect. The ORMP does not require “...*individual native oak trees to be replaced with 15-gallon sized trees...*”; on page 13 of the May, 2015 ORMP (identical language/criteria is in the revised November 2915 ORMP) it states under “*Individual Native Oak Tree and Heritage Tree Impacts*”:

Replacement tree sizes may vary and may include acorn plantings, based on documentation of inch-for-inch replacement consistency included in an oak resources technical report. If acorns are used, they shall be planted at a 3:1 ratio (3 acorns for every 1-inch of trunk diameter removed)

Source: ORMP, May 2015; 13F, page 13. (Identical language/criteria as in the revised November 2915 ORMP.)

In any case, the formula will presumably work in this manner:

Under the tree-for-inch standard, tree planting would not replace the number of diameter inches removed. However, it would require planting of the same number of trees that would have been planted under an inch-for-inch standard that requires use of 15-gallon trees. To compare the two replacement standards, mitigation for removal of one 12-inch tree under the current draft ORMP would require a project applicant to plant 12 15-gallon oak trees; under the tree-for-inch mitigation standard mitigation for the same impact would require planting of 12 trees of any container size, or 36 acorns.

Source: Dudek memorandum of September 18, 2015; 17A, page 13.

Request for Information

- Once again, **efficacy** (and **performance standards**) should dictate oak tree/woodland mitigation, not an arbitrary formula. Please identify in the dEIR the efficacy of such an approach, and identify specific performance standards (such as canopy cover over time).
- Efficacy of mitigation needs to be demonstrated. The two studies described in the Dudek memorandum 17A (Hobbs, et al., 2001; Young, et al., 2005) actually *do not* support the supposition that acorn planting is “better” than planting larger stock. McCreary—also cited by Dudek—mentions multiple caveats to acorn planting—as presented in my comments of September 29, 2015. But the difficulties of acorn use have been largely ignored, presumably due to its lower mitigation cost.

Tree-for-Inch Mitigation

The tree-for-inch (as opposed to the inch-for-inch) mitigation represents another approach to lessening the cost of mitigation for the project applicant at the expense of oak woodland replacement. As written, this tree-for-inch standard can include replacement of one inch of tree with three acorns. Thus, a 12 inch oak could be replaced with 36 acorns (which are intended to yield 12 live trees, not 36 trees). Based on the growth rate of blue oaks (the species most likely to be removed and replaced via mitigation plantings) it could take a *very* long time to replace an oak.



The oak seedling at left is 8 to 10 inches tall and **12 to 16** years old. Below is a 6 to 8 inch tall seedling estimated to be **10 to 15** years old.



Source: Phillips, et al., 1996



This cross section was derived from a blue oak that was 4.5 inches dbh. This oak was estimated to be 95 years old.

Photo Source: Don & Ellen Van Dyke

A study by Standiford²⁰ on blue oak growth rates revealed an average diameter at breast height (dbh) after 50 years that ranged from 3.4 to 4.1 inches. Even under fairly aggressive restoration efforts, the largest mean diameter of the stand was only 3.9 inches.

Request for Information

- How much “dilution” of mitigation can occur before “mitigation” is no longer mitigation? The following statement was taken from the Dudek memorandum dated September 18, 2015 (17A):

The tree-for-inch standard would be the lesser burden for applicants.

This is great for the applicant; not so good for oak woodland resources. After all is said and done, it is important to remember that—while some individuals have requested that mitigation costs be kept as low as possible—**mitigation must be adequate to mitigate loss**. Affordability is not a criterion under which the effectiveness of mitigation can legitimately be degraded.

As this BRPU/ORMP process has moved forward, more approaches to cost/effort reduction have been inserted. Interestingly, I have not seen documentation in the record, nor heard public testimony requesting these cost-saving changes. Therefore, please disclose in the dEIR the motivation behind the changes. That is, are these modifications based on discovery of what other counties have instituted, or based on mitigation successfully performed in other counties—or are these approaches simply designed to reduce costs/effort for applicants, in spite of the fact that there appears to be *no evidence* to support this approach to mitigation? (And by mitigation I mean the successful replacement of oak woodland within a reasonable amount of time—say five to seven years.) If other counties have instituted these changes (acorn use, tree-for-inch replacement, relying on natural regeneration as a mitigation element, etc.,) please supply documentation that supports the efficacy of these measures in “real world” applications.

- Because it is looking less likely any of the mitigation proposals put forth will realistically mitigate for the loss of oak woodland in a reasonable amount of time, it is reasonable to assume the most effective “mitigation” will be either on-site retention (avoiding the impact in the first place), or the purchase of conservation easements that already contain viable oak woodlands. Therefore, in the dEIR, please evaluate this latter form of mitigation as the primary mitigation scenario. Identify the areas of EDC in which conservation easements are most likely to be established, and the anticipated acreage that is available for easement purchase. Also, identify the plant/wildlife component of these areas, and whether these conservation easements will adequately retain/protect a variety of plant/animal communities, or whether they are limited in scope in terms of diversity.

Oak Tree Replacement

According to the ORMP, “any trees that do not survive the 7-year monitoring and maintenance period shall be replaced by the responsible party listed on the Oak Tree Removal permit and shall be monitored and maintained for 7 years.”

²⁰ Standiford, R, et al. 2001. *Modeling the Effectiveness of Tree Planting to Mitigate Habitat Loss in Blue Oak Woodlands*. USDA Forest Service General Technical Report PSW-GTR-184, 2002.

Request for Information

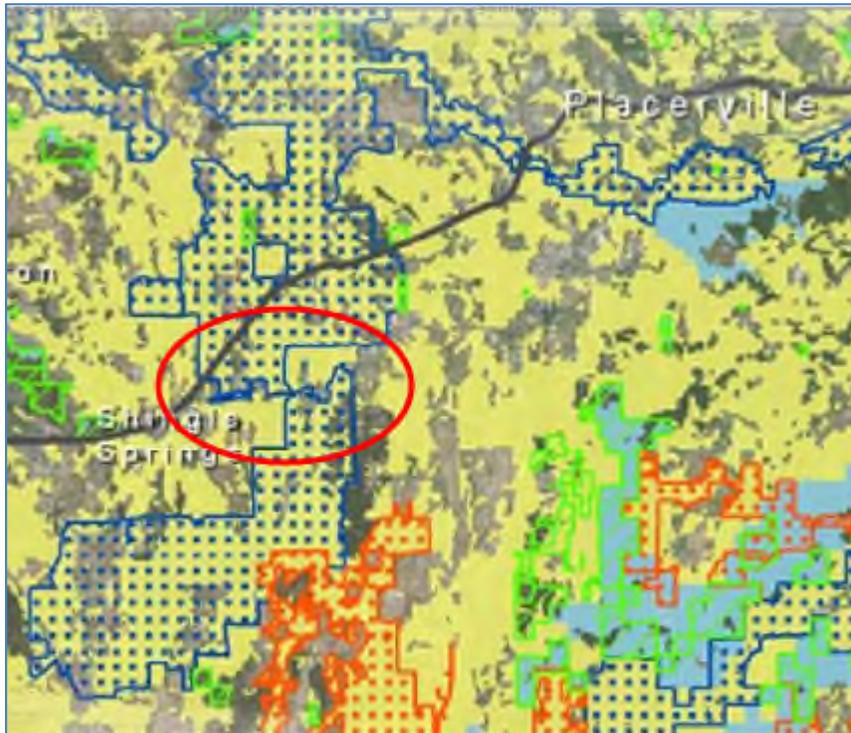
- Please explain in the dEIR how tree replacement is expected to work. That is, are dead trees monitored and replaced annually, or are dead trees only replaced at the end of the 7-year period?

Project Exemptions

- Discuss exemption for County road projects. This is a source of significant impact to oak resources. Bridge projects especially can disproportionately impact valley oak, a species of “special concern.” Discuss—based on scheduled road widening/bridge projects—the anticipated impact to oak resources.

IBC and PCA Maps, etc.

Closer examination of the IBC/PCA maps raises more questions than answers. For instance, in this section of the map, it appears the IBC is greatly constricted in this particular area. Discuss the reason for this constriction—it appears to be artificial.



Request for Information

- Please provide better (more detailed) IBC/PCA maps for each planning area. Identify any outstanding anomalies, and characterize the importance/necessity of each area (what they are designed to protect/serve.)

In Conclusion

In closing I’d like to say the policies proposed in the ORMP represent a significant weakening of environmental protection policies developed under the 2004 General Plan. Therefore, please consider revision to the draft ORMP that strengthen biological resource protections.

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Ms. Shawna Purvines, Principal Planner
EDC Development Agency, Long Range Planning Division
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Placerville, CA 95667

August 17, 2015

RE: Notice of Preparation for the Biological Resources Policies Update & Oak Resources Management Plan

Ms. Purvines:

Thank you for the opportunity to comment on the Biological Resources Policy Update (BRPU). I request the following information be included in the draft Environmental Impact Report (dEIR).

Impact to Efficacy of the 2004 General Plan

- Discuss how the removal of specific biological resources mitigation policies will impact the “legitimacy” and “viability” of the 2004 General Plan, since its approval was based in part on the presence of specific mitigation measures (e.g., the Integrated Natural Resources Management Plan, etc.).
- Because both the INRPM and Option A have been eliminated under the BRPU, include a discussion that specifies how the Oak Resources Management Plan (ORMP) satisfies the court decision brought relative to the Oak Woodlands Management Plan. How can both elements (INRMP and Option A) be deleted and yet satisfy mitigation requirements under that decision?

Targeted General Plan Amendment/Zoning Ordinance Update (TGPA/ZOU) Approval/Implementation

Multiple TGPA/ZOU policy changes will impact on oak woodlands—such as the TGPA/ZOU sanctioned conversion of open space to agricultural land—and will not be evaluated under any EIR: not under the TGPA/ZOU EIR, and not under the BRPU/ORMP EIR.

Impact to biological resources will be *significant* and *adverse* because agriculture is exempt from oak woodland protection measures (as well as other measures that protect biological resources—riparian protections, and so forth). The TGPA/ZOU will also **amend Policy 2.2.3.1 (open space in –PD zones)**; this will “...reduce the open space available for wildlife habitat in –PD zones and thereby increase the potential to adversely impact special-status species.” It will also exempt **Residential Agriculture** from the list of zoning regulations that provide for maintenance of permanent open space, allow development on slopes ≥30 percent, adversely impact riparian woodland, and impact the groundwater resources oak woodlands rely upon.

In addition, Dudek estimates of **oak woodland acreage impacted** are based on the 2004 General Plan, not on TGPA/ZOU policies. Specifically, Dudek excluded an estimate of oak woodlands on slopes ≥30 percent, but **the TGPA/ZOU will enable development on these slopes**. Thus, the estimates in Dudek’s *Oak Woodland Impact and Conservation Summary Table 5* are short-lived, if the TGPA/ZOU is adopted.

- Discuss the impact on the BRPU/ORMP if the TGPA/ZOU is approved. That is, discuss whether a revision of the BRPU EIR will be required to accommodate the additional impacts the TGPA/ZOU will have on elements in the BRPU.

- Explain how the BRPU can legitimately be separated from the TGPA/ZOU evaluation. (The current BRPU is evaluated only in the context of the 2004 General Plan.)
- The TGPA/ZOU was evaluated as if Option A, the INRMP, and *multiple* other mitigations were “viable.” Because these mitigations have been stripped away under the proposed BRPU, will the TGPA/ZOU EIR be recirculated if the proposed ORMP is adopted? Please explain.
- Provide information on the TGPA/ZOU impact to oak woodlands (including its impact on oak woodlands in agricultural-zoned lands, and as a result of the reduction in open space requirements, allowance of construction on sites with > 30% slope, the depletion of groundwater that oak woodlands rely upon, etc.)

Support Information for Approaches A, B & C

County staff prepared documents for the November 21, 2014 Biological Resources Workshop that included three **approaches (A, B and C)** to facilitate the completion of the ORMP project description and environmental review (County documents 7A and 7B). On page 5 of Staff Memo 7B, staff included a table that presents three approaches and their relative level of “*significant and unavoidable impacts.*” When asked how these impact levels were derived, staff did not (or could not) answer. References (supporting documentation) were not supplied at that time, nor subsequent to the workshop. Despite the absence of supporting documentation, the Board of Supervisors made the decision to proceed with **Approach A**.

Thus, it is not known what information the impact levels were based upon. This information was not available to the public, and it is reasonable to assume it was not available to the decision making body (Board of Supervisors).

- I am requesting that the evidence/studies/science that served as the basis for the level of impact determinations for **Approaches A, B and C** be made available and included in the dEIR. Please include any and all documentation, (letters, emails, etc.) used to support the impact determinations (such as communications with outside agencies, etc.).

Mitigation Performance

According to *A Planner’s Guide for Oak Woodlands*:¹

...ecologists now recognize that **replacing a century old tree with 1, 3, or 10 one-year-old seedlings does not adequately replace the lost habitat value of large trees. It has become evident that simply focusing on mitigation plantings based on a tree to seedling ratio is not a sufficient strategy to ensure the viability of oak woodlands.** [R]eplacement seedlings as a mitigation measure for removal of older stands of trees cannot meet the immediate **habitat needs** of forest-dependent animal species.

It is apparent that **preservation of oak woodland on-site is the preferred “mitigation.”** Short of on-site preservation, **the purchase of oak woodlands that will remain undeveloped in perpetuity** is to be preferred over on-site (or off-site) planting of saplings. Revegetation on- or off-site is a poor substitute for mature woodland, especially when value as **wildlife habitat** is part of the equation. **It is likely that**

¹ Giusti, G.A. et al (editors). 2005. *A planner’s guide for oak woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

the loss of oak woodlands cannot be adequately mitigated under the current ORMP, especially in the absence of Option A retention requirements.

Mitigation Strategy

The proposed mitigation options need to be defined—or actually— **redefined**.

According to *A Planner's Guide for Oak Woodlands*:²

[T]he ultimate goal for planting mitigations should be tree establishment and long-term survival. The impact should be compensated for by replacing or providing substitute resources, such as **planting large container-grown trees, rather than seedlings or acorns** to expedite the recovery of the lost habitat component, or off-site mitigation actions, or mitigation banking. **However, off-site measures should be considered sparingly and should not be viewed as a convenient way to achieve mitigation objectives; off-site mitigation proposals should be carefully considered so that the strategy *is not abused*.**

If replacement planting *is* chosen as a means of mitigation in the ORMP, the mitigation must meet **performance standards**:

- **Please specify performance standards for mitigation plantings.** For instance, in the Interim Interpretive Guidelines (IIG) (7)(b), page 10, and IIG (7)(c), page 11, replacement plantings are “designed” to achieve oak woodland canopy coverage equal to the canopy removed **no more than 15 years from the date of planting**. **What is the performance standard for the mitigations described in the ORMP?**

Acorn planting as mitigation for the removal of mature stands of oaks is wholly inadequate. While it has been stated during ORMP workshops that acorn planting is sometimes the preferred method of achieving oak mitigation, there are many caveats that make this method of oak woodland replacement ineffective.

According to McCreary,³ the planting of acorns will be impacted by a whole host of factors such as conditions at the planting site, including the kinds of animals present. **Because acorns are an important food source for a whole host of animals, acorn plantings are difficult to protect.** McCreary also warns that the type of care necessary for survival and growth may not be **logistically feasible** for remote planting sites,⁴ making a difficult prospect more even more susceptible to failure.

² Giusti, G.A. et al (editors). 2005. *A planner's guide for oak woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

³ McCreary, D.D. Undated. *How to Grow California Oaks*. University of California Oak Woodland Management. Available at: http://ucanr.edu/sites/oak_range/Oak_Articles_On_Line/Oak_Regeneration_Restoration/How_to_Grow_California_Oaks/

⁴ McCreary, D.D. Undated. *Living Among the Oaks: A Management Guide for Woodland Owners and Managers*. University of California, Agriculture and Natural Resources, Oak Woodland Conservation Workgroup; publication 21538.

Oak Regeneration and Acorn Plantings

The issue of oak regeneration comes into play when acorn planting is chosen as the path to oak woodland replacement.

According to *A Planner's Guide for Oak Woodlands*:⁵

...the same factors that prevent or limit **natural regeneration** can also take a heavy toll on artificial plantings. **To be successful, relatively intensive site preparation, maintenance, and protection must usually be provided for several years.**

There is substantial evidence suggesting that several species, including blue oak, valley oak, and Engelmann oak (*Quercus engelmannii*) are not reproducing at sustainable levels in portions of California. Simply stated, there are not enough young seedlings or saplings to take the place of mature trees that die, raising questions about the future of these species in the state.

Numerous causes have been cited, including increased populations of animals and insects that eat acorns and seedlings, changes in rangeland vegetation, adverse impacts of livestock grazing (direct browsing injury, soil compaction, and reduced organic matter), and fire suppression. Some people also suspect that climate change is a factor...

This troubling condition—that of poor regeneration—means the viability of acorn plantings, too, will be problematic, **making replacement of woodlands via the planting of acorns a fragile, ineffective strategy.**

According to McCreary,⁶ **an effective alternative to directly sowing acorns is growing oak seedling in containers and then planting the saplings out in the field.** McCreary indicates propagating oaks in this manner results in starts that "...have higher survivorship than directly planted acorns, but they also cost far more."

Regarding acorn planting, I have the following requests for information:

- Please identify in the dEIR **other counties that utilize acorn planting** for mitigation and **describe the success rate** (efficacy) of such plantings **for each species of oak.** Describe locations at which such mitigation has taken place, and the date of plantings. Please include photographs of the site.
- The *Biological Resources Study and Important Habitat Mitigation Program Interim Guidelines (November 9, 2006)*, pages 15-16 (under Discretionary Project Reporting Requirements) specify a **15 year (annual) monitoring period for oak regeneration projects that utilize acorns.** This monitoring period has been changed to 7 years (based most likely on Kuehl bill requirements). **Explain in the dEIR the reason for the monitoring period reduction.** (That is, explain why what

⁵ Giusti, G.A. et al (editors). 2005. *A Planner's Guide for Oak Woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

⁶ McCreary, D.D. Undated. *Living Among the Oaks: A Management Guide for Woodland Owners and Managers*. University of California, Agriculture and Natural Resources, Oak Woodland Conservation Workgroup; publication 21538.

was once acceptable/recommended has been reduced, given the more “protective” nature of the longer monitoring period).

- The IIG (7)(c), page 11 indicates maintenance and monitoring shall be required for a minimum of 10 years after the planting of trees (saplings, etc.) **Explain in the dEIR why this maintenance and monitoring period has been reduced under the ORMP**, given it was once acceptable/recommended and is more “protective.”

Mitigation Efficacy

According to the California Environmental Quality Act (CEQA) 15126.4a1(B) “Where several measures are available to mitigate an impact, each should be discussed and **the basis for selecting a particular measure should be identified.**” And, according to the Oak Woodland Impact Decision Matrix⁷ conservation planning grounded in science-based information supports the development of sensitive planning scenarios. But, **while mitigation strategies are identified in the ORMP, the strategies themselves do not represent vetted processes. Efficacy of the measures must be proven; evidence must be provided.**

- Please include in the dEIR references for the science-based information used as a basis for mitigation strategies proposed in the ORMP.
- Include a discussion of mitigation efforts undertaken in the County. Discuss **failed mitigations**, and the **reason(s) for their failure**. (Such as the mitigation plantings adjacent to Serrano Village D2—see the following photos.)
- Describe mitigation efforts (oak replanting efforts) that have been **successful** in the County. Describe the location of the plantings, the type of oak replanting that took place (i.e., acorns, container plants, etc.—including the size of the container plants), when they were planted, and the current status (size, condition, mortality rate, etc.) Please include photographs of the site.
- Given the many examples of failed mitigation efforts in the County, discuss why the public should have confidence that future mitigations will be successful. (That is, **past performance is the best predictor of future performance.**)

The following photos were taken of **mitigation plantings** by Serrano Village D2 in “tree shelters.” (This village was built around 2001-2003.) Photos taken **June, 2015**.

⁷ Giusti, G., et al. 2008. *Oak Woodland Impact Decision Matrix: a guide for planner’s to determine significant impacts to oaks as required by SB 1334 (Public Resources Code 21083.4)*. UC Integrated Hardwood Range Management Program, 2008.



This is a photo of a “tree shelter” around a blue oak; it was probably planted around the time of adjacent village construction (2001-2003).
Photo taken June, 2015.



Note the low success rate of blue oak plantings, even with tree shelters



The tree shelters in this area (as seen in foreground) are mostly devoid of trees (approximately 12-14 years after planting).

Revised Definition of Woodland

“Oak Woodland” needs to be redefined to include not only standing living oaks, “...but also trees of other species, damaged or senescent (aging) trees, a shrubby and herbaceous layer beneath the oak canopy, standing snags, granary trees, and downed woody debris in conjunction with [oaks].”⁸

Existing oak woodlands need to be evaluated under these criteria and, *if on-site retention is not possible, mitigation for the loss of all woodland components* through either conservation easement or fee title acquisition in perpetuity of biologically equivalent (or greater) woodland must take place to ensure replacement of viable woodland/wildlife habitat. (Napa County, for instance, evaluates all woodland components and employs a 60/40 retention in *sensitive water drainages*: 60% tree cover; 40% shrubby/herbaceous cover.)⁹

- Explain why the ORMP defines oak woodland in the following manner, and not in the manner described above in the Tuolumne County document (that acknowledges oak woodlands as wildlife habitat):

Oak Woodlands: An oak stand with a greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover (California Fish and Game Code Section 1361).

Source: ORMP, page 27.

- Discuss how the definition of oak woodland in the ORMP serves to limit mitigation effectiveness, and how the definition from Tuolumne County (above) expands mitigation viability.

⁸ Michael Brandman Associates. 2012. Tuolumne County Biological Resources Review Guide. December 4, 2012; page 32. Available at: <http://www.tuolumnecounty.ca.gov/DocumentCenter/View/204>

⁹ Napa County. 2010. Napa County Voluntary Oak Woodlands Management Plan. October 26, 2010; page 20. Available at:

<http://www.countyofnapa.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=4294973990>

Exempt Actions

- **Exemption for Personal Use of Oak Woodland Resources.** ORMP, page 7: *“When a native oak tree, other than a Heritage Tree, is cut down on the owner’s property for the owner’s personal use.”* This provision for “personal use” is problematic.
 - **Explain what deters a property owner from “pre-clearing” oaks under the guise of “private use.”**
 - Include a discussion—and some options for defining “personal use”—that may include **restricting personal use to certain zoning classifications** (i.e., residential parcels of 10 acres or less, for example) and eliminating from “personal use” land zoned for commercial, industrial, and other properties subject to planned development, area specific plans, etc.
 - Include a discussion that evaluates incorporating measures that **restrict for a period of time—say 10 years—the rezoning of land that has been pre-cleared, even if oak woodland was removed while the land was under a zoning district that allows oak tree removal for personal use** (parcels of 10 acres or less, for example).

This discussion is necessary (as is the provision of a measure designed to prevent such behavior) because it is well known—and documented—that sites within the County have been cleared of oak trees immediately prior to development proposal. (Documentation provided upon request.)

- **Exemption for Non-Commercial Agricultural “Operations.”** ORMP, page 7: *“Agricultural cultivation/operations, whether for personal or commercial purposes (excluding commercial firewood operations).”*
 - Include in the dEIR why this measure is necessary, and how much oak woodland is potentially impacted by this measure. The El Dorado Irrigation District (EID) is already on the threshold of eliminating a reduction in water rates for such operations, thus threatening their viability. Thus, while EID policies undercut such activity, the ORMP allows for the removal of oak resources minus mitigation. A reasoned outcome is that oaks are removed for a “hobby” agricultural operation that has little chance of being maintained.

Commercial Wood-Cutting Operations

There are too few restrictions placed on commercial firewood cutting operations. This lack of restrictions places oak woodland—especially blue oak woodland—in jeopardy.

The following is an excerpt from page 11 of the ORMP:

Commercial firewood cutting operations shall also require a tree removal permit if not approved under an oak woodland removal permit. In reviewing a tree removal permit application for commercial firewood cutting operations, the County shall consider the following:

- Whether the removal of the tree(s) would have a significant negative environmental impact;
- Whether the tree proposed for removal is a Heritage Tree;
- Whether replanting would be necessary to ensure adequate regeneration;
- Whether the removal would create the potential for soil erosion; and
- Whether any other limitations or conditions should be imposed in accordance with sound tree management practices.

- Please include in the dEIR the **specific criteria (thresholds)** used to determine the following:
 - “significant negative environmental impact”;
 - “adequate regeneration”;
 - “potential for soil erosion”; and
 - “sound tree management practices.”
- Include in the dEIR a discussion of specific criteria/thresholds/restrictions applied to **restrict removal activity** to a level that precludes impact to a level of “significant environmental impact,” and that supports adequate regeneration, avoids soil erosion, and institutes sound management practices.
- While **commercial firewood cutting operations** would be required to obtain a permit under the proposed plan, **there is no mention of minimum retention standards**. Shasta and Tehama counties adopted resolutions calling for **30 percent crown cover retention**.



Photo Source: Standiford, et al., 1996. *Impact of Firewood Harvesting on Hardwood Rangelands Varies with Region*. California Agriculture, March-April, 1996.



**Blue oak firewood
en route to
Bay Area markets.**

Photo Source: Cobb, J. 2015. California Oaks, letter to the California Board of Forestry and Fire Protection and the California Air Resources Board dated June 29, 2015 ([Attachment 1](#)).

In-Lieu Fee Use

- **Define in the dEIR exactly what the in-lieu fee will be used for.** Include a discussion of the benefit of a clause that addresses unexpended funds in the following manner: change existing language from *“revenues shall be allocated for some other purpose”* to *“revenues shall be dedicated to land conservation or natural lands stewardship.”* This suggested language **provides some flexibility while keeping the use of the funds focused** if the County has difficulty expending all the funds specifically for oak woodlands within the five year time frame.

Willing Sellers in Community Regions/Rural Centers

- Discuss how allowing **willing sellers** in Community Regions and Rural Centers to “sell” their property into **conservation easement** status would impact County conservation efforts. Discuss the reasoning behind *not* allowing willing sellers in these designations to sell, and discuss whether or not this restriction is based upon habitat evaluation (study).

Site Concurrence

- Include an evaluation of the viability/impact of **site concurrence by the California Department of Fish and Wildlife (CDFW)** in the process of establishing **conservation easements**. At least one county (Tuolumne) recommends dedication of such lands to a land conservation group **approved by the county with concurrence** by CDFW.ⁱⁱ Such concurrence would ensure easements provide the maximum benefit to wildlife.
- Discuss how this site concurrence by CDFW may assist developers with identification of appropriate conservation zones.

Advisory Body

- Evaluate in the dEIR the establishment of an **advisory body** (like PAWTAC) to review mitigation plans, mitigation implementation, and efficacy. (Ideally this advisory body would make recommendations to appropriate governing bodies, work with land conservation groups, and be responsible for homeowner education (protection of oaks in the landscape).

Initial Study

Following is a discussion of the Initial Study. The dEIR will evaluate environmental impacts in the following areas:

4.0 PROBABLE ENVIRONMENTAL EFFECTS AND SCOPE OF THE EIR

The EIR for the proposed project will focus on the resource areas/issues germane to this particular project. The EIR will evaluate the potentially significant environmental impacts of the proposed project and will evaluate whether there are feasible mitigation measures that may lessen or avoid such impacts. As the proposed project would amend the County's General Plan and influence development activities throughout the County and does not include any specific construction or development, the impact analysis will be programmatic and cumulative in nature. The EIR will also identify and evaluate alternatives to the proposed project. The EIR will evaluate potentially significant environmental effects related to the following environmental issues:

- Aesthetics
- Agricultural and Forestry Resources
- Biological Resources
- Greenhouse Gas Emissions
- Land Use and Planning

The following issues are not to be covered (although Greenhouse Gas Emissions [GHG] are listed in both areas—to be covered, and not to be covered, I assume from additional discussion in the Initial Study that GHGs will be covered, but would like this clarified).

As evaluated in the Initial Study, it is not anticipated that impacts would occur within the following environmental topic areas, and therefore these specific environmental issues will not be evaluated further in the EIR.

- Air Quality
- Cultural Resources
- Geology/Soils

- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Mineral Resources
- Noise
- Population/Housing
- Public Services/Utilities
- Transportation

Air Quality/Greenhouse Gas Emissions

While GHGs are listed on both the “to do” and “not to do” lists, the Initial Study acknowledges **GHG emissions** from the removal of oak woodlands ***“could contribute to adverse climate change and could impair the ability of a region...to achieve GHG reductions required under state law.”***

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

El Dorado County Biological Resource Policy Update and Oak Resources Management Plan Project

a, b) The project proposes amendments to biological resources policies contained in the County’s General Plan and adoption of an ORMP. While, the project does not include new construction or land uses that would generate greenhouse gas (GHG) emissions, development that proceeds under the proposed General Plan amendments and ORMP could alter and/or remove vegetation communities, including oak woodlands, and/or oak trees. Conversion of woodlands and other natural vegetation communities to developed uses could generate GHG emissions during the construction process. Further, oak woodlands and other natural vegetation communities **serve as a carbon sink**, in that they remove GHGs from the atmosphere and store carbon. Therefore, removal of woodlands and other natural vegetation communities could release GHGs into the atmosphere and reduce the natural absorption of GHG emissions. **These effects could contribute to adverse climate change effects and could impair the ability of the region and the state to achieve GHG reductions required under state law.** These effects will be evaluated in the EIR.

And yet, the following notation in the Initial Study stands in contradiction:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Include in the dEIR a discussion of this contradiction.
- Discuss the impact on air quality caused by the increase in development—residential, commercial, industrial, etc.—and the associated increase in emissions from increased vehicular traffic, construction activities, etc. **(Developers are now constrained under Option A restrictions, in combination with the lack of an in-lieu fee option; now that numerous mitigation options will be available, growth/development will inevitably occur.)**
- Include in the dEIR a complete evaluation of Air Quality issues, including GHGs, and other emissions from commercial woodcutting operations, and the large-scale removal of oaks for planned development projects, specific area plans, agricultural operations, etc.
- Include in the dEIR a complete evaluation as required under AB 32, as described below.

Assembly Bill (AB) 32 (See also Attachments 1 & 2).

The goal of AB 32—the California Global Warming Solutions Act—is to **reduce** carbon dioxide (CO₂) emissions by 2020 to 1990 levels, with a further 80 percent CO₂ reduction by 2050. The bill emphasizes the evaluation of CO₂ associated with the conversion of forests to other uses. **Oak woodland CO₂ emission effects must be considered for projects that convert native forests to non-forest use.** Both direct CO₂ emission impacts from dead tree disposal and cumulative impacts due to the loss of future increases in live tree carbon sequestration represent a biological emission subject to CEQA analysis and mitigation. Live tree biomass (including roots), standing dead tree biomass, and wood lying on the ground are to be evaluated to measure oak woodland biological emissions under CEQA.

CEQA CO₂ questions to be answered include:

- how much potential CO₂ sequestration over the next 100 years will be lost due to impacts to live native trees three (3) inches or greater diameter at breast height (dbh); and
- how much sequestered CO₂ will be released if the live trees, standing dead trees or woody debris are burned?

The County must analyze and mitigate CO₂ biological emissions associated with the land use changes that result in the loss of oak woodland sequestration capacity (the conversion of oak woodlands to non-forest use) and CO₂ release from burning oak debris/wood. If such an analysis is not done, the County disregards not only CEQA, but the Office of Planning and Research (OPR) guidelines, California Attorney General opinions and Court decisions. (See Center for Biological Diversity, et al. v. City of Desert Hot Springs, et al. (2008) Riverside County Superior Court - Case No. RIC 464585 and Berkeley Keep Jets Over the Bay Committee vs. Board of Port Commissioners (2001) 91 Ca.App.4th 1344, 1370-71.)

Because California has designated CO₂ emissions a grave human health risk, local jurisdictions cannot invoke ministerial or overriding considerations in determining proportional mitigation for carbon biological emissions due to oak woodlands conversion to non-forest use. It is considered an abuse of discretion to declare an inadequately mitigated oak woodland conversion a **public benefit** when in fact woodland conversion represents a demonstrable **public health hazard**.

- Provide a complete analysis as required under AB 32.

Cultural Resources

Disregarding oaks and oak woodlands as important cultural resources is an error. Many cultural resources are closely associated with oaks and oak woodlands, and this important aspect needs to be evaluated in the dEIR.

A. CULTURAL/HISTORICAL

Artifacts of the Native American people who historically lived in Napa County tend to be co-located with oak woodlands, which provided them with the acorns they relied upon for food. According to local historian Lin Weber, shamans of the Wappo people would offer prayers for the health of the oak trees, and the Wappo named months of the year after the seasonal phases of oaks. Present day oak stands or individual trees may have historical significance due to past events or structures that were associated with them. Many historical accounts mention the trees and the use of specific trees as landmarks or as boundary markers. The earliest European settlers found refuge from the hot valley sun for themselves and their livestock under oaks and benefited economically from the use of oaks for building material and firewood. Oak woodlands also created venues for recreation and public events. Napa County's remaining oak woodlands continue to serve as a reminder of our cultural and historical heritage.



Source: Napa County. 2010. *Napa County Voluntary Oak Woodlands Management Plan*. October 26, 2010. Page 8.

- Discuss in the dEIR the cultural significance of oaks. Identify specific oaks/oak woodlands/woodland areas that have historical significance in El Dorado County, and describe the basis for their significance.

Geology and Soils

While the Initial Study cites no impact to geology and soils from the anticipated removal of oaks and oak woodland, it is nonetheless known that numerous significant impacts can occur.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VI. GEOLOGY AND SOILS – Would the project:				
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Removal of oaks—especially on sloped land—can cause serious soil erosion, and can cause slope instability (landslides). The presence of oak trees can also facilitate the uptake of moisture from septic systems and improve their performance (VI)(e).

In fact, the ORMP, page 8, cites the potential for erosion during woodcutting operations, and cites (page 4) the following benefits from the preservation of oaks and oak woodlands:

1.4 Economic Activity, Land, and Ecosystem Values of Oak Resources

Agriculture and recreation-based tourism are important economic generators in El Dorado County. Oak resources provide value for these activities, including forage value for ranching, soil retention and watershed function benefits that contribute to agricultural activities, and aesthetic value for agri-tourism. Oak resources contribute to soil retention and provide watershed benefits, which have benefits to the agricultural community. Deer and other game species are dependent on oak woodland habitat and provide recreational hunting opportunities, which can generate revenues for ranching land owners through hunting leases. Oak resources contribute to a high-quality visit for recreation tourists, whose activities may include camping, fishing, hiking, bird-watching, and equestrian trail riding.

Studies have also concluded that the presence of oak resources enhances property value by providing shade, wind breaks, sound absorption, land use buffers, erosion control, and aesthetic beauty. Oak resources also contribute to healthy lands and watersheds. They do this by providing habitat for animals, maintaining water quality, and improving soil characteristics. Oak resources have also been identified as a valuable component in greenhouse gas reduction, trapping and storing atmospheric carbon dioxide.

Other sources also identify oaks and oak woodlands as providing erosion control and soil stability.

C. EROSION CONTROL

Oaks help control soil erosion in several ways. Oak woodland canopy intercepts raindrops and dissipates rainfall energy, reducing potential surface erosion. Oak leaf-fall and twigs that accumulate on the soil surface under oak woodland canopy also provide further protection against the erosive action of rainfall. In addition, tree roots and their associated symbiotic soil fungi promote the formation and stability of fine and course soil aggregates which help to promote soil cohesion and stability, reducing the risk of landslides and gully/ rill erosion. Oak woodland located on soils and slopes prone to erosion can also help prevent degradation in water quality and uphold soil/ land productivity. The planting of oaks in areas historically known to support oak woodland that currently exhibit accelerated erosion from lack of tree cover can help to stabilize and prevent further erosion in these areas.

Source: Napa County. 2010. *Napa County Voluntary Oak Woodlands Management Plan*. October 26, 2010. Page 9.

- Provide in the dEIR a complete description of the potential impacts of oak tree/oak woodland removal, including the impact on soil stability, erosion, septic tank performance, etc.

Hazards/Hazardous Materials

In El Dorado County, the removal of oaks and oak woodland can disturb layers of soil and rock **containing asbestos**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Include in the dEIR a discussion of oak woodlands that are located in areas known to be asbestos bearing. Describe and map those areas, and include the land use designations in those areas.

Hydrology/Water Quality

The removal of oaks/oak woodlands will have broad impact on hydrology/water quality; the dEIR needs to discuss/disclose these impacts. In fact, the ORMP, page 4 describes the benefit of oak tree/oak woodland retention on hydrology:

1.4 Economic Activity, Land, and Ecosystem Values of Oak Resources

Agriculture and recreation-based tourism are important economic generators in El Dorado County. Oak resources provide value for these activities, including forage value for ranching, soil retention and watershed function benefits that contribute to agricultural activities, and aesthetic value for agri-tourism. Oak resources contribute to soil retention and provide watershed benefits, which have benefits to the agricultural community. Deer and other game species are dependent on oak woodland habitat and provide recreational hunting opportunities, which can generate revenues for ranching land owners through hunting leases. Oak resources contribute to a high-quality visit for recreation tourists, whose activities may include camping, fishing, hiking, bird-watching, and equestrian trail riding.

Studies have also concluded that the presence of oak resources enhances property value by providing shade, wind breaks, sound absorption, land use buffers, erosion control, and aesthetic beauty. Oak resources also contribute to healthy lands and watersheds. They do this by providing habitat for animals, maintaining water quality, and improving soil characteristics. Oak resources have also been identified as a valuable component in greenhouse gas reduction, trapping and storing atmospheric carbon dioxide.

And yet, the Initial Study does not acknowledge this benefit, nor the impact the removal of oaks/oak woodland will have on hydrology—and, by association—water quality.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Include in the dEIR a complete discussion of the impacts of oak/oak woodland removal on hydrology/water quality.
- Discuss the impact on oaks/oak woodland that will occur as a result of new development that is groundwater dependent, and the impact on County residents that rely on groundwater resources.

Below is a discussion of some issues related to oak/oak woodland removal and hydrology/water quality from other sources.

B. FLOOD PROTECTION

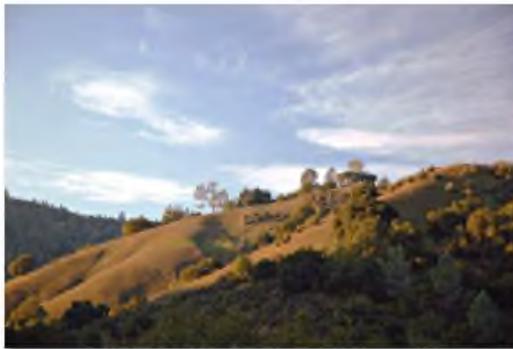
The Napa River is historically prone to flooding, causing damage to homes and vineyards within its floodplains. Oak woodlands play a part in minimizing the strength and effect of the river's floodwaters. Oaks slow the eroding energy of rainfall with their canopies by temporarily hold rainwater on their leaf and stem surfaces during a rainstorm, increasing the amount of time rain takes to reach the ground and contribute to runoff. Oak woodland canopies capture 20-30% more rainfall than do grasslands, and their contribution to organic matter in the soil improves its water holding capacity.⁴ As a result, they have a high capacity for detaining peak flows from rainfall events that

would otherwise run in larger volumes and at higher velocities into streams, contributing to flooding, erosion, and sediment and nutrient concentrations that can harm water quality. The greatest flood protection/attenuation benefits related to tree canopy cover are in watersheds that quickly concentrate flows and pose a risk of flash flooding and in areas where runoff conveyance is already near capacity. Oak trees also capture and transpire moisture from the soil during the growing season. Compared to annual vegetation, oaks can extract water from the soil profile to a greater depth. Consequently, soils under oak woodland canopy are able to absorb and hold greater amounts of rainfall than equivalent soils with only annual grassland cover. This extra storage capacity further reduces the potential for flooding during the rainy season and promotes groundwater recharge.

Source: Napa County. 2010. *Napa County Voluntary Oak Woodlands Management Plan*. October 26, 2010. Page 8 - 9.

D. WATER QUALITY PROTECTION

Oak woodlands, whether located on the hillsides or on level lands near streams, play an important role in protecting water quality. By minimizing soil erosion as noted above, oak woodlands can help reduce sediment transport and washing of fine sediments into local waterways. High levels of sediment in waterways can negatively impact the aquatic food supply by reducing habitat available for fish, aquatic invertebrates and other organisms



important to the diets of fish and birds. The Napa River is currently listed as impaired for sediment and a Sediment Total Maximum Daily Load (TMDL) is in the process of being adopted by the State.

The contribution of oaks and other vegetation to erosion prevention near waterways is especially important if soils contain excessive nutrients, pathogens or high levels of toxic material (natural or human concentrated), such as chemical contaminants, mercury or other heavy metals. Putah Creek, for example, has elevated levels of mercury in the soils of the bed and banks of its tributaries and is the focus of State regulatory efforts (TMDL)

to reduce mercury levels. Oaks and other vegetation also help reduce soil contamination by absorbing heavy metals, fertilizer nutrients, and pesticides from the soil and intercepting sediments containing these pollutants, thereby preventing these materials from reaching surface waters. Oaks and associated permanent vegetation along waterways can also reduce potential waterway contamination from airborne pesticide or herbicide drift, since oak foliage can intercept airborne pesticides/ herbicides.

Source: Napa County. 2010. *Napa County Voluntary Oak Woodlands Management Plan*. October 26, 2010. Page 9 - 10.

Noise

The large-scale removal of oaks for some projects—commercial woodcutting operations, planned development projects, specific area plan implementation, agricultural operations, etc., will have an impact on noise levels in the County.

- Please include in the dEIR a discussion of noise from the activities described above, and describe the mitigation measures that may be employed to reduce the impact (e.g., limitations on the hours of operation of chain saws, dozers, or other tree removal equipment).

Population/Housing

There will inevitably be an increase in the amount of housing (and therefore population) as a result of the adoption of the ORMP. As stated under Air Quality, **developers are now constrained under Option A restrictions, in combination with the lack of an in-lieu fee option. Now that numerous mitigation options will be available, growth/development will inevitably occur.**

- Discuss the impact of the increase in population on County services, etc., that will result from ORMP adoption.

Public Services/Utilities

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The removal of oak trees/oak woodland can have a significant impact on the need to construct storm water drainage facilities (see discussion under Hydrology/Water Quality).

- Include in the dEIR a discussion of the impact of oak/oak woodland removal on hydrologic patterns, and how that may result in the need to construct new storm water drainage facilities, etc.

Project Alternatives

I respectfully request that the following project alternatives/alternative elements be evaluated:

Project Alternative 1. Retention of the Option A oak retention schedule. Oak retention should be *the* priority. Other alternatives/mitigations should be utilized **only after it has been determined the project cannot meet the Option A retention schedule through any reasonable means.** A discussion of the necessity of Option A retention follows.

The Standiford Study¹⁰ (NOTE: This study was relied upon for development of the County's IIG.) According to Standiford, the results of this study (cited in the footnote below) call into question whether planted stands adequately mitigate the loss of mature stands. The mitigated blue oak stand wildlife species list (specific to the Sierra Nevada foothills) was compared to a natural blue oak stand, averaging 10 inches dbh, with a 30 percent canopy cover. The natural stand was assumed to have small and medium size downed wood, snags, acorns and trees with cavities and was projected to have 102 vertebrate wildlife species. The number of vertebrate species projected to occur in a mitigated stand—after 50 years—was 73 species (1 amphibian, 40 bird, 19 mammal, and 13 reptile species). The results of this study underscore the fact that blue oak woodlands develop habitat conditions slowly, and that it may take in excess of 50 years to replace mature habitat that is lost in a particular project.

The results suggest it is important to evaluate if tree planting is a viable method of mitigation, especially because many important habitat elements such as cavities, acorns, snags, and woody debris may not be mitigated—at least in the 50-year interval evaluated in the study. **Thus, it is important to conserve oak woodland in a natural state, whenever possible.**

At the June 22, 2015 Biological Resources meeting, the Board of Supervisors agreed it was important to evaluate the addition of oak retention standards to the ORMP process.

A motion was made by Supervisor Ranalli, seconded by Supervisor Veerkamp to Approve this matter, Adopt Resolution's 108-2015 and 109-2015 and direct staff to:
Consider project alternatives as part of the environmental review process including:
1) Adding oak resource retention standards;
2) Options for Individual Oak Tree (IOT) replacement mitigation (e.g. acorn to 15 gallon potted tree) and associated analysis of the implications for the In-lieu Fee Nexus study based on these options, and
3) Oak resource mitigation requirements related to discretionary and ministerial projects.

Mitigation options should only be entertained for those projects that **absolutely cannot come to fruition without some deviation from Option A retention standards.** **Incentivizing** oak woodland retention rather than **requiring** retention is not an acceptable option, **nor is establishing a policy that allows 100 percent removal of oaks.**

For reasons cited in the Standiford study (previously described), the following project alternatives should be considered as well.

Project Alternative 2. Redefinition of “Oak Woodland” to include other associated tree and shrub species (understory) to maintain wildlife habitat value; require mitigation to replace these elements as well.

Project Alternative 3. Redefinition of a Heritage Tree as 24” dbh—**if not for all oaks, for blue oaks** (*Quercus douglassi*). (A discussion follows that identifies why this change is essential.)

The Standiford Study¹¹ (NOTE: This study was relied upon for development of the County's IIG.)

¹⁰ Standiford, R., et al. 2001. *Modeling the Effectiveness of Tree Planting to Mitigate Habitat Loss in Blue Oak Woodlands*. USDA Forest Service General Technical Report PSW-GTR-184, 2002.

¹¹ Standiford, R., et al. 2001. *Modeling the Effectiveness of Tree Planting to Mitigate Habitat Loss in Blue Oak Woodlands*. USDA Forest Service General Technical Report PSW-GTR-184, 2002.

This study modeled development of blue oak (*Quercus douglasii*) stand structure over 50 years after planting. The growth model was based on actual blue oak stand age and structure data (Standiford 1997). For this study, data was collected from 55 sample blue oak trees in a ten-year old blue oak plantation at the Sierra Foothill Research and Extension Center in Yuba County, California.

In this study, two different management regimes were utilized, a **high management** intensity scenario that assumed these stands would **average 2 inches dbh after 10 years**, and there would be a 90 percent seedling survival. A **moderate management** scenario assumed that the stands would **average 1.5 inches dbh**, with an 85 percent seedling survival. **These assumptions are based on actual plantation growth** (McCreary 1990, 1995a, 1995b; McCreary and Lippit 1996; McCreary and Tecklin 1993) **and observations of operational restoration projects.**

For a planting density of **200 trees per acre 10 years** after planting (under a high management intensity), it was anticipated trees would average 2 inches dbh with 90 percent survival; under moderate intensity management, trees were anticipated to average 1.5 inches dbh with 85 percent survival, and **20 years** after planting: 2.5, 2.0, respectively.

Canopy cover after 50 years was projected to range from 7 to 33 percent, with an average dbh after 50 years ranging from 3.4 to 4.1 inches. Even under fairly aggressive restoration efforts the largest mean diameter of the stand was quite small, only 3.9 inches, with a canopy cover of 33 percent.

The following photographs serve to illustrate the growth rates for blue oak. The blue oaks depicted below are **10-16 years old**.¹²



- Large blue oaks are likely **153 to 390 years old** (White, 1966).
- Growth is extremely slow ***or even ceases*** after trees reach **26 inches dbh** (McDonald, 1985).¹³ (**dbh**=diameter at breast height: 4 feet 6 inches from ground.) Thus, many blue oaks—although extremely old—**will never reach Heritage Tree status.**

¹² Phillips, R. L., et al. 1996. Blue Oak Seedlings May be Older than they Look. California Agriculture, May-June 1996. Available at: <http://ucanr.edu/repositoryfiles/ca5003p17-69761.pdf>

¹³ Ritter, L.V. Undated. *Blue Oak Woodland*. California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group.



The blue oaks on this page illustrate a point. Although one has achieved Heritage Oak status, one can see the tremendous size required to arrive at Heritage Oak status.

This blue oak **IS NOT** a Heritage Oak, it is **32.5" dbh**.



This blue oak **IS** a Heritage oak **by one inch—37" dbh**.

Because blue oaks are slow growers, **Tuolumne County** has worked to establish a separate standard for blue oaks under their *old growth oaks* or “**specimen oaks**” category.¹⁴ Given this acknowledgement that blue oaks—given their slow growth rates—warrant separate consideration, it seems reasonable that **El Dorado County establish a separate size requirement for blue oak for Heritage Oak designation.**

In addition, it is known **blue oak regeneration** is a problem in many areas of the State. In fact, **“Few areas can be found in California where successful recruitment of blue oaks has occurred since the turn of the century” (Holland, 1976).**¹⁵

For these reasons—**slow growth, poor regeneration rates,** and the fact that **blue oak growth often ceases after trees reach 26” dbh**—it is necessary to establish a threshold for Heritage Oak designation for blue oak that is less than the 36” dbh threshold now proposed. It is only reasonable (and necessary) to protect this resource with a separate Heritage Oak threshold designation.

Growth Estimates for Black and Live Oak

The growth rates discussed previously for blue oak demonstrate what can be expected in terms of replant growth rates in the Western portion of El Dorado County. **But other oak species exhibit slow growth rates as well.** According to McDonald,¹⁶ black oak (*Quercus kelloggii*) growth rates (from acorns) are estimated to be 3.4 inches dbh at 20 years and 9 inches dbh at 50 years. Interior live oak (*Quercus wislizeni*) is also reported as slow-growing.¹⁷ These oaks, too—all oaks—would benefit from a redefinition of “Heritage Oak” to 24” dbh.

Project Alternative 4. Require **sapling/specimen tree replacement** for oak mitigation; **eliminate the option for acorn planting.**

Project Alternative 5. Establish a **minimum retention standard** for commercial firewood cutting operations, and define standards for site protection.

Project Alternative 6. **Application of a more robust mitigation ratio.** A revision of the mitigation ratios to a 2:1 mitigation ratio (at a minimum), and up to 5:1 in the case of environmentally sensitive areas, would motivate the developer to look more seriously at oak woodland retention, and would ensure the preservation of more oak woodland.

¹⁴ Michael Brandman Associates. 2012. Tuolumne County Biological Resources Review Guide. December 4, 2012; page 38. Available at: <http://www.tuolumnecounty.ca.gov/DocumentCenter/View/204>

¹⁵ Ritter, L.V. Undated. Blue Oak Woodland. California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67340>

¹⁶ McDonald, P.M. Undated. *California black oak (Quercus kelloggii)*. Available at: http://www.na.fs.fed.us/pubs/silvics_manual/volume_2/quercus/kelloggii.htm.

¹⁷ Fryer, Janet L. 2012. *Quercus wislizeni*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: <http://www.fs.fed.us/database/feis/> [2015, February 6].

Requests for Clarification

- Provide in the dEIR a **detailed map** of the Important Biological Corridors (IBCs) and Priority Conservation Areas (PCAs). This is necessary to provide the public with the information necessary to determine which parcels are included—or excluded—from the IBCs and PCAs.
- **BRPU Decision Point 3: “Determine whether to require undercrossings for future four- and six-lane roadway projects to provide for wildlife movement, and if so, determine specific standards for undercrossings (i.e., size, location).”**

It is crucial to provide wildlife undercrossings (or overcrossings) particularly (although not exclusively) where roadways cross streams, creeks, seasonal creeks, other drainages, and riparian areas. Wildlife are most likely to frequent, and most likely to attempt roadway crossings at these sites. Providing wildlife undercrossings/overcrossings supports both wildlife preservation and motorist safety. However, some clarification is necessary in this instance.

A motion was made by Supervisor Ranalli, seconded by Supervisor Frentzen to require, when necessary, undercrossings for future four (4)-, six (6)- and eight (8) - lane roadway projects to provide for wildlife movement.

Yes: 5 - Mikulaco, Veerkamp, Frentzen, Ranalli and Novasel

- Please specify in the dEIR the criteria that would meet the standard **“when necessary,”** established by the Board of Supervisors.

Oak Planting, Conservation, etc.

Some issues need to be resolved to ensure appropriate mitigation planning. For instance, the following measures need to be overseen by a PAWTAC committee, and/or by the concurrence of CDFW, or a land conservation organization, or—in the case of the first item—through examination by a qualified arborist.

- ORMP, page 14: States that on-site planting is to be done *“to the satisfaction of the Planning Services Director.”*
- ORMP, page 14: Off-site planting: *“The applicant may be permitted to procure an off-site planting area for replacement planting.”*
- ORMP, page 16: *“Off-site mitigation may be accomplished through private agreements between the applicant and a private party.”*
- ORMP, page 21: The acquisition of parcels that constitute *“opportunities for active land management to be used to enhance or restore natural ecosystem processes.”*
- ORMP, page 21: *“Parcels that achieve multiple agency and community benefits.”*
- ORMP, page 24: the in-lieu fee payment **may be phased** to reflect timing of the oak resources removal/impact.”

Assembly Bill 1600

It is important *not* to limit the in-lieu fee evaluation to the criteria included in AB 1600. It is vital to remember that other funding “tools” that lack the narrow findings required under AB 1600 can be enacted to acquire the necessary amount of mitigation funds: Propositions 62 and 218, for instance, can provide for a special tax (but require voter approval). And, while a fee study provides the quantified basis for imposition of fees, **the County is free to determine that the level of service it would like to provide cannot be met simply through the imposition of the impact fee.**

AB 1600 impact fees are often based on staff's *professional judgment* or *opinion* regarding potential impact—and on a County's growth projection—the basis for all conclusions must be supported by *substantial evidence*. Because El Dorado County's water supply is arguably "uncertain" at this time, it will be difficult to project potential growth realistically.

After all is said and done, it is important to remember that—while some individuals have requested that the in-lieu fees be kept as low as possible—this provision is intended to provide *viable mitigation*, and as such must be adequate to mitigate loss. **Affordability is not a criterion under which the effectiveness of mitigation can legitimately be degraded.**

California Board of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 94244-2460
board.public.comments@fire.ca.gov

California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
dmallory@arb.ca.gov

June 29, 2015

Re: Oak Woodland Greenhouse Gas Emissions

California Board of Forestry and Fire Protection and California Air Resources Board Members:

California Oaks would like to raise the incongruity of the accompanying photo relative to the Board of Forestry and Air Resources Board joint policy regarding meeting AB32 Scoping Plan forest targets. Although the state's forest greenhouse gas (GHG) focus may be on "timberland," in fact California's GHG policies and laws apply equally to all native "forest land."

The 2008 AB32 Scoping Plan recognized the significant contribution that terrestrial greenhouse gas storage will make in meeting the state's GHG emissions reduction goals: *"This plan also acknowledges the important role of terrestrial sequestration in our forests, rangelands, wetlands, and other land resources."* The Scoping Plan set a "no net loss" goal for forest land carbon sequestration and "stretch targets" of increasing forest land CO₂ storage by 2 million metric tonnes by 2020 and 5 MMT by 2050.



Blue oak firewood en route to Bay Area markets.

California Oaks would appreciate a cogent explanation of how the pictured blue oak firewood is consistent with the state's natural and working lands sector targets, given that unregulated/unmitigated oak tree cutting for "commercial purposes" results in: (1) the loss of carbon sequestration capacity; (2) produces carbon dioxide, methane and nitrous oxide emissions from burning the firewood.

Sincerely,



Janet Cobb, Executive Officer

Oaks

California Oaks

Preserving and perpetuating California's oak woodlands and wildlife habitats

July 6, 2015

Community Development Agency
Long Range Planning Division
2850 Fairlane Court
Placerville, CA 95667
shawna.purvines@edcgov.us

Re: Biological Policy Update Project

Shawna Purvines, Principal Planner:

California Oaks appreciates the opportunity to comment on the Biological Policy Update Project. Review of the project finds that it fails to consider California Environmental Quality Act (CEQA) greenhouse gas (GHG) emission requirements concerning the conversion of native forest resources to another land use. Specifically, the DEIR provides no analysis regarding potential forest conversion carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) emission effects or proportional mitigation measures. This DEIR omission is contrary to California forest GHG policy and law.

The 2008 California Air Resources Board's AB32 Scoping Plan recognized the significant contribution that terrestrial greenhouse gas storage will make in meeting the state's GHG emissions reduction goals: "*This plan also acknowledges the important role of terrestrial sequestration in our forests, rangelands, wetlands, and other land resources.*"¹ Gov. Brown reiterated this point in his January 2015 inaugural address: "*And we must manage farm and rangelands, forests and wetlands so they can store carbon.*" Further, the CEQA Guidelines specifically address biogenic GHG emissions due to the conversion of forest land to non-forest use.² Biogenic GHG emissions are those derived from living plant cells. Fossil fuel GHG emissions are derived from living plant cells but are categorized differently.

The following 2009 Natural Resources Agency CEQA GHG Amendments response to comments quotation supports the contention that direct and indirect biogenic GHG emissions effects occur when native forest resources are converted. The response use of the word "and" clearly indicates that there are two potentially significant GHG emission effects to be analyzed regarding forest conversion to another land use. CEQA recognizes these secondary biogenic GHG emissions in the indirect effects language of Guidelines § 15358(2), "*... are later in time or farther removed in distance, but are still reasonably foreseeable.*"

¹ The AB32 Scoping Plan set a "no net loss" goal for forest land carbon sequestration and "stretch targets" of increasing forest land CO₂ storage by 2 million metric tonnes by 2020 and 5 MMT by 2050.
http://www.climatechange.ca.gov/forestry/documents/AB32_BOF_Report_1.5.pdf

² Oak woodlands are defined as "forest land" by Public Resources Code Section 12220(g)(l). This section is referenced in CEQA Appendix G, forest resources checklist.

Natural Resources Agency Response 66-7

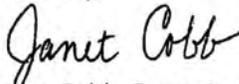
"As explained in the Initial Statement of Reasons, conversion of forest lands to non-forest uses may result in greenhouse gas emissions and reduce sequestration potential. (Initial Statement of Reasons, at pp. 63-64.)" See Exhibit A for a detailed CEQA discussion of forest conversion biogenic GHG emission effects.

When a native tree species is felled biomass carbon sequestration ceases. This immediate loss of biomass carbon sequestration capacity represents the direct forest conversion biogenic GHG emission effect. Upon disposal of the biomass carbon, the decomposition of biomass does in all cases result in indirect CO₂ and CH₄ emissions³ and the combustion of biomass does in all cases result in indirect CO₂, CH₄ and N₂O emissions.⁴ Thus, a CEQA oak woodlands GHG emission effects analysis requires carbon dioxide equivalent⁵ estimations for both the direct effect from loss of carbon sequestration and the indirect effect due to biogenic emissions associated with oak forest biomass disposal. Notably, burning biomass emits GHG instantaneously, while biomass decomposition takes years and even decades. See Exhibits B, C and D for biomass decomposition and combustion biogenic GHG emission citations.

Summary

Substantial evidence has been presented that project biogenic GHG emissions due to forest land conversion will result in potentially significant environmental effects that have not been sufficiently analyzed or feasibly mitigated. The project has not made "a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project" (CEQA Guidelines § 15064.4(a)). Therefore the Biological Policy Update Project is deficient as an informational document, in that it fails to apprise decision-makers/public of the full range and intensity of the adverse GHG emission effects on the environment that may reasonably be expected if the project is approved.

Sincerely,



Janet Cobb, Executive Officer
attachments (4)

³ "Anaerobic digestion, chemical process in which organic matter is broken down by microorganisms in the absence of oxygen, which results in the generation of carbon dioxide (CO₂) and methane (CH₄) ... Sugars, starches, and cellulose produce approximately equal amounts of methane and carbon dioxide." Encyclopædia Britannica (2013). <http://www.britannica.com/EBchecked/topic/22310/anaerobic-digestion>

⁴ "... the combustion of biomass does in all cases result in net additions of CH₄ and N₂O to the atmosphere, and therefore emissions of these two greenhouse gases as a result of biomass combustion should be accounted for in emission inventories under Scope 1" (at p. 11). World Resources Institute/World Business Council for Sustainable Development (2005). http://www.ghgprotocol.org/files/ghgp/tools/Stationary_Combustion_Guidance_final.pdf

⁵ AB32 defines "Carbon dioxide equivalent" to mean ... "the amount of carbon dioxide by weight that would produce the same global warming impact as a given weight of another greenhouse gas, based on the best available science, including from the Intergovernmental Panel on Climate Change." The IPCC's best available science lists methane as having 34 times more global warming impact than carbon dioxide over a 100-year time horizon and nitrous oxide as having 298 times more global warming impact than carbon dioxide over the same period. Myhre, G., D. et al., 2013: *Anthropogenic and Natural Radiative Forcing*. In: *Climate Change 2013: The Physical Science Basis* (at pp. 713, 714).

Letter 97

Kari Fisher
Associate Counsel
California Farm Bureau Federation

Tim Schmelzer
Legislative and Regulatory Representative
Wine Institute

November 10, 2009

Comment 97-1

Comment is introductory in nature and expresses the organizations' concerns on the guidance for analysis and mitigation for GHG emissions in the proposed amendments. The Natural Resources Agency should reevaluate and revise Appendix G, Section II: Agriculture prior to adopting the proposed amendments.

Response 97-1

The comments object generally to the inclusion of forestry resources among the questions in Appendix G related to agricultural resources. The Initial Statement of Reasons explained the necessity of the added questions:

The proposed amendments would add several questions addressing forest resources in the section on Agricultural Resources. Forestry questions are appropriately addressed in the Appendix G checklist for several reasons. First, forests and forest resources are directly linked to both GHG emissions and efforts to reduce those emissions. For example, conversion of forests to non-forest uses may result in direct emissions of GHG emissions. (L. Wayburn et al., A Programmatic Approach to the Forest Sector in AB32, Pacific Forest Trust (May 2008); see also California Energy Commission Baseline GHG Emissions for Forest, Range, and Agricultural Lands in California (March, 2004) at p. 19.) Such conversion would also remove existing carbon stock (i.e., carbon stored in vegetation), as well as a significant carbon sink (i.e., rather than emitting GHGs, forests remove GHGs from the atmosphere). (Scoping Plan, Appendix C, at p. C-168.) Thus, such conversions are an indication of potential GHG emissions. Changes in forest land or timberland zoning may also ultimately lead to conversions, which could result in GHG emissions, aesthetic impacts, impacts to biological resources and water quality impacts, among others. Thus, these additions are reasonably necessary to ensure that lead agencies consider the full range of potential impacts in their initial studies. In the same

way that an EIR must address conversion of prime agricultural land or wetlands as part of a project (addressing the whole of the action requires analyzing land clearance in advance of project development), so should it analyze forest removal. [¶] During OPR's public involvement process, some commenters suggested that conversion of forest or timber lands to agricultural uses should not be addressed in the Initial Study checklist. (Letter from California Farm Bureau Federation to OPR, February 2, 2009; Letter from County of Napa, Conservation, Development and Planning Department, to OPR, January 26, 2009.) As explained above, the purpose of the Proposed Amendments is to implement the Legislative directive to develop Guidelines on the analysis and mitigation of GHG emissions. Although some agricultural uses also provide carbon sequestration values, most agricultural uses do not provide as much sequestration as forest resources. (Climate Action Team, Carbon Sequestration (2009), Chapter 3.3.8 at p. 3.21; California Energy Commission, Baseline GHG Emissions for Forest, Range, and Agricultural Lands in California (2004), at p. 2.) Therefore, such a project could result in a net increase in GHG emissions, among other potential impacts. Thus, such potential impacts are appropriately addressed in the Initial Study checklist.

(Initial Statement of Reasons, at pp. 63-64.) Specific objections to the questions related to forestry are addressed below.

Comment 97-2

Amendments to Appendix G, Section II: Agriculture, adding forest resources, distort the section from its original intent of protecting agriculture resources and will subject projects to extensive and unnecessary analysis beyond what is already legally required. Amendments to Section VII: Greenhouse Gas Emissions will adequately address any significant impact a project may have on greenhouse gas emissions.

Response 97-2

The comment's assertion that the addition of questions related to forestry "specifically target[s] the establishment of [agricultural] resources for extensive and unnecessary analysis above and beyond what is already legally required," is incorrect in several respects. First, the addition of questions related to forestry does not target the establishment of agricultural operations. The only mention in the Initial Statement of Reasons of agricultural operations in relation to those questions was in response to comments that the Office of Planning and Research received indicating that only conversions of forests to non-agricultural purposes should be analyzed. Moreover, the text of the questions themselves demonstrate that the concern is *any* conversion of forests, not just conversions to other agricultural operations.

Second, analysis of impacts to forestry resources is already required. For example, the Legislature has declared that "forest resources and timberlands of the state are among the most valuable of the natural resources of the state" and that such resources "furnish high-quality timber, recreational opportunities,

and aesthetic enjoyment while providing watershed protection and maintaining fisheries and wildlife.” (Public Resources Code, § 4512(a)-(b).) Because CEQA defines “environment” to include “land, air, water, minerals, flora, fauna, noise, [and] objects of historic or aesthetic significance” (Public Resources Code, section 21060.5), and because forest resources have been declared to be “the most valuable of the natural resources of the state,” projects affecting such resources would have to be analyzed, whether or not specific questions relating to forestry resources were included in Appendix G. (*Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1109 (“in preparing an EIR, the agency must consider and resolve every fair argument that can be made about the possible significant environmental effects of a project, irrespective of whether an established threshold of significance has been met with respect to any given effect”).) If effect, by suggesting that the Appendix G questions be limited to conversions to “non-agricultural uses,” the comment asks the Natural Resources Agency to adopt changes that are inconsistent with CEQA, which it cannot do.

The comment’s suggestion that the questions related to greenhouse gas emissions are sufficient to address impacts related to greenhouse gas emissions does not justify deletion of the questions related to forestry resources. As explained in the Initial Statement of Reasons, not only do forest conversions result in greenhouse gas emissions, but may also “remove existing carbon stock (i.e., carbon stored in vegetation), as well as a significant carbon sink (i.e., rather than emitting GHGs, forests remove GHGs from the atmosphere).” Further, conversions may lead to “aesthetic impacts, impacts to biological resources and water quality impacts, among others.” The questions related to greenhouse gas emissions would not address such impacts. Thus, the addition of forestry questions to Appendix G is appropriate both pursuant to SB97 and the Natural Resources Agency’s general authority to update the CEQA Guidelines pursuant to Public Resources Code section 21083(f). The Natural Resources Agency, therefore, rejects the suggestion to removal all forestry questions from Appendix G.

Comment 97-3

The amendment adding forest resources to Appendix G: Section II loses sight of the intent and purpose of the Legislature’s directive in SB 97. The amendments do not further the directive or intent of SB 97 and unfairly attack and burden all types of agriculture, both crop lands and forest lands.

Response 97-3

SB97 called for guidance on the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions. (Public Resources Code, § 21083.05.) As explained in the Initial Statement of Reasons, forest conversions may result in direct greenhouse gas emissions. Further, such conversions remove existing forest stock and the potential for further carbon sequestration. (Initial Statement of Reasons, at p. 63.) Sequestration is recognized as a key mitigation strategy in the Air Resources Board’s Scoping Plan. (Scoping Plan, Appendix C, at p. C-168.) Thus, the Natural Resources Agency disagrees with the comment, and finds that questions in Appendix G related to forestry are reasonably necessary to effectuate the purpose of SB97. Notably, such questions are also supported by the Natural Resources

Agency's more general authority to update the CEQA Guidelines every two years. (Public Resources Code, § 21083(f).)

The Natural Resources Agency also disagrees that the questions related to forestry "unfairly attack and burden all types of agriculture." Nothing in the text of the proposed amendments or the Initial Statement of Reasons demonstrate any effort to attack, or otherwise disadvantage, any agricultural use. Questions related to forestry impacts are addressed to any forest conversions, not just those resulting from agricultural operations. Further, the questions do not unfairly burden agriculture. To the extent an agricultural use requires a discretionary approval, analysis of any potentially significant impacts to forestry resources would already be required, as explained in Response 97-2, above.

Comment 97-4

The amendments adding forest resources to Appendix G: Section II go beyond the scope of mandate by SB 97 and will adversely affect California's agricultural industry. The only alternative is to recognize the loss of forest land or conversion of forest is only significant when it results in a non-agricultural use.

Response 97-4

The Natural Resources Agency finds that the addition of questions related to forest impacts are reasonably necessary to carry out the directive both in SB97 and the general obligation to update the CEQA Guidelines, as described in both the Initial Statement of Reasons and Responses 97-2 and 97-3, above.

Though the comment states "the proposed changes in Section II [of Appendix G] ... are highly onerous to the State's agricultural industry," the comment provides no evidence to support that claim. On the contrary, as explained in Responses 97-2 and 97-3, above, CEQA already requires analysis of forestry impacts, regardless of whether Appendix G specifically suggests such analysis.

The Natural Resources Agency declines to revise the forestry-related Appendix G questions as suggested. As explained in Response 97-2, above, exempting agricultural projects from the requirement to analyze impacts to forest resources is inconsistent with CEQA.

Exhibit B

Forest Land Conversion Biomass Combustion and Decomposition GHG Emissions

California Air Resources Board

"California is committed to reducing emissions of CO₂, which is the most abundant greenhouse gas and drives long-term climate change. However, short-lived climate pollutants [methane, etc.] have been shown to account for 30-40 percent of global warming experienced to date. Immediate and significant reduction of both CO₂ and short-lived climate pollutants is needed to stabilize global warming and avoid catastrophic climate change The atmospheric concentration of methane is growing as a result of human activities in the agricultural, waste treatment, and oil and gas sectors." *Reducing Short-Lived Climate Pollutants in California*, 2014.

UN Framework Convention on Climate, Deforestation Definition

"Those practices or processes that result in the change of forested lands to non-forest uses. This is often cited as one of the major causes of the enhanced greenhouse effect for two reasons: 1) the burning or decomposition of the wood releases carbon dioxide and 2) trees that once removed carbon dioxide from the atmosphere in the process of photosynthesis are no longer present and contributing to carbon storage." http://www.gofc-gold.uni-jena.de/redd/sourcebook/Sourcebook_Version_June_2008_COP13.pdf

Stanford University Engineering

Biomass burning also includes the combustion of agricultural and lumber waste for energy production. Such power generation often is promoted as a "sustainable" alternative to burning fossil fuels. And that's partly true as far as it goes. It is sustainable, in the sense that the fuel can be grown, processed and converted to energy on a cyclic basis. But the thermal and pollution effects of its combustion - in any form - can't be discounted, [Mark] Jacobson said.

"The bottom line is that biomass burning is neither clean nor climate-neutral," he said. "If you're serious about addressing global warming, you have to deal with biomass burning as well."

engineering.stanford.edu/news/stanford-engineers-study-shows-effects-biomass-burning-climate-health

Jacobson, M. Z. (2014). *Effects of biomass burning on climate, accounting for heat and moisture fluxes, black and brown carbon, and cloud absorption effects.*

European Geosciences Union

"Biomass burning is a significant global source of gaseous and particulate matter emissions to the troposphere. Emissions from biomass burning are known to be a source of greenhouse gases such as carbon dioxide, methane and nitrous oxide" (at 10457). *A review of biomass burning emissions, part I: gaseous emissions of carbon monoxide, methane, volatile organic compounds, and nitrogen containing compounds.*

R. Koppmann, K. von Czapiewski and J. S. Reid, 2005.

<http://www.atmos-chem-phys-discuss.net/5/10455/2005/acpd-5-10455-2005-print.pdf>

Phoenix Energy

"As wood starts to decompose it releases roughly equal amounts of methane (CH₄) and carbon dioxide (CO₂)." 2014. <http://www.phoenixenergy.net/powerplan/environment>

Macpherson Energy Corporation

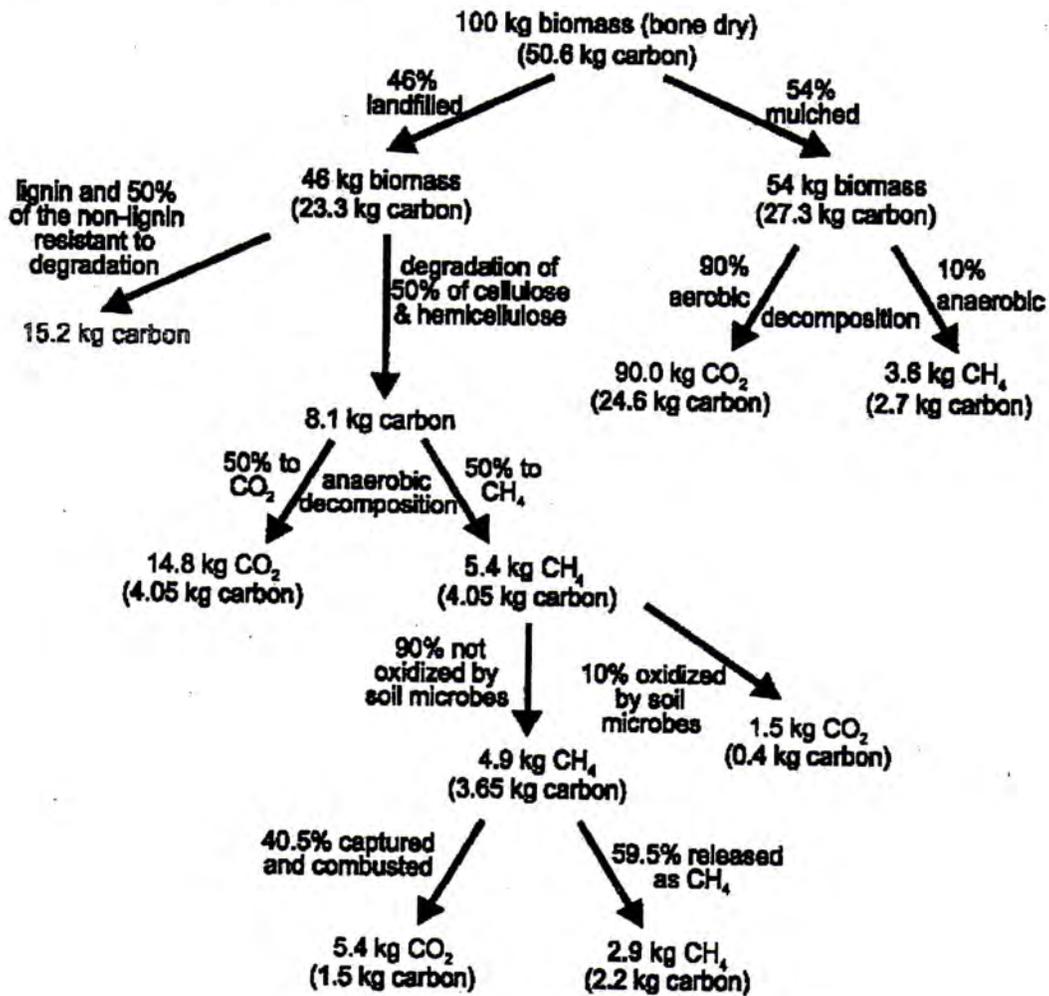
"Rotting produces a mixture of up to 50 percent CH₄, while open burning produces 5 to 10 percent CH₄." 2014. <http://macphersonenergy.com/mt-poso-conversion.html>

Exhibit C

Biomass Decomposition Greenhouse Gas Emissions

Biomass presentation by Alex Hobbs, PhD, PE to the Sierra Club Forum at North Carolina State University (November 24, 2009).

- If 100 kilograms of bone dry biomass were dispersed to a controlled landfill (46%) and mulched (54%) greenhouse gas emissions would be: 111.7 kilograms of CO₂ emissions + 6.5 kilograms of CH₄ emissions = 274.2 kilograms CO₂-equivalent emissions.



Landfill: 46 kg biomass/23.3 kg CO = 21.7 kg CO₂ + 2.9 kg CH₄ = 94.2 kg CO₂-equivalent.

Mulch: 54 kg biomass/27.3 kg CO = 90 kg CO₂ + 3.6 kg CH₄ = 180 kg CO₂-equivalent.

Total: 100 kg biomass/50.6 kg CO = 111.7 kg CO₂ + 6.5 kg CH₄ = 274.2 kg CO₂-equivalent.

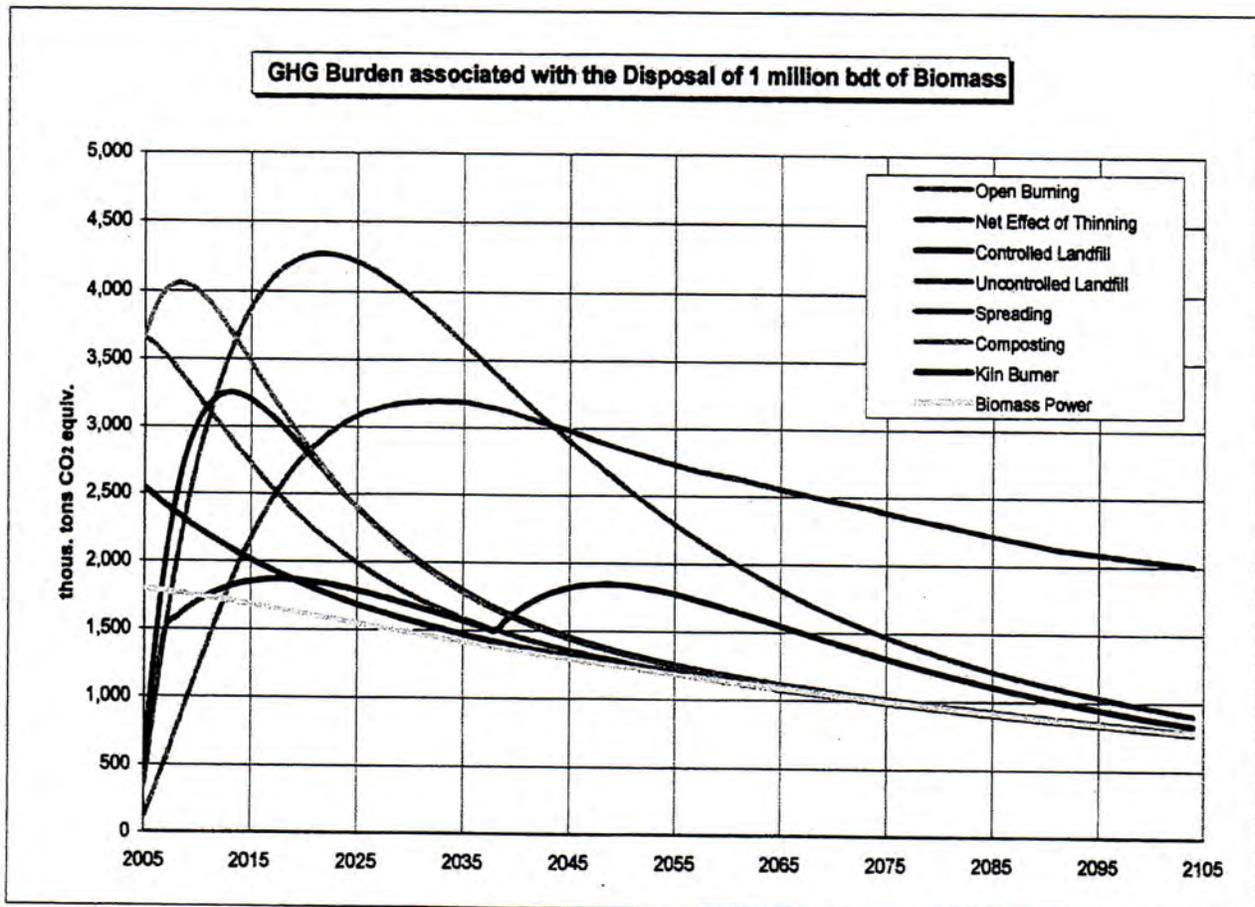
Exhibit D

Biomass Disposal Greenhouse Gas Emissions

The following chart illustrates the relative biogenic GHG emission effects from common methods of vegetation (biomass) disposal.¹ However, for a variety of reasons these chart values are too unrefined to be applied for project site-specific biogenic GHG emissions analysis.

Uncontrolled landfill disposal produces the greatest biomass GHG emissions followed by composting, open burning, mulching, forest thinning, firewood burning, controlled landfills and biomass power. Notably, biomass power emissions do not include methane and nitrous oxide emissions. The chart demonstrates that peak greenhouse gas emissions vary substantially depending on the means of biomass disposal.

Terminology: Net effect of thinning emissions apply to forest thinning emissions; Spreading emissions are equivalent to mulching emissions and Kiln Burner emissions are analogous to fireplace burning emissions.



Graphic: Gregory Morris, PhD. *Bioenergy and Greenhouse Gases*. Published by Pacific Institute (2008).

¹ One bone dry ton (bdt) is a volume of wood chips (or other bulk material) that would weigh one ton (2000 pounds, or 0.9072 metric tons) if all the moisture content was removed.

Cheryl Langley
Shingle Springs Resident

RE: Biological Resources Policies Update & Oak Resources Management Plan

Board Members:

Thank you for the opportunity to comment on the Biological Resources Policy Update (BRPU) and Oak Resources Management Plan (ORMP).

OAK TREE RETENTION STANDARDS

I urge the Board to **retain the Option A retention standards**. Oak retention should be a priority. Woodland removal beyond Option A retention standards should be considered **only after it has been determined the project cannot meet these standards through any reasonable means**. This determination could be made in conjunction with preparation of the *Oak Resources Technical Report*.

OAK TREE REGENERATION

Several studies have shown that **blue oak regeneration is a problem in numerous areas of the State**. Consequently, evaluation of the role natural regeneration may play as mitigation for project impacts (in the EIR impact analysis) is a “non-starter.” **Claims that oak regeneration can somehow mitigate for loss of oak woodland is not supported by scientific study**.

Ritter writes: ¹

Most stands of blue oak woodland exist as medium or large tree stages with few or no young blue oaks present (White 1966, Holland 1976, Griffin 1977, Baker et al 1981). **Few areas can be found in California where successful recruitment of blue oaks has occurred since the turn of the century” (Holland, 1976)**.

Teklin writes: ²

Natural regeneration of two endemic California oaks, blue oak (*Quercus douglasii*) and valley oak (*Q. lobata*), has been widely recognized to be a problem statewide on many sites (Bolsinger 1988, Griffin 1971, Muick and Bartolome 1987, Swiecki and Bernhardt 1993). Lack of recruitment to the sapling stage has been identified as a widespread occurrence. [REDACTED]

Verner writes of blue oak woodland: ³

The age at which they normally begin producing acorn crops is unknown (M. McClaran, pers. Comm.), but it likely takes several decades. Concern has been expressed for the long-term existence of this habitat (Holland 1976), because *‘little regenerations has occurred since the late 1800s, as livestock, deer, birds, insects, and rodents consume nearly the entire*

¹ Ritter, L.V. Undated. Blue Oak Woodland. California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67340>

² Teckin, J., Conner, J.M., McCreary, D.D. 1997. Rehabilitation of a Blue Oak Restoration Project. USDA Forest Service General Technical Report, PSW-GTR-160.

³ Verner, J. Undated. Blue Oak-Foothill Pine. California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group.

acorn crop each year. Of the few seedlings that become established a large proportion are eaten by deer' (Neal 1980:126). Furthermore, the absence of grazing livestock does not generally result in regeneration (White 1966), because many other animals eat acorns and seedling oaks. Moreover, introduced grasses...may compete directly with seedling oaks for light and nutrients, and may be allelopathic to the oaks.

And, according to *A Planner's Guide for Oak Woodlands*:⁴

There is substantial evidence suggesting that several species, including blue oak, valley oak, and Engelmann oak (*Quercus engelmannii*) are not reproducing at sustainable levels in portions of California. Simply stated, there are not enough young seedlings or saplings to take the place of mature trees that die, raising questions about the future of these species in the state.

Numerous causes have been cited, including increased populations of animals and insects that eat acorns and seedlings, changes in rangeland vegetation, adverse impacts of livestock grazing (direct browsing injury, soil compaction, and reduced organic matter), and fire suppression. Some people also suspect that climate change is a factor...

REGENERATION & ACORN PLANTINGS

This troubling condition—that of poor regeneration—means the viability of acorn plantings, too, will be problematic, making replacement of woodlands via the planting of acorns a fragile, ineffective strategy.

According to *A Planner's Guide for Oak Woodlands*:⁵

...the same factors that prevent or limit **natural regeneration** can also take a heavy toll on artificial plantings. **To be successful, relatively intensive site preparation, maintenance, and protection must usually be provided for several years.**

Thus, while Dudek cites a 1996 study by McCreary as support for acorn plantings, McCreary, too, states that **an effective alternative to directly sowing acorns is growing oak seedling in containers and then planting the saplings out in the field.** McCreary indicates propagating oaks in this manner results in starts that **"...have higher survivorship than directly planted acorns, but they also cost far more."**⁶

The specific study cited by Dudek (17A, page 10) reveals that acorn mortality was the highest of any group (acorns, four-month old starts, one year old saplings), and McCreary concludes that *"acorns did have significantly less overall survival,"* and cautions about their usage *"if large numbers of acorn-eating rodents are present at the planting site..."*⁷ And, note Dudek's numerous qualifiers to acorn use:

⁴ Giusti, G.A. et al (editors). 2005. *A Planner's Guide for Oak Woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

⁵ Giusti, G.A. et al (editors). 2005. *A Planner's Guide for Oak Woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

⁶ McCreary, D.D. Undated. *Living Among the Oaks: A Management Guide for Woodland Owners and Managers*. University of California, Agriculture and Natural Resources, Oak Woodland Conservation Workgroup; publication 21538.

⁷ McCreary, D.D. 1996. The Effects of Stock Type and Radicle Pruning on Blue Oak Morphology and Field Performance. *Annals des Sciences Forestieres*, 53 (2-3), pp. 641-646.

Acorn and oak seedling (1-gallon and smaller) establishment success has been well-documented in field research, with several studies noting the successful establishment of planted oak seedlings in northern California sites^{3,4,5}. In some cases, acorns and smaller containers can outgrow larger container-sized trees⁶, primarily due to taproot development being more successful as it is not inhibited by excessive time in containers. In the study by McCreary⁷, blue oak acorns and 4-month-old seedlings outgrew 1-year-old seedlings over a 4-year period once planted. The variation in seedling container sizes allows for flexibility in oak tree replacement projects that need to consider soil type, maintenance needs, access, and available irrigation.

Source: 17A, page 10.

The qualifiers include:

- "...several studies noting the successful establishment of planted oak **seedlings**" (not acorns);
- "**In some cases...**" (presumably "cases" in areas of intensive care, such as research plots); and
- "...need to consider **soil type, maintenance needs, access, and available irrigation.**"

All citations listed by Dudek (3,4,5,6, & 7) are from studies by McCreary. However, according to McCreary,⁸ the planting of acorns will be impacted by a whole host of factors such as conditions at the planting site, including the kinds of animals present. **Because acorns are an important food source for a whole host of animals, acorn plantings are difficult to protect.** McCreary also warns that the type of care necessary for survival and growth may not be **logistically feasible** for remote planting sites,⁹ making a difficult prospect even more susceptible to failure.

According to *A Planner's Guide for Oak Woodlands*:¹⁰

[T]he ultimate goal for planting mitigations should be tree establishment and long-term survival. The impact should be compensated for by replacing or providing substitute resources, such as **planting large container-grown trees, rather than seedlings or acorns** to expedite the recovery of the lost habitat component, or off-site mitigation actions, or mitigation banking. **However, off-site measures should be considered sparingly and should not be viewed as a convenient way to achieve mitigation objectives; off-site mitigation proposals should be carefully considered so that the strategy *is not abused*.**

⁸ McCreary, D.D. Undated. *How to Grow California Oaks*. University of California Oak Woodland Management. Available at: http://ucanr.edu/sites/oak_range/Oak_Articles_On_Line/Oak_Regeneration_Restoration/How_to_Grow_California_Oaks/

⁹ McCreary, D.D. Undated. *Living Among the Oaks: A Management Guide for Woodland Owners and Managers*. University of California, Agriculture and Natural Resources, Oak Woodland Conservation Workgroup; publication 21538.

¹⁰ Giusti, G.A. et al (editors). 2005. *A planner's guide for oak woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

MITIGATION EFFICACY & PERFORMANCE STANDARDS

It is essential that whatever mitigation option is chosen, **it must meet performance standards**. For instance, in the Interim Interpretive Guidelines (IIG) (7)(b), page 10, and IIG (7)(c), page 11, replacement plantings are “designed” to achieve oak woodland canopy coverage equal to the canopy removed **no more than 15 years from the date of planting**.

What is the performance standard for the mitigations described in the ORMP?

Performance standards are important. The following photos were taken of **mitigation plantings** by Serrano Village D2 in “tree shelters.” (This village was built around 2001-2003.) Photos taken **June, 2015**.



This is a photo of a “tree shelter” around a blue oak; it was probably planted around the time of adjacent village construction (2001-2003).

Photo taken June, 2015.



Note the low success rate of blue oak plantings, even with tree shelters



The tree shelters in this area (as seen in foreground) are mostly devoid of trees (approximately 12-14 years after planting).

This effort at oak woodland mitigation is dismal. And unfortunately, **past performance is the best predictor of future performance**. What assurances do County residents have that mitigation efforts will be successful?

Woodland replacement is crucial—especially in terms of habitat value to wildlife. According to *A Planner's Guide for Oak Woodlands*:¹¹

...ecologists now recognize that **replacing a century old tree with 1, 3, or 10 one-year-old seedlings does not adequately replace the lost habitat value of large trees. It has become evident that simply focusing on mitigation plantings based on a tree to seedling ratio is not a sufficient strategy to ensure the viability of oak woodlands.** [R]eplacement seedlings as a mitigation measure for removal of older stands of trees cannot meet the immediate **habitat needs** of forest-dependent animal species.

It is apparent that **preservation of oak woodland on-site is the preferred “mitigation.”** Short of on-site preservation, **the purchase of oak woodlands that will remain undeveloped in perpetuity** is to be preferred over on-site (or off-site) planting of saplings. Revegetation on- or off-site is a poor substitute for mature woodland, especially when value as **wildlife habitat** is part of the equation. **It is likely that the loss of oak woodlands cannot be adequately mitigated under the proposals in the ORMP, especially in the absence of Option A retention requirements.**

TREE REPLACEMENT QUESTION

Dudek presents the following:

8. Replacement Tree Sizes:

During its June 22, 2015 hearing, the Board requested further clarification and discussion on the potential for allowing different sized container trees to be planted for mitigation. **Currently, the draft ORMP requires individual native oak trees to be replaced with 15-gallon sized trees** and allows replacement planting for oak woodland mitigation to utilize a variety of smaller sized containers (1-gallon (or equivalent)) or acorns (with a 3:1

Source: 17A, page 9.

I believe this is incorrect. The ORMP does not require “...*individual native oak trees to be replaced with 15-gallon sized trees...*”; on page 13 of the ORMP it states under “*Individual Native Oak Tree and Heritage Tree Impacts*”:

Replacement tree sizes may vary and may include acorn plantings, based on documentation of inch-for-inch replacement consistency included in an oak resources technical report. If acorns are used, they shall be planted at a 3:1 ratio (3 acorns for every 1-inch of trunk diameter removed)

Source: ORMP, page 13.

So my question is, what is actually being proposed here? Apparently, Dudek sees the formula working in this manner:

¹¹ Giusti, G.A. et al (editors). 2005. *A planner's guide for oak woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

Under the tree-for-inch standard, tree planting would not replace the number of diameter inches removed. However, it would require planting of the same number of trees that would have been planted under an inch-for-inch standard that requires use of 15-gallon trees. To compare the two replacement standards, mitigation for removal of one 12-inch tree under the current draft ORMP would require a project applicant to plant 12 15-gallon oak trees; under the tree-for-inch mitigation standard mitigation for the same impact would require planting of 12 trees of any container size, or 36 acorns.

Source: 17A, page 13.

But once again, **efficacy** (and **performance standards**) should dictate oak tree/woodland mitigation, not an arbitrary formula. As previously quoted in this document (Gusti 2005), **“focusing on mitigation plantings based on a tree to seedling ratio is not a sufficient strategy to ensure the viability of oak woodlands.”**

DEFINITION OF OAK WOODLANDS

It would be most appropriate to expand the definition of **“Oak Woodland”** to include not only standing living oaks, “...but also trees of other species, damaged or senescent (aging) trees, a shrubby and herbaceous layer beneath the oak canopy, standing snags, granary trees, and downed woody debris in conjunction with [oaks].”¹² Evaluate existing oak woodlands under these criteria and, if on-site retention is not possible, **mitigate for the loss of all woodland components** through either conservation easement or fee title acquisition in perpetuity to ensure replacement of viable woodland/wildlife habitat. (Napa County, for instance, employs a 60/40 retention in sensitive water drainages: 60% tree cover; 40% shrubby/herbaceous cover.)¹³

DEAD, DYING & DISEASED OAKS

The loss/removal of dead, dying and diseased oaks should be mitigated and not exempt from mitigation requirements. Trees in these states of decline are not “useless,” they are an important element of an oak woodland. They provide nesting sites for cavity nesting birds (as is the case with dead trees or dead tree limbs [snags]), and food storage sites for others (e.g., acorn woodpeckers). These trees should not be excluded from the calculation of oak woodland—or from mitigation requirements—and should be left standing in on-site retained woodland as long as they do not present public safety issues.

In fact, this issue of retention of declining oaks raises important questions:

- **What is important to save? Oak trees alone, or oak trees and their attendant habitat?**
- **Where does value lie? In what people believe is useful/aesthetically pleasing, or in what wildlife finds useful/habitable?**

Answering these questions can help focus the ORMP.

¹² Michael Brandman Associates. 2012. Tuolumne County Biological Resources Review Guide. December 4, 2012; page 32. Available at: <http://www.tuolumnecounty.ca.gov/DocumentCenter/View/204>

¹³ Napa County. 2010. Napa County Voluntary Oak Woodlands Management Plan. October 26, 2010; page 20. Available at: <http://www.countyofnapa.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=4294973990>

REDUCTION OF HERITAGE TREE SIZE REQUIREMENT

I ask that Heritage Oak size be defined as 24" diameter at breast height (dbh), if not for all oak species, for blue oak. Why the necessity? Blue oak are slow growers. For instance, the blue oaks depicted in the following two photographs are **10-16 years old**.¹⁴



The oak seedling at left is 8 to 10 inches tall and **12 to 16** years old. Below is a 6 to 8 inch tall seedling estimated to be **10 to 15** years old.



This cross section was derived from a blue oak that was 4.5 inches dbh. This oak was estimated to be 95 years old.

Photo Source: Don & Ellen Van Dyke

¹⁴ Phillips, R. L., et al. 1996. Blue Oak Seedlings May be Older than they Look. California Agriculture, May-June 1996. Available at: <http://ucanr.edu/repositoryfiles/ca5003p17-69761.pdf>

Large blue oaks are likely **153 to 390 years old** (White, 1966). And, growth is extremely slow *or even ceases* after trees reach **26 inches dbh** (McDonald, 1985).¹⁵ Creating a separate category for blue oaks is not unprecedented; **Tuolumne County** has worked to establish a separate standard for blue oaks under their *old growth oaks* or “**specimen oaks**” category.¹⁶

COMMERCIAL FIREWOOD HARVEST

While **commercial firewood cutting operations** would be required to obtain a permit under the proposed plan, **there is no mention of minimum retention standards**. Shasta and Tehama counties adopted resolutions calling for **30% crown cover retention** following firewood harvest.¹⁷

EXEMPTIONS FOR PERSONAL USE & NON-COMMERCIAL AGRICULTURAL OPERATIONS

“**Personal use**” of oak resources on an owner’s property must be **better defined**, otherwise, “pre-clearing” of a site under the guise of personal use is actually encouraged. Also, the **exemption for non-commercial agricultural “operations”** is **excessive and likely to result in the needless loss of oak woodland**.

ADVISORY BODY

Establishment of an **advisory body** to review mitigation plans, implementation, and efficacy would be valuable. (Ideally this advisory body would make recommendations to appropriate governing bodies, work with land conservation groups, and be responsible for homeowner education (protection of oaks in the landscape).

In closing, I ask:

- **Please retain the Option A retention schedule**. Short of reinstatement, I ask that an **equal-weight analysis of this alternative be performed and included in the draft EIR**.
- Do not allow replacement of oak woodland with **acorn plantings**.
- Establish a **performance standard** for oak mitigations.
- **Define “Oak Woodland”** to include other associated tree and shrub species (understory) to maintain wildlife habitat value; require mitigation to replace these elements as well.
- Revise the **Heritage Oak size requirement**, if not for all oaks, for **blue oaks**.
- Establish a minimum retention standard for commercial firewood cutting operations.
- Define exemptions for personal use and for non-commercial agricultural operations.
- Establish an Advisory Body to review mitigation plans, mitigation implementation, and efficacy (similar to PAWTAC).

¹⁵ Ritter, L.V. Blue Oak Woodland. California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group. Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=67340>

¹⁶ Michael Brandman Associates. 2012. Tuolumne County Biological Resources Review Guide. December 4, 2012; page 38. Available at: <http://www.tuolumnecounty.ca.gov/DocumentCenter/View/204>

¹⁷ Standiford, et al., 1996. Impact of Firewood Harvesting on Hardwood Rangelands Varies with Region. California Agriculture, March-April, 1996. Available at: <http://ucce.ucdavis.edu/files/repositoryfiles/ca5002p7-69759.pdf>



Shawna Purvines <shawna.purvines@edcgov.us>

Revised NOP, Biological Resources Policy Update, public comment

1 message

Ellen Van Dyke <vandyke.5@sbcglobal.net>

Wed, Dec 23, 2015 at 1:53 PM

To: Shawna Purvines <shawna.purvines@edcgov.us>, Jim Mitrisin <edc.cob@edcgov.us>

Cc: Ellen Van Dyke <vandyke.5@sbcglobal.net>

Please include the attached comments with the administrative public record for the Biological Resources Policy Update.

Thank you. -Ellen



Public comment 12.23.15_revised NOP.pdf

735K

Ellen Van Dyke - Public Comment for Biological Resources Revised NOP - 12/23/15

This NOP was revised and released the week of Thanksgiving, with comments due 2 days before Christmas, supposedly by direction of the Board according to the notice. My comments are as follows:

1. The Board did NOT direct this action, and that was misrepresented in the public notice. If CEQA did not require this, and the Board did not direct it, please confirm there are no additional policy changes that the public is not aware of.

From the public notice for the revised NOP:

El Dorado County Long Range Planning News and Updates Update
El Dorado County (eldoradocounty@service.govdelivery.com) Add contact
To: vandyke.5@sbcglobal.net; 11/23/2015 3:34 PM

County of El Dorado
California

You are subscribed to Long Range Planning News and Updates for El Dorado County. This information has recently been updated.

On November 23, 2015, the County released a revised Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the General Plan Biological Resources Policy Update and Oak Resources Management Plan (ORMP).

The revised NOP and revised ORMP are posted on the [project webpage](#).

The revised NOP comment period is 30 days. Written comments must be submitted no later than 5:00 p.m. on Wednesday, December 23, 2015.

The original NOP was released on July 17, 2015. On September 29, 2015, following consideration of comments on the original NOP released on July 17, 2015 and proposed project, the Board of Supervisors approved revisions to the ORMP and directed staff to release a revised NOP and revised draft ORMP.

2. The County website makes it clear that the only changes to this NOP are those that were made in the Sept 29th Board hearing, and that this recirculation is for clarity and to allow public comment. Because this release has been made over the holidays simultaneously with numerous other large EIR's (the TGPA/ZOU Dec. 2nd, Dixon Ranch Dec. 10th, and Central EDH Specific Plan Jan. 19th) it's unlikely much public review has occurred. If actual feedback was the goal, County staff would have given an overwhelmed public a January release date.

CEQA requires the project description to be 'stable'. This revised NOP does not relieve the County of its responsibility to notice the public should any changes be proposed outside the scope of those previously reviewed in the Board hearing Sept 29th. Also, if any true public input is wanted, please extend this review period into January.

3. It is important that comments submitted on the original NOP will be considered in the DEIR, and will be part of the administrative record, as stated the County website and confirmed in email from the Board Clerk.

From the County website:

[I Want To](#) [Government](#) [Doing Business](#) [Living](#) [Visiting](#)
[Email](#) [Print](#)

Planning (LRP)

Home > Government > Community Development > Long Range Planning

General Plan Biological Resources Policy Update

The County is updating the biological resources policies and implementation measures in the General Plan and the Oak Resources Management Plan (ORMP). The project requires the completion of an Environmental Impact Report (EIR).

On **November 23, 2015**, the County released a revised Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for a 30-day public review period. **Since the Board approved several revisions to the proposed project and draft ORMP, the County chose to release this revised NOP to allow for additional public comment. Although not required by CEQA, it was done to be as open and transparent as possible. All comments received on the first NOP will still be considered and will be part of the administrative record. No additional Board workshops are planned prior to the release of the Draft EIR. The original NOP was released on July 17, 2015.**



The revised NOP and revised draft ORMP are posted below. Written comments must be submitted no later than **5:00 p.m. on Wednesday, December 23, 2015.**

Notice of Preparation (NOP) Released November 23, 2015

- [Revised Notice of Preparation \(posted 11-23-2015\)](#)
- [Draft ORMP Revised November 2015 – clean version \(posted 11-23-2015\)](#)
- [Draft ORMP Revised November 2015 – changes tracked \(posted 11-23-2015\)](#)

4. The Option A oak retention standards were eliminated as an alternative at the last minute. It was completely unclear as to why that would be, when the retention of oak habitat is the only effective means of retaining wildlife corridors and connectivity. Please provide a thorough assessment of both sapling and acorn planted mitigation areas, and how long it takes each to establish comparable habitat to the oak woodland removed. Also provide examples of some of these habitats along with their ages/date of planting.

Please thoroughly address the impacts of keeping retention standards versus eliminating them. The proposed Dixon Ranch project is a good example of how incentivizing oak retention will result in significant tree removal. Current retention standards would allow only 15% removal, but the Dixon proposal is planned for phased development in order to take advantage of future incentivizing policy, allow them to remove 44% of the healthy oak trees.

5. Please provide updated maps, clearly legible, with parcel level detail, of the current oak woodland habitat showing connectivity, as well as deer migration trails. Please include areas that have been planted as project mitigations as well. Policy 7.4.2.8 identifies 5 specific habitats to be mapped every three years in order to identify impacts & changes due to new development. Please explain how eliminating this policy, as proposed, will allow the County to provide protection - what will replace this 2004 General Plan mitigation?

Thank you for this opportunity to comment.

Ellen Van Dyke, Rescue resident



Shawna Purvines <shawna.purvines@edcgov.us>

Comments on long range planning - Biological Resources Policy Update

1 message

Karen Mulvany <kmulvany@gmail.com>

Wed, Dec 23, 2015 at 2:59 PM

To: Shawna Purvines <shawna.purvines@edcgov.us>

Hello Shawna,

Attached please find comments on the Biological Resources Policy Update.

Best wishes to you for the Holidays,

Karen Mulvany

 **2015 1223 Biological Resources Comment Mulvany.pdf**
365K

PO Box 768
Lotus, CA 95651
December 23, 2015

Shawna Purvines
Principal Planner
El Dorado County Community Development Agency
Long Range Planning Division
2850 Fairlane Court
Placerville, CA 95667

The following are comments pertaining to the Biological Resources Policy Update.

I am writing to express my appreciation for the revised Fire Safe Activities Exemption proposed for section 2.1.2 of the ORMP. These changes broadened the exemption to include fuel modification outside of defensible space areas as noted *in italics* below:

“2.1.2 Fire Safe Activities Exemption

Actions taken pursuant to an approved Fire Safe Plan for existing structures or in accordance with defensible space maintenance requirements for existing structures in state responsibility areas (SRA) as identified in California Public Resources Code (PRC) Section 4291 (actions associated with Fire Safe Plans are exempted from the mitigation requirements included in this ORMP. Oak resources impacts for initial defensible space areas establishment for new or proposed development are not exempt); from the mitigation requirements included in this ORMP. After establishment of defensible space for new development, maintenance of that defensible space thereafter is exempt from the mitigation requirements included in this ORMP.

In addition, fuel modification activities outside of defensible space areas that are associated with fuel breaks, corridors, or easements intended to slow or stop wildfire spread, ensure the safety of emergency fire equipment and personnel, allow evacuation of civilians, provide a point of attack or defense for firefighters during a wildland fire, and/or prevent the movement of a wildfire from a structure to the vegetated landscape, where no grading permit or building permit is applicable, are exempted from the mitigation requirements included in this ORMP.”

In particular, these very important exemptions ensure that county residents can continue to reduce fire fuels along driveways for safe evacuation of residents and access by emergency fire equipment and personnel.

However, the same exemptions are missing in the exemptions for IBC parcels, and must be included there as well. Policy 7.4.2.9, as currently revised, does not reasonably allow homeowners to clear around existing driveways, because it does not include the same exemptions that are now proposed for the ORMP. The existing inadequate Fire Safety IBC exemption is noted in the italicized language below:

“Policy 7.4.2.9 The Important Biological Corridor (-IBC) overlay shall apply to lands identified as having high wildlife habitat values because of extent, habitat function, connectivity, and other factors. Lands located within the overlay district shall be subject to the following provisions except that where the overlay is applied to lands that are also subject to the Agricultural District (-A) overlay or that are within the

Agricultural Lands (AL) designation, the land use restrictions associated with the -IBC policies will not apply to the extent that the agricultural practices do not interfere with the purposes of the -IBC overlay. :

- In order to evaluate project-specific compatibility with the -IBC overlay, Applicants for discretionary projects (and applicants for ministerial projects within the Weber Creek canyon IBC) shall be required to provide to the County a biological resources technical report (meeting the requirements identified in Section A of Policy 7.4.2.8 above). The site-specific biological resources technical report will determine the presence of special-status species or habitat for such species (as defined in Section B of Policy 7.4.2.8 above) that may be affected by a proposed project as well as the presence of wildlife corridors particularly those used by large mammals such as mountain lion, bobcat, mule deer, American black bear, and coyote. Properties within the -IBC overlay that are found to support wildlife movement shall provide mitigation to ensure there is no net loss of wildlife movement function and value for special-status species, as well as large mammals such as mountain lion, bobcat, mule deer, American black bear, and coyote. Mitigation measures may include land use siting and design tools.

Wildland Fire Safe measures (actions conducted in accordance with an approved Fire Safe Plan for existing structures or defensible space maintenance for existing structures consistent with California Public Resources Code Section 4291) are exempt from this policy, except that Fire Safe measures will be designed insofar as possible to be consistent with the objectives of the Important Biological Corridor. Wildland Fire Safe measures for proposed projects are not exempt from this policy.”

Note that **State Fire Safe defensible space measures do not address clearing around driveways**. In every Fire Safe Council that I have attended where fire safety personnel delivered presentations, we were consistently told that **emergency fire personnel will not consider entering a property unless the driveway is appropriately cleared**. The right to clear around driveways is an especially important consideration for IBC property owners with disabled residents, as is the case with our family. We need to be able to assure safe passage for our family and for emergency fire personnel.

I would have raised this earlier, but the revised ORMP exemption language was only made available 30 days ago. Please modify the IBC exemption above to include the same exemptions proposed for the ORMP.

Thank you,

Karen Mulvany



Shawna Purvines <shawna.purvines@edcgov.us>

Error Correction for December 23, 2015 Comments on Revised NOP for Bio Resources/ORMP

1 message

Cheryl <Cheryl.FMR@comcast.net>

Sun, Dec 27, 2015 at 4:32 PM

To: Shawna Purvines <shawna.purvines@edcgov.us>

Hi Shawna--

I reviewed my comment paper for the **revised NOP** for the **Biological Resources Policy Update/Oak Resources Management Plan** (dated December 23, 2015) and found an error on **page 6**.

I've attached:

- the corrected page (**first file**);
- the **full comment paper with the correction inserted along with the original text (second file)**; and
- the **full comment paper with the correction in place of the original text (third file)**.

Please include this correction with my submitted documents. (Your choice which file is used, obviously—whatever is appropriate.) If you require something other than these files to appropriately register a correction, please let me know.

Please confirm receipt of this corrected page/document.

Thank you—
Cheryl Langley

3 attachments

**Corrected Page.pdf**

214K

**Revised_NOP_Comments.Dec 23, 2015.Error_Correction.pdf**

993K

**Revised_NOP_Comments.Dec 23, 2015.Error_Correction_Clean.pdf**

993K

Report findings are as follows:

For **blue oak woodland** (all owners):

- 509 acres with small, moderate, large woodland decrease (1.55% decrease)
 - 194 acres with small, moderate, large woodland increase (0.59% increase)
- 32,878 acres total
Net decrease of 315 acres or 0.96%

For **blue oak/foothill pine woodland** (all owners):

- 119 acres with small, moderate, large woodland decrease (0.66% decrease)
 - 95 acres with small, moderate, large woodland increase (0.53% increase)
 - 17,995 acres total
- Net decrease of 24 acres or 0.13%**

TOTAL for blue oak and blue oak/foothill pine woodlands combined: 0.67% decrease
1.09% decrease

Table C-14 Acres of Classified Change in El Dorado County by Hardwood Cover Type and Owner Class

	National Forest		Other Public		Private		All Owners	
	Acres	%	Acres	%	Acres	%	Acres	%
Blue Oak Woodland								
LDVC	0	0	0	0	17	0	17	0
MDVC	0	0	4	0	82	0	86	0
SDVC	5	6	11	1	390	1	406	1
NCH	71	93	1,576	97	30,386	97	32,033	97
SIVC	0	1	15	1	155	0	170	1
MIVC	0	0	0	0	22	0	22	0
LIVC	0	0	0	0	2	0	2	0
NVG	0	0	23	1	119	0	142	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	77	100	1,628	100	31,173	100	32,878	100
Blue Oak / Foothill Pine								
LDVC	0	0	0	0	3	0	3	0
MDVC	0	0	1	0	23	0	24	0
SDVC	0	4	3	0	89	1	92	1
NCH	4	82	1,097	99	16,637	99	17,738	99
SIVC	1	14	4	0	76	0	81	0
MIVC	0	0	0	0	14	0	14	0
LIVC	0	0	0	0	0	0	0	0
NVG	0	0	9	1	34	0	43	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	5	100	1,113	100	16,877	100	17,995	100

LDVC – large decrease in vegetation cover; MDVC – moderate decrease in vegetation cover; SDVC – small decrease in vegetation cover; NCH – little to no change in vegetation cover; SIVC – small increase in vegetation cover; MIVC – moderate increase in vegetation cover; LIVC – large increase in vegetation cover; NVG – non-vegetation change; CLD/SHA – cloud or shadow
Refer to Appendix D for WHR type descriptions.

Source: USDA Forest Service & California Department of Forestry and Fire Protection, *Monitoring Land Cover Changes in California; California Land Cover Mapping and Monitoring Program.*

Cheryl Langley
5010 Mother Lode Drive
Shingle Springs, CA 95682

Ms. Shawna Purvines, Principal Planner
EDC Development Agency, Long Range Planning Division
2850 Fairlane Court
Placerville, CA 95667

December 23, 2015

RE: Revised Notice of Preparation for the Biological Resources Policies Update & Oak Resources Management Plan

Ms. Purvines:

Thank you for the opportunity to comment on the revised Biological Resources Policy Update (**BRPU**) and Oak Resources Management Plan (**ORMP**).

In addition to comments submitted for this revised NOP, I have included comments submitted for the initial NOP (resubmitted here), and comments provided to the Board of Supervisors (BOS) at the September 29, 2015 meeting. (Specifically, I include the latter set of comments to support/add to discussion within this document.)

Based on these previously submitted comments, and other materials, I have the following requests for information to be included in the draft Environmental Impact Report (dEIR) for the BRPU/ORMP.

Retention of Option A

After reviewing the revisions to 2004 General Plan policies, the proposed ORMP, the BRPU, and Dudek memorandum (17A), it is clear that these policy revisions emphasize making oak mitigation the least onerous possible. This is good news for project applicants, but mitigation measures *must be effective*. The elimination of the Integrated Natural Resources Management Plan (INRMP), the disbanding of the Plant and Wildlife Technical Advisory Committee (PAWTAC), the elimination of Option A (oak retention standards), the reduction of tree sizes for mitigation plantings (from 15-gallon to acorns), the expansion of the number and kind of projects exempt from oak mitigation (including County road improvement projects) all signal a desire to make mitigation for the loss of oak woodland as “simple” and as affordable as possible, both for the County (which has struggled with oak mitigation projects), and for developers.

But this asset—oak woodland—*is* worth protecting. And, retention of **Option A requirements in no way impedes development**—but it **does** serve to make certain a project has been assessed to determine if there is a way **the developer can meet project objectives while at the same time retain the maximum number of oaks possible on-site**. If it is *demonstrated* a project cannot meet fruition *and* Option A oak retention standards, Option B “kicks in,” and other on- or off-site options for oak mitigation become available. **Why is this process—project evaluation as it relates to oak retention—deemed obstructive or impractical?** Aren’t our oak resources worth a serious project evaluation?

Members of the public have *continually* requested Option A retention standards be retained, and requested an equal-weight (co-equal) project alternatives analysis. Such an analysis would provide the BOS with the information necessary to make an informed decision and possibly approve a project alternative that could effectively reduce or avoid significant impact to oak resources. Without such an analysis, it is doubtful this project alternative will be evaluated to the extent necessary to make such a

determination. And, importantly, the BOS—in their July 22, 2015 meeting—*agreed* it was important to evaluate oak retention standards. But without an equal-weight analysis, a meaningful project alternative will not be prepared. Thus—by default—retention of Option A has been roundly rejected before a complete analysis has been conducted. In effect, **it has been predetermined that the County is “not going there.” This is contrary to the purpose and spirit of California Environmental Quality Act (CEQA) analysis.** And it sends message to the public that *“your participation in the process is not welcome here.”*

This is disturbing, and perhaps more so because the resource at stake cannot be easily replaced. And, while BOS members are charged with making decisions that will impact this resource, at least some are not conversant in biological principles, and Dudek does not correct misconceptions when BOS members make statements that lay bare their lack of understanding. While it may at times prove uncomfortable to correct a BOS member during public discussions, the consultant is there to provide expertise. When they do not, this is a failure of their responsibility to the BOS, and to the public, and serves to undermine their own credibility. And most importantly, it is a disservice to the resource being impacted.

The result? BOS members vote—make important decisions with long-term implications—without understanding basic biological or legal principles, or the seriousness and longevity of their decisions. And, while it is not the responsibility of the *public* to educate the BOS, that is where the task has come to rest—in the three minutes granted to any given individual—during meeting opportunities that County staff has purposefully limited to meetings during the workweek days/hours that fundamentally **limit public participation** in this **expedited** process:

NOTE: *“In recognition of the Board’s desire to expedite completion of this process, this approach would potentially limit public input to focused Planning Commission and Board meetings. The TGPA/ZOU process has used this approach to receive public comment rather than the public outreach program currently identified for input on revisions to the policies.”*

(Source: Document 7B under Meeting Details, PROCESS APPROACHES FOR THE OAK WOODLAND MANAGEMENT PLAN.)

This expedited process—based on a request by development interests for an “**interim policy**”—was no more than suggested than taken up by Long Range Planning’s Ms. Purvine who said—at the same meeting at which the request was launched—*“I’d actually like to look into that a little bit further and bring back a discussion on that.”*¹ That initiated a cascade of activity that evolved into an *expedited* BRPU and ORMP. But repeated requests by members of the public to evaluate the retention of Option A have fallen on deaf ears.

Retention of Option A was vilified by suggesting it would impose constraints on economic development, and may even constitute “property taking” by rendering some properties undevelopable.² But no such results could come to pass with implementation of Option B, whose development is clearly one of the primary thrusts of this ORMP. In this instance, Option A would simply provide a “first screening” of projects; it would not be the “last word” on project development or on a project’s ultimate impact on oak woodlands. But retention of Option A *could* serve to protect woodlands when a project *could* meet fruition while accommodating resident oaks.

¹ **Source of Quote:** Planning Commission meeting of Aug 15, 2014; TGPA/ZOU meeting RE: Biological Resources.

² Dudek. 2015. Memorandum from Kathy Spence-Wells to Shawna Purvines, September 18, 2015; 17A, page 8.

Request for Information

- I request a co-equal analysis of a project alternative based on retaining Option A (oak retention standards).
- In the past, Option A was considered restrictive to development interests largely because Option B *was not available*. With the availability of Option B (contingent upon approval of this ORMP), explain why Option A is not being evaluated in a co-equal analysis, especially in light of CEQA guidelines that state EIRs must describe alternatives “...which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...”(14 CCR 1526.6[a]). (In fact, there is probably no other alternative—other than the **No Project** alternative—that could reduce the project’s significant impacts more than this alternative; it is a viable project alternative that deserves co-equal analysis.)

Oak Regeneration as a Mitigation Element

Because this notion of oak regeneration as a viable/plausible mitigation element seems to be persisting, it is necessary to expand on this topic.

First of all—this is not mitigation. Saying something will simply replace itself post-loss contradicts the meaning/purpose of mitigation. To identify *non-action* in this instance as mitigation defies logic, and it also defies scientific study on the topic. It is simply not credible. Even if this approach were *legally* defensible, **it is not supported by fact**.

I have cited numerous studies that discuss blue oak (*Quercus douglasii*) regeneration as inadequate to support the long-term survival of this woodland species in numerous areas of California (see discussion/citations in comments on the initial NOP, and in the September 29, 2015 comments to the BOS; reference materials are included for both documents [on disk] with this submitted material). These documents contain citations that describe the problems with blue oak regeneration (the species that will be most impacted [and replanted] as a result of development projects in EDC).

I add to this discussion on oak regeneration here. In a study by Swiecki, et al.,³ an in-depth evaluation was undertaken to assess the status of blue oak regeneration and determine how environmental and management factors influence blue oak sapling recruitment. This study was conducted in the counties listed in the table below on study sites of at least 150 acres in size dominated by blue oak

County	Regeneration Adequate to Maintain Blue Oak Woodland?		Comments
	Yes	No	
Napa		X	This study site had the highest number of blue oak saplings but there were fewer plots with an increase in blue oak density than a decrease in density; there were few small seedlings.
Glenn		X	No blue oak saplings were present anywhere in the entire study site

³ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

San Benito	X		The blue oak stand at this site appears to be viable; regeneration appears to be moderate—more plots showed an increase in blue oak density than a decrease
Yuba	X		More plots showed an increase in blue oak density than a decrease; about a quarter of the saplings originated as stump sprouts in an area where blue oaks were cut in 1989; 7 % of the sprout-oriented saplings were dead; mortality was higher among seedling-origin saplings (mesic site)
Mendocino		X	No blue oak saplings were present anywhere in the entire study area; a few seedlings were observed
Tulare		X	Recruitment was sparse; current levels of recruitment are insufficient to support offset mortality
Tehama		X	Blue oak saplings were uncommon, as were seedlings; sapling recruitment was inadequate to maintain current stand densities
Amador		X	Blue oak saplings and seedlings were uncommon; very little regeneration has occurred since the Gold Rush; current recruitment is insufficient to maintain stand; conversion to grassland appears inevitable
San Luis Obispo		X	Recruitment is insufficient to offset mortality
Monterey		X	Recruitment is insufficient to offset mortality
Madera		X	No blue oak saplings were seen in the study area; a few small seedlings were seen; there was no regeneration of woody species in the study area
Santa Clara		X	No blue oak saplings were seen in the study area but some seedlings were seen; this stand had the highest mortality of those studied
Contra Costa		X	Recruitment lags far behind mortality at this study site
Tulare		X	Mortality was far in excess of sapling recruitment

Tuolumne	Variable, but ultimately described as a site with more plots with “net loss” than “net gain”	Stump sprout-origin saplings outnumbered those of seedling origin (sprouts from previous tree removal) at this site (75% of saplings were of sprout origin); virtually the entire stand appeared to be second growth; a few seedlings were seen, particularly along creeks; although regeneration had apparently been successful in some portions of the site, blue oak had been eliminated from some large areas and no recolonization of these large clearings has occurred
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Swiecki study conclusions include:

- *“...it appears that most locations are losing blue oak density at the stand level due to unreplaced mortality.”*
- *“These observations support the assertion that current recruitment is inadequate to maintain existing tree populations in at least some areas.”*
- *“...the conversion of blue oak woodland to grassland is not likely to be easily reversed.”*
- *“...the extent of blue oak woodlands will continue to decrease due to unreplaced mortality...”*
- *“Because our study locations are distributed throughout the range of blue oak, we are confident that the trends we observed can be generalized over much of the range of blue oak.”*
- *“In many stands, sapling blue oaks are absent or rare.”*
- *“In most stands, the percentage of the stand area which is likely to show a decrease in blue oak density and canopy cover is greater than the percentage that may show an increase in density and canopy cover.”*

Blue Oak Regeneration in EDC

During the various meetings and workshops on the BRPU/ORMP, some individuals have brought up the issue of oak regeneration—presumably in “defense” of oak removal—and have stated—*anecdotally*—that there are more trees in EDC now than in the past. There have also been figures brought up (undocumented) to “substantiate” gains in EDC oak woodland.

The most current study I was able to find to quantify blue oak woodlands in EDC was presented in the report *“Monitoring Land Cover Changes in California.”*⁴ (**NOTE:** The northeastern California project area covers Amador, Butte, **El Dorado**, Lassen, Modoc, Nevada, Placer, Plumas, Sierra, Sutter, Yolo and Yuba counties.)

⁴ USDA Forest Service & California Department of Forestry and Fire Protection Fire and Resource Assessment Program. 2002. *Monitoring Land Cover Changes in California; California Land Cover Mapping and Monitoring Program. Northeastern California Project Area, January, 2002.*

Report findings are as follows:

For **blue oak woodland** (all owners):

- 509 acres with small, moderate, large woodland decrease (1.55% decrease)
 - 194 acres with small, moderate, large woodland increase (0.59% increase)
- 32,878 acres total
Net decrease of 315 acres or 0.96%

For **blue oak/foothill pine woodland** (all owners):

- 119 acres with small, moderate, large woodland decrease (0.66% decrease)
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- Net decrease of 24 acres or 0.13%**

0.67% decrease

TOTAL for blue oak and blue oak/foothill pine woodlands combined: 1.09% decrease

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MIVC	0	0	0	0	22	0	22	0
LIVC	0	0	0	0	2	0	2	0
NVG	0	0	23	1	119	0	142	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	77	100	1,628	100	31,173	100	32,878	100
Blue Oak / Foothill Pine								
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MDVC	0	0	1	0	23	0	24	0
SDVC	0	4	3	0	89	1	92	1
NCH	4	82	1,097	99	16,637	99	17,738	99
SIVC	1	14	4	0	76	0	81	0
MIVC	0	0	0	0	14	0	14	0
LIVC	0	0	0	0	0	0	0	0
NVG	0	0	9	1	34	0	43	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	5	100	1,113	100	16,877	100	17,995	100

LDVC – large decrease in vegetation cover; MDVC – moderate decrease in vegetation cover; SDVC – small decrease in vegetation cover; NCH – little to no change in vegetation cover; SIVC – small increase in vegetation cover; MIVC – moderate increase in vegetation cover; LIVC – large increase in vegetation cover; NVG – non-vegetation change; CLD/SHA – cloud or shadow
Refer to Appendix D for WHR type descriptions.

Source: USDA Forest Service & California Department of Forestry and Fire Protection, *Monitoring Land Cover Changes in California; California Land Cover Mapping and Monitoring Program.*

McCreary⁵ also weights in on this topic of regeneration.

For nearly a century, there has been concern that several of California's 20 native oak species are not regenerating adequately (Jepson 1910). Such concern was partially responsible for the establishment of the Integrated Hardwood Range Management Program (IHRMP) in 1986, a cooperative effort between the University of California, the California Department of Forestry and Fire Protection, and the California Department of Fish and Game to promote oak woodland conservation (Standiford and Bartolome 1997). Evidence indicating that there is an "oak regeneration problem" in California has been based largely on observations of a paucity of young seedlings and saplings in the understories of existing oak stands. Describing the foothill woodland in the Carmel Valley, White (1966) stated that "A prevailing characteristic . . . is the lack of reproduction . . . with very few seedlings." Bartolome and others (1987) also concluded that "current establishment appears insufficient to maintain current stand structure for some sites." And Swiecki and Bernhardt (1998) reported that of 15 blue oak locations evaluated throughout the State, 13 were losing stand density at the stand level due to unreplaced mortality.

The species that are having the most difficulty regenerating are all members of the white oak sub-genera of *Quercus*, and include blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), and Engelmann oak (*Q. engelmannii*) (Muick and Bartolome 1987; Bolsinger 1988). Blue and valley oak are endemic to the State, while Engelmann oak, which actually has a far narrower distribution range than the other 2 species, does extend into Baja California (Griffin and Critchfield 1972). Concern about poor

Request for Information:

- Please include in the NOP a discussion of why oak regeneration is being evaluated as a possible "mitigation" element. Discuss what is to be accomplished by this approach—if accepted—and who will benefit. Discuss the impact on oak woodland mitigation if this approach is implemented.
- Describe the science that *supports* the notion that relying on oak regeneration is a plausible approach to impact mitigation. Also provide scientific studies that *refute* this approach to impact mitigation.
- Identify other California counties that have used—or entertained the idea of using—oak regeneration to "*offset development impacts to oak woodlands.*" If other counties have used this approach, identify those counties and present their rationale for using this approach, and if this approach was actually pursued, the outcome of that decision (impact on oak resources).
- Describe what makes this approach viable under CEQA mitigation guidelines.
- Keeping in mind that blue oak is the species that will be most impacted by development projects—and that it is the species that will make up the bulk of mitigation efforts—discuss how its declining ability to regenerate can possibly be used as a mitigation element.
- From a workshop PowerPoint presentation (Document 5D), mitigation is identified as "*strategies to reduce impacts.*" "Reducing impacts" implies an active process. How does relying on a *natural process* (especially one in decline), meet this criterion?

Use of Acorns for Oak Woodland Replacement

The poor natural regeneration of blue oak woodlands means the viability of acorn plantings, too, will be problematic, making replacement of woodlands via the planting of acorns a fragile, ineffective strategy. According to A Planner's Guide to Oak Woodlands:⁶

...the same factors that prevent or limit **natural regeneration** can also take a heavy toll on artificial plantings. **To be successful, relatively intensive site preparation, maintenance, and protection must usually be provided for several years.**

⁵ McCreary, D. and J. Tecklin. 2005. *Restoring Native California Oaks on Grazed Rangelands*. USDA Forest Service Proceedings RMRS-P-35.

⁶ Giusti, G.A. et al (editors). 2005. *A planner's guide for oak woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

Thus, while it may be tempting to think planting acorns will provide a low-cost alternative to container-planting, acorns are prone to failure and could ultimately cost project developers *more* than container-planting. The excessive replacement of dying seedlings, the necessity for irrigation, weed and rodent control, and tree shelter or fencing placement (and replacement) means in-field acorn propagation will be costly and burdensome.

Studies have shown that mortality from direct seeding of acorns is high. According to Young,⁷ “Approximately 40% of the field-planted acorns disappeared in the first two months after planting, probably taken by ground squirrels or other seed predators.” And, according to Swiecke:⁸

A blue oak seedling observation plot was established just outside the study area in 1988 (Swiecki et al 1990), but was destroyed by ground squirrels before permanent markers could be installed. A second seedling plot located about 3 km south of the study area was resurveyed in July 1993, at which time only 6.5% of the seedlings tagged five years earlier were still surviving.

Not only is acorn planting fraught with difficulties and failure, the results—even under the best of circumstances—will be dismal. Blue oaks are slow growers. Harvey⁹ showed that many of the blue oak saplings less than four feet tall were between 40 and 100 years old. (**NOTE:** Both sets of comments submitted previously [August 17, 2015; September 29, 2015] include a discussion of blue oak growth rates and additional studies/citations, which see.)

Request for Information

- If acorn planting is to be pursued as a mitigation element under this ORMP, provide specific details/requirements for planting that include specific site treatment, monitoring, replacement schedules, equipment, and measures that will be employed to ensure success.
- Describe (and establish) a **performance standard** for acorn *and* sapling (container) plantings. That is, commit to a canopy coverage standard to be attained within X number of years (say 5 years, for example).

⁷ Young, T.P. and R.Y. Evans. 2002. *Initial Mortality and Root and Shoot Growth of Oak Seedlings Planted as Seeds and as Container Stock Under Different Irrigation Regimes*. Department of Environmental Horticulture, University of California, Davis; Final Report.

⁸ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

⁹ L.E Harvey. 1989. *Spatial and Temporal Dynamics of a Blue Oak Woodland*. Ph.D. Thesis, University of California, Santa Barbara.

Cattle Grazing on Conservation Easements

From the draft revised ORMP, November, 2015; Page 24:

4.2 Management of PCAs

Existing oak woodlands within the PCAs identified as mitigation for project impacts, whether on or off a project site, will be protected from further development through a conservation easement granted to the County or a land conservation group approved by the County or by acquisition in fee title by a land conservation group. Management activities would be conducted by land conservation organizations and may include, but are not limited to, one or more of the following activities, as determined appropriate and/or necessary through monitoring of the sites: inspections, biological surveys, fuels treatment to reduce risk of wildfire and to improve habitat, weed control, database management, and mapping. Agricultural use (i.e., grazing) shall be allowed in conserved oak woodlands as long as the activity occurred prior to the establishment of the conservation easement, the spatial extent of the agricultural use is not expanded on conserved lands, and the agricultural use does not involve active tree harvest or removal (e.g., fuelwood operations, land clearing for crop planting, etc.).

Livestock grazing can have serious implications for oak woodlands and wildlife. For instance, research conducted by Swiecki¹⁰ shows:

- Oak saplings are unlikely to be found in areas with high chronic levels of livestock browsing.
- In areas subject to at least moderate browsing, the majority of oaks are shorter than the browse line and show evidence of chronic browsing damage.
- Seedlings and saplings were more common in ungrazed natural areas than in grazed pastures.

To this end, Swiecki suggests:

- Alternative grazing regimes that reduce the duration and intensity of browsing pressure may help to reduce the negative impact of browsing on oak resources.
- In any gap-creating event (such as oak harvest or wildfire), livestock use should be minimized until oaks have grown taller than the browse line.

And McCreary¹¹ weighs in on this issue, too:

¹⁰ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

¹¹ McCreary, D. and J. Tecklin. 2005. *Restoring Native California Oaks on Grazed Rangelands*. USDA Forest Service Proceedings RMRS-P-35.

Timing of Grazing Study

In 1989, a UC Davis graduate student named Lillian Hall initiated an experiment at the SFREC to evaluate how planted oak seedlings fare in pastures where cattle have access (Hall and others 1992). She planted 1-year-old blue oak seedlings in pastures grazed by cattle at different stock intensities, and included a control where cattle were excluded. She found that damage to seedlings was significantly less in the winter and fall when the deciduous oaks did not have foliage and were apparently less appetizing to the cattle. Cattle did not seem to seek out or prefer young oaks. However, in the spring green-forage season, they appeared drawn to clover patches near seedlings and browsed the oaks in the process. Heavy damage to seedlings in the summer at all cattle densities probably resulted from the fact that the young oaks were often the only green vegetation in the grazed pastures, and were therefore more palatable than the dry annual grasses. Within each season, total damage also increased with increasing stock density.

While some researchers suggest livestock management techniques can *lessen* the impact of grazing in oak woodlands, it is clear that **the best approach is to not graze these areas** unless absolutely necessary. For instance—speaking in terms of “real world” observation—while only spring grazing is done on the property north of Highway 50 by the Scott Road exit (in Sacramento County), it is clear that the blue oak woodland on these pastures is in decline; oak regeneration is largely absent.

Conservation easements should be managed for wildlife and woodlands—that is the purpose of a conservation easement. But if grazing *is* allowed on conservation easements, management (protection) of young oak trees must be actively performed. These protective practices may make cattle grazing on protected lands impractical/costly.

Request for Information

- Describe the grazing regime (management practices) that will/will not be allowed on conservation lands. For instance, will grazing be restricted to certain times of the year?
- Discuss/disclose the following: If the livestock owner is also the land owner, will this person receive a property tax reduction for the land being established as a conservation easement? Or, will they be charged a fee for use of a conservation easement for grazing purposes? And, if a fee is charged, will it go into a fund to be utilized for conservation easement acquisition?
- Similarly, discuss the situation described in the bullet above in the case where the livestock owner is *not* the landowner. Will “land rental fees” be levied, and if so how much, and how will the fees be used?

Discuss the following:

- How might the presence of grazing livestock on conservation easements impact wildlife and wildlife habitat?
- How might the presence of grazing livestock impact the oak woodland (specifically survival of young oaks)?
- How might the presence of grazing livestock impact water features, and the wildlife/ecology of those water features (e.g., vernal pools, seasonal creeks, drainages, ponds, etc.)

- If grazing is to be allowed on conservation easements, provide examples of EDC properties where grazing has occurred and oak regeneration is “active” (successful). Identify the amount of time grazing has occurred on the property (both in terms of years grazed and duration of grazing per season), the size and makeup of grazing herds (cattle, sheep, other), and the age classes and species of the oaks present.

Impact to Riparian Zones / Riparian Setbacks

While Long Range Planning staff touted the establishment of *permanent* riparian setback under the Targeted General Plan Amendment/Zoning Ordinance Update (TGPA/ZOU), it was not made clear that these setbacks were being *reduced* under the TGPA/ZOU. The BRPU had established the following interim guidelines:

From the BRPU, page 13D, page 10:

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

The TGPA/ZOU reduced these interim guidelines to the following:

Title 130, Zoning Ordinance; Article 3, page 11:

Ministerial development, including single family dwellings and accessory structures, shall be set back a distance of 25 feet from any intermittent stream, wetland or sensitive riparian habitat, or a distance of 50 feet from any perennial lake, river or stream. This standardized setback may be reduced, or grading within the setback may be allowed, if a biological resource evaluation is prepared which indicates that a reduced setback would be sufficient to protect the resources.

All discretionary development which has the potential to impact wetlands or sensitive riparian habitat shall require a biological resource evaluation to establish the area of avoidance and any buffers or setbacks required to reduce the impacts to a less than significant level. Where all impacts are not reasonably avoided, the biological resource evaluation shall identify mitigation measures that may be employed to reduce the significant effects. These mitigation measures may include the requirement for compliance with the mitigation requirements of a state or federal permit, if required for the proposed development activity.

Any setback or buffer required by this subsection shall be measured from the ordinary high water mark of a river, perennial or intermittent stream, and the ordinary high water mark or spillway elevation of a lake or reservoir.

Because mitigation elements related to biological resources are the topic of this BRPU update, it is only reasonable that riparian setbacks should be evaluated, discussed, and developed under this BRPU process, not under the TGPA/ZOU process alone.

From the BRPU, 13C, page 35:

MEASURE CO-O

Prepare and adopt a riparian setback ordinance. The ordinance, which shall be incorporated into the Zoning Code, should address mitigation standards, including permanent protection mechanisms for protected areas, and exceptions to the setback requirements. The ordinance shall be applied to riparian areas associated with any surface water feature (i.e., rivers, streams, lakes, ponds, and wetlands) and should be prepared in coordination with Measure CO-B. [Policy 7.4.2.5]

When riparian setbacks were established under the TGPA/ZOU, it was clear that there was no scientific basis for setback size, and therefore no valid analysis of the impact of the reduction. This change in riparian setback distances needs to be evaluated within this dEIR (along with other numerous impacts to biological resources that are the result of TGPA/ZOU-based revisions.) Importantly—based on the importance of riparian systems—and the significant impact of the setback revision—setback revisions and/or additional mitigation measures are in order, and could be develop under this BRPU process.

For instance, it has been established that development and encroachment setbacks should include the entire *active floodplain*¹² of a creek or river to adequately preserve stream banks and associated riparian vegetation. And, while there is no single, abrupt, well-documented threshold setback width that would provide maximum benefits for all riparian functions (because riparian functions have different mechanistic bases and are affected by different site attributes), it is well known that most riparian functions would be affected if setbacks included a buffer of less than **66 feet beyond the active floodplain**.¹³ Consequently, narrower widths are not adequate for long-term conservation of riparian functions. (This conclusion is based on a review of the scientific literature.) A recent study of riparian buffers states that for first and second order stream segments¹⁴ **a minimum riparian setback that includes the entire active floodplain plus a buffer of 98 feet of adjacent land (on each side of the active floodplain)** is required; along higher order stream segments (i.e., third order and greater), and along those in or adjacent to conservation lands, **a setback of at least 328 feet—and preferably 656 feet from the active floodplain** is necessary to conserve stream and riparian ecosystem functions, including most wildlife habitat functions. Although these setbacks may seem large, even these setback distances would not be sufficient for the conservation of many wildlife species with large area requirements. (For instance, some species that live in riparian areas must move to other areas to reproduce, as is the case with pond turtles.)

¹² *Active floodplain* means the geomorphic surface adjacent to the stream channel that is typically inundated on a regular basis (i.e., a recurrence interval of about 2–10 years or less). It is the most extensive low depositional surface, typically covered with fine over-bank deposits, although gravel bar deposits may occur along some streams.

¹³ Jones & Stokes. *Setback recommendations to conserve riparian areas and streams in western Placer County*. 2005. February, 2005.

¹⁴ *First order* stream segments are upstream segments that have no tributaries, and *second order* segments are formed by the junction of first order segments.

The problem is simple: land uses (including agricultural uses) within recommended buffer setbacks preclude the effectiveness of setbacks.¹⁵ Conversion of large portions of a watershed to developed and agricultural land uses is associated with broad negative effects on riparian and stream ecosystems (Findlay and Houlihan 1996, Roth et al 1996, Booth and Jackson 1997, Magee et al. 1999, Doyle et al. 2000, Paul and Meyer 2001, Allan 2004, Hatt et al. 2004, Pellet et al. 2004, Wissmar et al 2004, and Jones & Stokes 2005).¹⁶

What Some Relevant Science “Says” About Stream/Riparian Setbacks

The following information was taken from Jones & Stokes, 2005.¹⁷

- Development and encroachment setbacks should include the entire *active floodplain* of a creek or river to adequately preserve stream banks and associated riparian vegetation. Because active floodplain boundaries are more stable and measurable than stream banks or the boundaries of riparian vegetation (that are dynamic and change with time), the boundary of the active floodplain—which can be readily delineated—is a preferable basis for determining setback widths rather than edges of stream banks, stream centerlines (or thalwegs), or any boundaries based exclusively on channel widths or vegetation.
- There is no single, abrupt, well-documented threshold width setback that would provide maximum benefits for all riparian functions. Rather, because riparian functions have different mechanistic bases, they are affected by different site attributes, and the relationship between setback widths and reduction of human effects differs among riparian functions. Nevertheless, several defensible arguments can be constructed regarding the appropriate width for a buffer to include within riparian setbacks. First, most riparian functions would be affected if setbacks included a buffer of less than 20 m (66 feet) beyond the active floodplain; consequently, narrower widths are not adequate for long-term conservation of riparian functions. This conclusion is based largely on a review of the scientific literature. In addition, stream incision and a discontinuous cover of woody plants reduces the benefits of narrow buffers. This variability in vegetation extent and structure reduces the effectiveness of narrow setbacks.

Recommendations for riparian setbacks are presented below:

- Apply to first and second order stream segments a minimum riparian setback that includes the entire active floodplain plus a buffer of 30 m (98 feet) of adjacent land (on each side of the active floodplain), or the distance to the nearest ridgeline or watershed boundary, whichever is less. (First order stream segments are upstream segments that have no tributaries, and second order segments are formed by the junction of first order segments.) Though the purpose of this setback would be to conserve stream and riparian functions; it would not be sufficient for the conservation of many wildlife species with large area requirements.
- Along higher order stream segments (i.e., third order and greater), and along lower order segments at selected sites (e.g., those in or adjacent to conservation lands), apply a setback of at least 100 m (328 ft), and preferably 150 m (656 ft), from the active floodplain for the purpose of conserving and enhancing stream and riparian ecosystem functions including most wildlife habitat functions. Along these larger stream segments, floodplains and riparian areas are more extensive, continuous, and structurally diverse than for lower order stream segments (e.g., first

¹⁵ Jones & Stokes. *Setback Recommendations to Conserve Riparian Areas and Streams in Western Placer County*. 2005. February, 2005.

¹⁶ *Ibid.*

¹⁷ *Ibid.*

and second order). These areas constitute corridors connecting a watershed's lower order stream segments, and, at a watershed scale, the riparian areas of these higher order segments contain particularly important habitats for most riparian-associated species.

- The conservation of wildlife habitat functions within these areas may be necessary for the persistence of their populations. For this reason, a wider setback, sufficient for the retention of wildlife habitat functions, is recommended along stream segments. Recommendations would result in a total setback width ranging from slightly more than 30 m (98 feet) on most first- and second order stream segments to over 150-200 m (492-656 feet) on higher-order streams.
- By basing these recommendations, in part, on the width of active floodplains, a variable, site-specific setback width that accounts for stream size is created. The width of the active floodplain provides a clear, functional basis for a variable width criterion that accomplishes the same purpose more directly than criteria based on stream order, slope, and other attributes of streams and their settings.

Riparian woodland restoration and enhancement measures should include:

- Where feasible, contiguous areas larger than 5 ha (12 ac) should be maintained, enhanced and linked to provide habitat refuge areas for sensitive species. These areas should be connected by riparian corridors more than 30 m (98 feet) wide on both sides of the channel wherever possible, in order to provide movement and dispersal corridors for wildlife.
- The preservation, restoration and linkage of large parcels of undeveloped and uncultivated lands adjacent to riparian areas will provide significant benefits to riparian species. Thus, large contiguous areas of riparian vegetation surrounded by "natural" uplands should be conserved to the greatest extent possible.
- Potential effects of adjacent land uses on riparian areas should be thoroughly evaluated during regional land use planning, and during the environmental review and permitting processes for specific projects, and these effects should be avoided to the maximum extent practicable.
- Re-creation of regular disturbance events (e.g., high water) on the floodplain will enhance vegetation and breeding bird populations in most systems (Riparian Habitat Joint Venture 2004).
- Within setbacks, most developed land uses would be incompatible with the conservation of stream and riparian functions. Developed land uses should be restricted to unavoidable crossings by roads and other infrastructure, because any structures or alterations of topography, vegetation or the soil surface are likely to affect both stream and riparian functions, and could result in substantial effects both on-site and downstream.
- For the purpose of long-term conservation of plant habitat functions, riparian setbacks should include the entire active floodplain, regardless of the current extent of riparian vegetation on that surface. The distribution of riparian vegetation is not static within the active floodplain, and the diversity of vegetative structure and species composition is strongly related to the hydrologic and geomorphic processes within the active floodplain. Therefore, conversion of any portion of the active floodplain to developed or agricultural land-cover types would affect hydrologic and geomorphic functions and affect plant habitat functions.
- Riparian-associated wildlife species differ in the specific habitat attributes they require in riparian systems. Consequently, structurally diverse vegetation, as well as the full range of naturally occurring physical conditions and disturbance regimes, are necessary to provide suitable riparian habitat for the entire community of associated wildlife species. Many riparian-

associated wildlife species use, and often require, both riparian and adjacent upland habitats for reproduction, cover, and/or foraging.

Recommendations for riparian setbacks by agricultural operations are presented below:

- Along first- and perhaps second-order streams, mitigation for adjacent agricultural uses would include filter strips and riparian buffers managed according to standards established by the National Resources Conservation Service. Such practices would improve the buffers' effectiveness for conserving some functions. Along first- and perhaps second-order streams, compatible developed land uses could include open space and low-density residential development, provided no impervious surfaces, infrastructure, or irrigation are placed within the setback.

Request for Information

- Please provide the scientific basis upon which riparian/stream setbacks were developed (such as peer-reviewed research documents, studies from universities, reports from State agencies with expertise in riparian/stream protection).
- Discuss why the riparian setback for a ministerial project is different from a discretionary project, given a hypothetically equivalent environment in each case.
- Discuss the criteria used to determine both the impacts/mitigations for discretionary development projects and the setback size(s) for discretionary projects.
- Include in the dEIR a discussion detailing whether the individual performing the Biological Resource Assessment will be required to consult with agencies with expertise in the field of riparian/stream protection, wildlife protection, etc., and include information from such consultations in the report.
- Discuss who will conduct the monitoring and reporting requirements for ministerial and discretionary projects. (If they will be conducted, who will conduct them, and the qualifications of individuals conducting the monitoring.)
- Describe any penalties or corrective actions that will be required for violations to prescriptive mitigations, and the criteria upon which these actions will be based.
- Identify actions that will be taken to revise ordinances and policies if mitigation measures established in the zoning ordinance are found not to be effective.
- Discuss the impact of livestock on riparian areas and identify the mitigation measures designed to reduce these impacts. If Best Management Practices (BMP) are employed, identify where those BMPs are documented, and discuss their efficacy in terms of mitigating impacts.
- It has been stated that developed land uses (including agricultural uses) within recommended buffer setbacks preclude the effectiveness of setbacks.¹⁸ Discuss why this is/or is not the case.
- It is also widely believed that conversion of large portions of a watershed or region to developed and agricultural land uses is associated with broad negative effects on riparian and stream ecosystems.¹⁹ Discuss why this is/is not the case.

¹⁸ Jones & Stokes. *Setback Recommendations to Conserve Riparian Areas and Streams in Western Placer County*. 2005. February, 2005.

¹⁹ Findlay and Houlihan 1996, Roth et al 1996, Booth and Jackson 1997, Magee et al. 1999, Doyle et al. 2000, Paul and Meyer 2001, Allan 2004, Hatt et al. 2004, Pellet et al. 2004, Wissmar et al 2004, and Jones & Stokes 2005).

- Discuss whether the existing riparian setbacks will result in unbuildable parcels in EDC. Quantify how many would become unbuildable if riparian setbacks were increased to protective levels (as discussed in the Jones & Stokes report).
- Discuss whether EDC has developed a database of important surface water features, and if not, when this will be developed. Discuss whether it is possible/legal for EDC to approve development projects that will impact these resources prior to the development of this database.

BRPU, 13D, page 10:

Policy 7.3.3.3 The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.

Agricultural Operations and Evaluation Under AB 32

Agricultural operations may be exempt from Public Resources Code 21083.4 (Kuehl) provisions under the TGPA/ZOU, but agriculture *is not* exempt from CEQA oak woodland biogenic greenhouse gas emissions (GHG) analysis. (There are no GHG exceptions or exemptions for any oak woodland conversion project.)

Request for Information

- Because the TGPA/ZOU adds 17,000 acres of agricultural land—some of which is currently designated Open Space—impact to oak woodlands is likely significant. While agricultural operations are exempt from oak mitigation (tree replacement measures), they are not exempt from the evaluation of impacts under AB 32. Therefore, this conversion of land from other zoning designations to agricultural land designations must be evaluated as an impact to oak woodlands under this dEIR.
- Discuss the following: Does the project fully account for direct and indirect oak woodland conversion biogenic soil/vegetation GHG emission effects, including carbon dioxide, methane, nitrous oxide and black carbon emission associated with biomass disposal (including from agricultural operations).

Valley Oak Replacement / Request for Information

- Include a discussion regarding valley oak (*Quercus lobata*). Specifically, given the designation of this species as a species of “*special concern*,” why is there no recognition of this fact in terms of enhanced mitigation to protect/replace this species?
- Discuss what mitigation elements will be included to protect this species of special concern.
- If specific mitigation elements are not to be included for this species, discuss why this is the case.
- Quantify the estimated decline of this species if special protections are not provided.

Tree Replacement Scenarios

There seems to be some confusion regarding the tree replacement

Replacement Tree Sizes:

During its June 22, 2015 hearing, the Board requested further clarification and discussion on the potential for allowing different sized container trees to be planted for mitigation. Currently, the draft ORMP requires individual native oak trees to be replaced with 15-gallon sized trees and allows replacement planting for oak woodland mitigation to utilize a variety of smaller sized containers (1-gallon (or equivalent)) or acorns (with a 3:1 replacement ratio).

Source: Dudek Memorandum, September 18, 2015; 17A, page 9.

I believe this is incorrect. The ORMP does not require “...*individual native oak trees to be replaced with 15-gallon sized trees...*”; on page 13 of the May, 2015 ORMP (identical language/criteria is in the revised November 2915 ORMP) it states under “*Individual Native Oak Tree and Heritage Tree Impacts*”:

Replacement tree sizes may vary and may include acorn plantings, based on documentation of inch-for-inch replacement consistency included in an oak resources technical report. If acorns are used, they shall be planted at a 3:1 ratio (3 acorns for every 1-inch of trunk diameter removed)

Source: ORMP, May 2015; 13F, page 13. (Identical language/criteria as in the revised November 2915 ORMP.)

In any case, the formula will presumably work in this manner:

Under the tree-for-inch standard, tree planting would not replace the number of diameter inches removed. However, it would require planting of the same number of trees that would have been planted under an inch-for-inch standard that requires use of 15-gallon trees. To compare the two replacement standards, mitigation for removal of one 12-inch tree under the current draft ORMP would require a project applicant to plant 12 15-gallon oak trees; under the tree-for-inch mitigation standard mitigation for the same impact would require planting of 12 trees of any container size, or 36 acorns.

Source: Dudek memorandum of September 18, 2015; 17A, page 13.

Request for Information

- Once again, **efficacy** (and **performance standards**) should dictate oak tree/woodland mitigation, not an arbitrary formula. Please identify in the dEIR the efficacy of such an approach, and identify specific performance standards (such as canopy cover over time).
- Efficacy of mitigation needs to be demonstrated. The two studies described in the Dudek memorandum 17A (Hobbs, et al., 2001; Young, et al., 2005) actually *do not* support the supposition that acorn planting is “better” than planting larger stock. McCreary—also cited by Dudek—mentions multiple caveats to acorn planting—as presented in my comments of September 29, 2015. But the difficulties of acorn use have been largely ignored, presumably due to its lower mitigation cost.

Tree-for-Inch Mitigation

The tree-for-inch (as opposed to the inch-for-inch) mitigation represents another approach to lessening the cost of mitigation for the project applicant at the expense of oak woodland replacement. As written, this tree-for-inch standard can include replacement of one inch of tree with three acorns. Thus, a 12 inch oak could be replaced with 36 acorns (which are intended to yield 12 live trees, not 36 trees). Based on the growth rate of blue oaks (the species most likely to be removed and replaced via mitigation plantings) it could take a *very* long time to replace an oak.



The oak seedling at left is 8 to 10 inches tall and **12 to 16** years old. Below is a 6 to 8 inch tall seedling estimated to be **10 to 15** years old.



Source: Phillips, et al., 1996



This cross section was derived from a blue oak that was 4.5 inches dbh. This oak was estimated to be 95 years old.

Photo Source: Don & Ellen Van Dyke

A study by Standiford²⁰ on blue oak growth rates revealed an average diameter at breast height (dbh) after 50 years that ranged from 3.4 to 4.1 inches. Even under fairly aggressive restoration efforts, the largest mean diameter of the stand was only 3.9 inches.

Request for Information

- How much “dilution” of mitigation can occur before “mitigation” is no longer mitigation? The following statement was taken from the Dudek memorandum dated September 18, 2015 (17A):

The tree-for-inch standard would be the lesser burden for applicants.

This is great for the applicant; not so good for oak woodland resources. After all is said and done, it is important to remember that—while some individuals have requested that mitigation costs be kept as low as possible—**mitigation must be adequate to mitigate loss**. Affordability is not a criterion under which the effectiveness of mitigation can legitimately be degraded.

As this BRPU/ORMP process has moved forward, more approaches to cost/effort reduction have been inserted. Interestingly, I have not seen documentation in the record, nor heard public testimony requesting these cost-saving changes. Therefore, please disclose in the dEIR the motivation behind the changes. That is, are these modifications based on discovery of what other counties have instituted, or based on mitigation successfully performed in other counties—or are these approaches simply designed to reduce costs/effort for applicants, in spite of the fact that there appears to be *no evidence* to support this approach to mitigation? (And by mitigation I mean the successful replacement of oak woodland within a reasonable amount of time—say five to seven years.) If other counties have instituted these changes (acorn use, tree-for-inch replacement, relying on natural regeneration as a mitigation element, etc.,) please supply documentation that supports the efficacy of these measures in “real world” applications.

- Because it is looking less likely any of the mitigation proposals put forth will realistically mitigate for the loss of oak woodland in a reasonable amount of time, it is reasonable to assume the most effective “mitigation” will be either on-site retention (avoiding the impact in the first place), or the purchase of conservation easements that already contain viable oak woodlands. Therefore, in the dEIR, please evaluate this latter form of mitigation as the primary mitigation scenario. Identify the areas of EDC in which conservation easements are most likely to be established, and the anticipated acreage that is available for easement purchase. Also, identify the plant/wildlife component of these areas, and whether these conservation easements will adequately retain/protect a variety of plant/animal communities, or whether they are limited in scope in terms of diversity.

Oak Tree Replacement

According to the ORMP, “any trees that do not survive the 7-year monitoring and maintenance period shall be replaced by the responsible party listed on the Oak Tree Removal permit and shall be monitored and maintained for 7 years.”

²⁰ Standiford, R, et al. 2001. *Modeling the Effectiveness of Tree Planting to Mitigate Habitat Loss in Blue Oak Woodlands*. USDA Forest Service General Technical Report PSW-GTR-184, 2002.

Request for Information

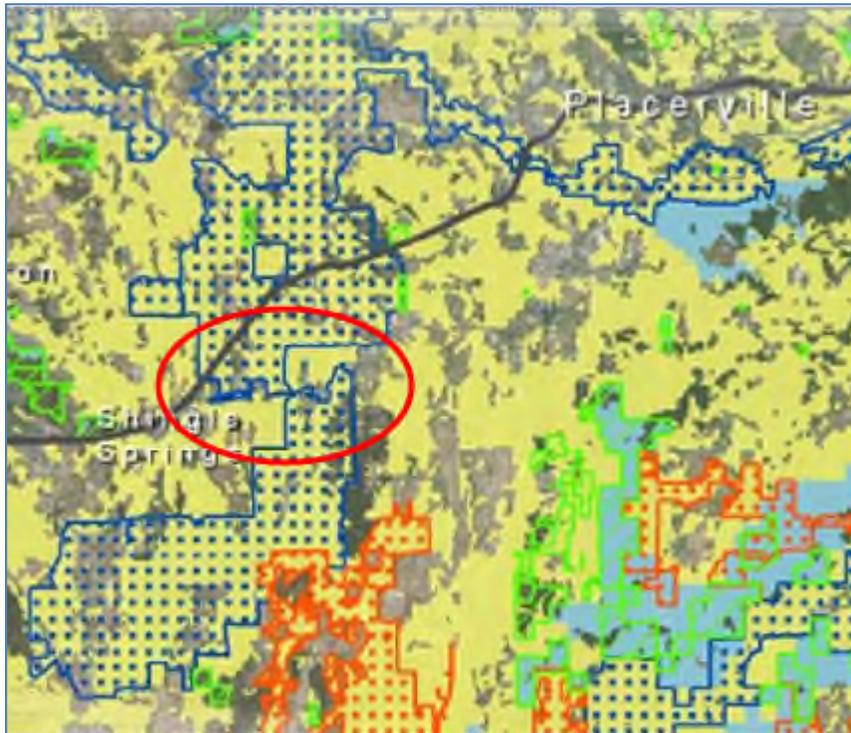
- Please explain in the dEIR how tree replacement is expected to work. That is, are dead trees monitored and replaced annually, or are dead trees only replaced at the end of the 7-year period?

Project Exemptions

- Discuss exemption for County road projects. This is a source of significant impact to oak resources. Bridge projects especially can disproportionately impact valley oak, a species of “special concern.” Discuss—based on scheduled road widening/bridge projects—the anticipated impact to oak resources.

IBC and PCA Maps, etc.

Closer examination of the IBC/PCA maps raises more questions than answers. For instance, in this section of the map, it appears the IBC is greatly constricted in this particular area. Discuss the reason for this constriction—it appears to be artificial.



Request for Information

- Please provide better (more detailed) IBC/PCA maps for each planning area. Identify any outstanding anomalies, and characterize the importance/necessity of each area (what they are designed to protect/serve.)

In Conclusion

In closing I'd like to say the policies proposed in the ORMP represent a significant weakening of environmental protection policies developed under the 2004 General Plan. Therefore, please consider revision to the draft ORMP that strengthen biological resource protections.

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December 23, 2015

RE: Revised Notice of Preparation for the Biological Resources Policies Update & Oak Resources Management Plan

Ms. Purvines:

Thank you for the opportunity to comment on the revised Biological Resources Policy Update (**BRPU**) and Oak Resources Management Plan (**ORMP**).

In addition to comments submitted for this revised NOP, I have included comments submitted for the initial NOP (resubmitted here), and comments provided to the Board of Supervisors (BOS) at the September 29, 2015 meeting. (Specifically, I include the latter set of comments to support/add to discussion within this document.)

Based on these previously submitted comments, and other materials, I have the following requests for information to be included in the draft Environmental Impact Report (dEIR) for the BRPU/ORMP.

Retention of Option A

After reviewing the revisions to 2004 General Plan policies, the proposed ORMP, the BRPU, and Dudek memorandum (17A), it is clear that these policy revisions emphasize making oak mitigation the least onerous possible. This is good news for project applicants, but mitigation measures *must be effective*. The elimination of the Integrated Natural Resources Management Plan (INRMP), the disbanding of the Plant and Wildlife Technical Advisory Committee (PAWTAC), the elimination of Option A (oak retention standards), the reduction of tree sizes for mitigation plantings (from 15-gallon to acorns), the expansion of the number and kind of projects exempt from oak mitigation (including County road improvement projects) all signal a desire to make mitigation for the loss of oak woodland as “simple” and as affordable as possible, both for the County (which has struggled with oak mitigation projects), and for developers.

But this asset—oak woodland—*is* worth protecting. And, retention of **Option A requirements in no way impedes development**—but it *does* serve to make certain a project has been assessed to determine if there is a way **the developer can meet project objectives while at the same time retain the maximum number of oaks possible on-site**. If it is *demonstrated* a project cannot meet fruition *and* Option A oak retention standards, Option B “kicks in,” and other on- or off-site options for oak mitigation become available. **Why is this process—project evaluation as it relates to oak retention—deemed obstructive or impractical?** Aren’t our oak resources worth a serious project evaluation?

Members of the public have *continually* requested Option A retention standards be retained, and requested an equal-weight (co-equal) project alternatives analysis. Such an analysis would provide the BOS with the information necessary to make an informed decision and possibly approve a project alternative that could effectively reduce or avoid significant impact to oak resources. Without such an analysis, it is doubtful this project alternative will be evaluated to the extent necessary to make such a

determination. And, importantly, the BOS—in their July 22, 2015 meeting—*agreed* it was important to evaluate oak retention standards. But without an equal-weight analysis, a meaningful project alternative will not be prepared. Thus—by default—retention of Option A has been roundly rejected before a complete analysis has been conducted. In effect, **it has been predetermined that the County is “not going there.” This is contrary to the purpose and spirit of California Environmental Quality Act (CEQA) analysis.** And it sends message to the public that *“your participation in the process is not welcome here.”*

This is disturbing, and perhaps more so because the resource at stake cannot be easily replaced. And, while BOS members are charged with making decisions that will impact this resource, at least some are not conversant in biological principles, and Dudek does not correct misconceptions when BOS members make statements that lay bare their lack of understanding. While it may at times prove uncomfortable to correct a BOS member during public discussions, the consultant is there to provide expertise. When they do not, this is a failure of their responsibility to the BOS, and to the public, and serves to undermine their own credibility. And most importantly, it is a disservice to the resource being impacted.

The result? BOS members vote—make important decisions with long-term implications—without understanding basic biological or legal principles, or the seriousness and longevity of their decisions. And, while it is not the responsibility of the *public* to educate the BOS, that is where the task has come to rest—in the three minutes granted to any given individual—during meeting opportunities that County staff has purposefully limited to meetings during the workweek days/hours that fundamentally **limit public participation** in this **expedited** process:

NOTE: *“In recognition of the Board’s desire to expedite completion of this process, this approach would potentially limit public input to focused Planning Commission and Board meetings. The TGPA/ZOU process has used this approach to receive public comment rather than the public outreach program currently identified for input on revisions to the policies.”*

(Source: Document 7B under Meeting Details, PROCESS APPROACHES FOR THE OAK WOODLAND MANAGEMENT PLAN.)

This expedited process—based on a request by development interests for an “**interim policy**”—was no more than suggested than taken up by Long Range Planning’s Ms. Purvine who said—at the same meeting at which the request was launched—*“I’d actually like to look into that a little bit further and bring back a discussion on that.”*¹ That initiated a cascade of activity that evolved into an *expedited* BRPU and ORMP. But repeated requests by members of the public to evaluate the retention of Option A have fallen on deaf ears.

Retention of Option A was vilified by suggesting it would impose constraints on economic development, and may even constitute “property taking” by rendering some properties undevelopable.² But no such results could come to pass with implementation of Option B, whose development is clearly one of the primary thrusts of this ORMP. In this instance, Option A would simply provide a “first screening” of projects; it would not be the “last word” on project development or on a project’s ultimate impact on oak woodlands. But retention of Option A *could* serve to protect woodlands when a project *could* meet fruition while accommodating resident oaks.

¹ **Source of Quote:** Planning Commission meeting of Aug 15, 2014; TGPA/ZOU meeting RE: Biological Resources.

² Dudek. 2015. Memorandum from Kathy Spence-Wells to Shawna Purvines, September 18, 2015; 17A, page 8.

Request for Information

- I request a co-equal analysis of a project alternative based on retaining Option A (oak retention standards).
- In the past, Option A was considered restrictive to development interests largely because Option B *was not available*. With the availability of Option B (contingent upon approval of this ORMP), explain why Option A is not being evaluated in a co-equal analysis, especially in light of CEQA guidelines that state EIRs must describe alternatives “...which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project...”(14 CCR 1526.6[a]). (In fact, there is probably no other alternative—other than the **No Project** alternative—that could reduce the project’s significant impacts more than this alternative; it is a viable project alternative that deserves co-equal analysis.)

Oak Regeneration as a Mitigation Element

Because this notion of oak regeneration as a viable/plausible mitigation element seems to be persisting, it is necessary to expand on this topic.

First of all—this is not mitigation. Saying something will simply replace itself post-loss contradicts the meaning/purpose of mitigation. To identify *non-action* in this instance as mitigation defies logic, and it also defies scientific study on the topic. It is simply not credible. Even if this approach were *legally* defensible, **it is not supported by fact**.

I have cited numerous studies that discuss blue oak (*Quercus douglasii*) regeneration as inadequate to support the long-term survival of this woodland species in numerous areas of California (see discussion/citations in comments on the initial NOP, and in the September 29, 2015 comments to the BOS; reference materials are included for both documents [on disk] with this submitted material). These documents contain citations that describe the problems with blue oak regeneration (the species that will be most impacted [and replanted] as a result of development projects in EDC).

I add to this discussion on oak regeneration here. In a study by Swiecki, et al.,³ an in-depth evaluation was undertaken to assess the status of blue oak regeneration and determine how environmental and management factors influence blue oak sapling recruitment. This study was conducted in the counties listed in the table below on study sites of at least 150 acres in size dominated by blue oak

County	Regeneration Adequate to Maintain Blue Oak Woodland?		Comments
	Yes	No	
Napa		X	This study site had the highest number of blue oak saplings but there were fewer plots with an increase in blue oak density than a decrease in density; there were few small seedlings.
Glenn		X	No blue oak saplings were present anywhere in the entire study site

³ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

San Benito	X		The blue oak stand at this site appears to be viable; regeneration appears to be moderate—more plots showed an increase in blue oak density than a decrease
Yuba	X		More plots showed an increase in blue oak density than a decrease; about a quarter of the saplings originated as stump sprouts in an area where blue oaks were cut in 1989; 7 % of the sprout-oriented saplings were dead; mortality was higher among seedling-origin saplings (mesic site)
Mendocino		X	No blue oak saplings were present anywhere in the entire study area; a few seedlings were observed
Tulare		X	Recruitment was sparse; current levels of recruitment are insufficient to support offset mortality
Tehama		X	Blue oak saplings were uncommon, as were seedlings; sapling recruitment was inadequate to maintain current stand densities
Amador		X	Blue oak saplings and seedlings were uncommon; very little regeneration has occurred since the Gold Rush; current recruitment is insufficient to maintain stand; conversion to grassland appears inevitable
San Luis Obispo		X	Recruitment is insufficient to offset mortality
Monterey		X	Recruitment is insufficient to offset mortality
Madera		X	No blue oak saplings were seen in the study area; a few small seedlings were seen; there was no regeneration of woody species in the study area
Santa Clara		X	No blue oak saplings were seen in the study area but some seedlings were seen; this stand had the highest mortality of those studied
Contra Costa		X	Recruitment lags far behind mortality at this study site
Tulare		X	Mortality was far in excess of sapling recruitment

Tuolumne	Variable, but ultimately described as a site with more plots with “net loss” than “net gain”	Stump sprout-origin saplings outnumbered those of seedling origin (sprouts from previous tree removal) at this site (75% of saplings were of sprout origin); virtually the entire stand appeared to be second growth; a few seedlings were seen, particularly along creeks; although regeneration had apparently been successful in some portions of the site, blue oak had been eliminated from some large areas and no recolonization of these large clearings has occurred
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Swiecki study conclusions include:

- *“...it appears that most locations are losing blue oak density at the stand level due to unreplaced mortality.”*
- *“These observations support the assertion that current recruitment is inadequate to maintain existing tree populations in at least some areas.”*
- *“...the conversion of blue oak woodland to grassland is not likely to be easily reversed.”*
- *“...the extent of blue oak woodlands will continue to decrease due to unreplaced mortality...”*
- *“Because our study locations are distributed throughout the range of blue oak, we are confident that the trends we observed can be generalized over much of the range of blue oak.”*
- *“In many stands, sapling blue oaks are absent or rare.”*
- *“In most stands, the percentage of the stand area which is likely to show a decrease in blue oak density and canopy cover is greater than the percentage that may show an increase in density and canopy cover.”*

Blue Oak Regeneration in EDC

During the various meetings and workshops on the BRPU/ORMP, some individuals have brought up the issue of oak regeneration—presumably in “defense” of oak removal—and have stated—*anecdotally*—that there are more trees in EDC now than in the past. There have also been figures brought up (undocumented) to “substantiate” gains in EDC oak woodland.

The most current study I was able to find to quantify blue oak woodlands in EDC was presented in the report *“Monitoring Land Cover Changes in California.”*⁴ (NOTE: The northeastern California project area covers Amador, Butte, **El Dorado**, Lassen, Modoc, Nevada, Placer, Plumas, Sierra, Sutter, Yolo and Yuba counties.)

⁴ USDA Forest Service & California Department of Forestry and Fire Protection Fire and Resource Assessment Program. 2002. *Monitoring Land Cover Changes in California; California Land Cover Mapping and Monitoring Program. Northeastern California Project Area, January, 2002.*

Report findings are as follows:

For **blue oak woodland** (all owners):

- 509 acres with small, moderate, large woodland decrease (1.55% decrease)
 - 194 acres with small, moderate, large woodland increase (0.59% increase)
- 32,878 acres total
Net decrease of 315 acres or 0.96%

For **blue oak/foothill pine woodland** (all owners):

- 119 acres with small, moderate, large woodland decrease (0.66% decrease)
 - 95 acres with small, moderate, large woodland increase (0.53% increase)
- 17,995 acres total
Net decrease of 24 acres or 0.13%

TOTAL for **blue oak** and **blue oak/foothill pine woodlands** combined: **0.67% decrease**

Table C-14 Acres of Classified Change in El Dorado County by Hardwood Cover Type and Owner Class

	National Forest		Other Public		Private		All Owners	
	Acres	%	Acres	%	Acres	%	Acres	%
Blue Oak Woodland								
LDVC	0	0	0	0	17	0	17	0
MDVC	0	0	4	0	82	0	86	0
SDVC	5	6	11	1	390	1	406	1
NCH	71	93	1,576	97	30,386	97	32,033	97
SIVC	0	1	15	1	155	0	170	1
MIVC	0	0	0	0	22	0	22	0
LIVC	0	0	0	0	2	0	2	0
NVG	0	0	23	1	119	0	142	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	77	100	1,628	100	31,173	100	32,878	100
Blue Oak / Foothill Pine								
LDVC	0	0	0	0	3	0	3	0
MDVC	0	0	1	0	23	0	24	0
SDVC	0	4	3	0	89	1	92	1
NCH	4	82	1,097	99	16,637	99	17,738	99
SIVC	1	14	4	0	76	0	81	0
MIVC	0	0	0	0	14	0	14	0
LIVC	0	0	0	0	0	0	0	0
NVG	0	0	9	1	34	0	43	0
CLD/SHA	0	0	0	0	0	0	0	0
TOTAL	5	100	1,113	100	16,877	100	17,995	100

LDVC – large decrease in vegetation cover; MDVC – moderate decrease in vegetation cover; SDVC – small decrease in vegetation cover; NCH – little to no change in vegetation cover; SIVC – small increase in vegetation cover; MIVC – moderate increase in vegetation cover; LIVC – large increase in vegetation cover; NVG – non-vegetation change; CLD/SHA – cloud or shadow
Refer to Appendix D for WHR type descriptions.

Source: USDA Forest Service & California Department of Forestry and Fire Protection, *Monitoring Land Cover Changes in California; California Land Cover Mapping and Monitoring Program.*

McCreary⁵ also weights in on this topic of regeneration.

For nearly a century, there has been concern that several of California's 20 native oak species are not regenerating adequately (Jepson 1910). Such concern was partially responsible for the establishment of the Integrated Hardwood Range Management Program (IHRMP) in 1986, a cooperative effort between the University of California, the California Department of Forestry and Fire Protection, and the California Department of Fish and Game to promote oak woodland conservation (Standiford and Bartolome 1997). Evidence indicating that there is an "oak regeneration problem" in California has been based largely on observations of a paucity of young seedlings and saplings in the understories of existing oak stands. Describing the foothill woodland in the Carmel Valley, White (1966) stated that "A prevailing characteristic . . . is the lack of reproduction . . . with very few seedlings." Bartolome and others (1987) also concluded that "current establishment appears insufficient to maintain current stand structure for some sites." And Swiecki and Bernhardt (1998) reported that of 15 blue oak locations evaluated throughout the State, 13 were losing stand density at the stand level due to unreplaced mortality.

The species that are having the most difficulty regenerating are all members of the white oak sub-genera of *Quercus*, and include blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), and Engelmann oak (*Q. engelmannii*) (Muick and Bartolome 1987; Bolsinger 1988). Blue and valley oak are endemic to the State, while Engelmann oak, which actually has a far narrower distribution range than the other 2 species, does extend into Baja California (Griffin and Critchfield 1972). Concern about poor

Request for Information:

- Please include in the NOP a discussion of why oak regeneration is being evaluated as a possible "mitigation" element. Discuss what is to be accomplished by this approach—if accepted—and who will benefit. Discuss the impact on oak woodland mitigation if this approach is implemented.
- Describe the science that *supports* the notion that relying on oak regeneration is a plausible approach to impact mitigation. Also provide scientific studies that *refute* this approach to impact mitigation.
- Identify other California counties that have used—or entertained the idea of using—oak regeneration to "*offset development impacts to oak woodlands.*" If other counties have used this approach, identify those counties and present their rationale for using this approach, and if this approach was actually pursued, the outcome of that decision (impact on oak resources).
- Describe what makes this approach viable under CEQA mitigation guidelines.
- Keeping in mind that blue oak is the species that will be most impacted by development projects—and that it is the species that will make up the bulk of mitigation efforts—discuss how its declining ability to regenerate can possibly be used as a mitigation element.
- From a workshop PowerPoint presentation (Document 5D), mitigation is identified as "*strategies to reduce impacts.*" "Reducing impacts" implies an active process. How does relying on a *natural process* (especially one in decline), meet this criterion?

Use of Acorns for Oak Woodland Replacement

The poor natural regeneration of blue oak woodlands means the viability of acorn plantings, too, will be problematic, making replacement of woodlands via the planting of acorns a fragile, ineffective strategy. According to A Planner's Guide to Oak Woodlands:⁶

...the same factors that prevent or limit **natural regeneration** can also take a heavy toll on artificial plantings. **To be successful, relatively intensive site preparation, maintenance, and protection must usually be provided for several years.**

⁵ McCreary, D. and J. Tecklin. 2005. *Restoring Native California Oaks on Grazed Rangelands*. USDA Forest Service Proceedings RMRS-P-35.

⁶ Giusti, G.A. et al (editors). 2005. *A planner's guide for oak woodlands*. University of California, Agriculture and Natural Resources, Publication 3491, second edition.

Thus, while it may be tempting to think planting acorns will provide a low-cost alternative to container-planting, acorns are prone to failure and could ultimately cost project developers *more* than container-planting. The excessive replacement of dying seedlings, the necessity for irrigation, weed and rodent control, and tree shelter or fencing placement (and replacement) means in-field acorn propagation will be costly and burdensome.

Studies have shown that mortality from direct seeding of acorns is high. According to Young,⁷ “Approximately 40% of the field-planted acorns disappeared in the first two months after planting, probably taken by ground squirrels or other seed predators.” And, according to Swiecke:⁸

A blue oak seedling observation plot was established just outside the study area in 1988 (Swiecki et al 1990), but was destroyed by ground squirrels before permanent markers could be installed. A second seedling plot located about 3 km south of the study area was resurveyed in July 1993, at which time only 6.5% of the seedlings tagged five years earlier were still surviving.

Not only is acorn planting fraught with difficulties and failure, the results—even under the best of circumstances—will be dismal. Blue oaks are slow growers. Harvey⁹ showed that many of the blue oak saplings less than four feet tall were between 40 and 100 years old. (**NOTE:** Both sets of comments submitted previously [August 17, 2015; September 29, 2015] include a discussion of blue oak growth rates and additional studies/citations, which see.)

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- If acorn planting is to be pursued as a mitigation element under this ORMP, provide specific details/requirements for planting that include specific site treatment, monitoring, replacement schedules, equipment, and measures that will be employed to ensure success.
- Describe (and establish) a **performance standard** for acorn *and* sapling (container) plantings. That is, commit to a canopy coverage standard to be attained within X number of years (say 5 years, for example).

⁷ Young, T.P. and R.Y. Evans. 2002. *Initial Mortality and Root and Shoot Growth of Oak Seedlings Planted as Seeds and as Container Stock Under Different Irrigation Regimes*. Department of Environmental Horticulture, University of California, Davis; Final Report.

⁸ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

⁹ L.E Harvey. 1989. *Spatial and Temporal Dynamics of a Blue Oak Woodland*. Ph.D. Thesis, University of California, Santa Barbara.

Cattle Grazing on Conservation Easements

From the draft revised ORMP, November, 2015; Page 24:

4.2 Management of PCAs

Existing oak woodlands within the PCAs identified as mitigation for project impacts, whether on or off a project site, will be protected from further development through a conservation easement granted to the County or a land conservation group approved by the County or by acquisition in fee title by a land conservation group. Management activities would be conducted by land conservation organizations and may include, but are not limited to, one or more of the following activities, as determined appropriate and/or necessary through monitoring of the sites: inspections, biological surveys, fuels treatment to reduce risk of wildfire and to improve habitat, weed control, database management, and mapping. Agricultural use (i.e., grazing) shall be allowed in conserved oak woodlands as long as the activity occurred prior to the establishment of the conservation easement, the spatial extent of the agricultural use is not expanded on conserved lands, and the agricultural use does not involve active tree harvest or removal (e.g., fuelwood operations, land clearing for crop planting, etc.).

Livestock grazing can have serious implications for oak woodlands and wildlife. For instance, research conducted by Swiecki¹⁰ shows:

- Oak saplings are unlikely to be found in areas with high chronic levels of livestock browsing.
- In areas subject to at least moderate browsing, the majority of oaks are shorter than the browse line and show evidence of chronic browsing damage.
- Seedlings and saplings were more common in ungrazed natural areas than in grazed pastures.

To this end, Swiecki suggests:

- Alternative grazing regimes that reduce the duration and intensity of browsing pressure may help to reduce the negative impact of browsing on oak resources.
- In any gap-creating event (such as oak harvest or wildfire), livestock use should be minimized until oaks have grown taller than the browse line.

And McCreary¹¹ weighs in on this issue, too:

¹⁰ Swiecki, et al. 1993. *Factors Affecting Blue Oak Sapling Recruitment and Regeneration*. Prepared for: Strategic Planning Program, California Department of Forestry and Fire Protection. Contract 8CA17358, December 1993.

¹¹ McCreary, D. and J. Tecklin. 2005. *Restoring Native California Oaks on Grazed Rangelands*. USDA Forest Service Proceedings RMRS-P-35.

Timing of Grazing Study

In 1989, a UC Davis graduate student named Lillian Hall initiated an experiment at the SFREC to evaluate how planted oak seedlings fare in pastures where cattle have access (Hall and others 1992). She planted 1-year-old blue oak seedlings in pastures grazed by cattle at different stock intensities, and included a control where cattle were excluded. She found that damage to seedlings was significantly less in the winter and fall when the deciduous oaks did not have foliage and were apparently less appetizing to the cattle. Cattle did not seem to seek out or prefer young oaks. However, in the spring green-forage season, they appeared drawn to clover patches near seedlings and browsed the oaks in the process. Heavy damage to seedlings in the summer at all cattle densities probably resulted from the fact that the young oaks were often the only green vegetation in the grazed pastures, and were therefore more palatable than the dry annual grasses. Within each season, total damage also increased with increasing stock density.

While some researchers suggest livestock management techniques can *lessen* the impact of grazing in oak woodlands, it is clear that **the best approach is to not graze these areas** unless absolutely necessary. For instance—speaking in terms of “real world” observation—while only spring grazing is done on the property north of Highway 50 by the Scott Road exit (in Sacramento County), it is clear that the blue oak woodland on these pastures is in decline; oak regeneration is largely absent.

Conservation easements should be managed for wildlife and woodlands—that is the purpose of a conservation easement. But if grazing *is* allowed on conservation easements, management (protection) of young oak trees must be actively performed. These protective practices may make cattle grazing on protected lands impractical/costly.

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- Describe the grazing regime (management practices) that will/will not be allowed on conservation lands. For instance, will grazing be restricted to certain times of the year?
- Discuss/disclose the following: If the livestock owner is also the land owner, will this person receive a property tax reduction for the land being established as a conservation easement? Or, will they be charged a fee for use of a conservation easement for grazing purposes? And, if a fee is charged, will it go into a fund to be utilized for conservation easement acquisition?
- Similarly, discuss the situation described in the bullet above in the case where the livestock owner is *not* the landowner. Will “land rental fees” be levied, and if so how much, and how will the fees be used?

Discuss the following:

- How might the presence of grazing livestock on conservation easements impact wildlife and wildlife habitat?
- How might the presence of grazing livestock impact the oak woodland (specifically survival of young oaks)?
- How might the presence of grazing livestock impact water features, and the wildlife/ecology of those water features (e.g., vernal pools, seasonal creeks, drainages, ponds, etc.)

- If grazing is to be allowed on conservation easements, provide examples of EDC properties where grazing has occurred and oak regeneration is “active” (successful). Identify the amount of time grazing has occurred on the property (both in terms of years grazed and duration of grazing per season), the size and makeup of grazing herds (cattle, sheep, other), and the age classes and species of the oaks present.

Impact to Riparian Zones / Riparian Setbacks

While Long Range Planning staff touted the establishment of *permanent* riparian setback under the Targeted General Plan Amendment/Zoning Ordinance Update (TGPA/ZOU), it was not made clear that these setbacks were being *reduced* under the TGPA/ZOU. The BRPU had established the following interim guidelines:

From the BRPU, page 13D, page 10:

Until standards for buffers and special setbacks are established in the Zoning Ordinance, the County shall apply a minimum setback of 100 feet from all perennial streams, rivers, lakes, and 50 feet from intermittent streams and wetlands. These interim standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site- or project-specific conditions supplied as part of the review for a specific project demonstrates that a different setback is necessary or would be sufficient to protect the particular riparian area at issue.

The TGPA/ZOU reduced these interim guidelines to the following:

Title 130, Zoning Ordinance; Article 3, page 11:

Ministerial development, including single family dwellings and accessory structures, shall be set back a distance of 25 feet from any intermittent stream, wetland or sensitive riparian habitat, or a distance of 50 feet from any perennial lake, river or stream. This standardized setback may be reduced, or grading within the setback may be allowed, if a biological resource evaluation is prepared which indicates that a reduced setback would be sufficient to protect the resources.

All discretionary development which has the potential to impact wetlands or sensitive riparian habitat shall require a biological resource evaluation to establish the area of avoidance and any buffers or setbacks required to reduce the impacts to a less than significant level. Where all impacts are not reasonably avoided, the biological resource evaluation shall identify mitigation measures that may be employed to reduce the significant effects. These mitigation measures may include the requirement for compliance with the mitigation requirements of a state or federal permit, if required for the proposed development activity.

Any setback or buffer required by this subsection shall be measured from the ordinary high water mark of a river, perennial or intermittent stream, and the ordinary high water mark or spillway elevation of a lake or reservoir.

Because mitigation elements related to biological resources are the topic of this BRPU update, it is only reasonable that riparian setbacks should be evaluated, discussed, and developed under this BRPU process, not under the TGPA/ZOU process alone.

From the BRPU, 13C, page 35:

MEASURE CO-O

Prepare and adopt a riparian setback ordinance. The ordinance, which shall be incorporated into the Zoning Code, should address mitigation standards, including permanent protection mechanisms for protected areas, and exceptions to the setback requirements. The ordinance shall be applied to riparian areas associated with any surface water feature (i.e., rivers, streams, lakes, ponds, and wetlands) and should be prepared in coordination with Measure CO-B. [Policy 7.4.2.5]

When riparian setbacks were established under the TGPA/ZOU, it was clear that there was no scientific basis for setback size, and therefore no valid analysis of the impact of the reduction. This change in riparian setback distances needs to be evaluated within this dEIR (along with other numerous impacts to biological resources that are the result of TGPA/ZOU-based revisions.) Importantly—based on the importance of riparian systems—and the significant impact of the setback revision—setback revisions and/or additional mitigation measures are in order, and could be develop under this BRPU process.

For instance, it has been established that development and encroachment setbacks should include the entire *active floodplain*¹² of a creek or river to adequately preserve stream banks and associated riparian vegetation. And, while there is no single, abrupt, well-documented threshold setback width that would provide maximum benefits for all riparian functions (because riparian functions have different mechanistic bases and are affected by different site attributes), it is well known that most riparian functions would be affected if setbacks included a buffer of less than **66 feet beyond the active floodplain**.¹³ Consequently, narrower widths are not adequate for long-term conservation of riparian functions. (This conclusion is based on a review of the scientific literature.) A recent study of riparian buffers states that for first and second order stream segments¹⁴ **a minimum riparian setback that includes the entire active floodplain plus a buffer of 98 feet of adjacent land (on each side of the active floodplain)** is required; along higher order stream segments (i.e., third order and greater), and along those in or adjacent to conservation lands, **a setback of at least 328 feet—and preferably 656 feet from the active floodplain** is necessary to conserve stream and riparian ecosystem functions, including most wildlife habitat functions. Although these setbacks may seem large, even these setback distances would not be sufficient for the conservation of many wildlife species with large area requirements. (For instance, some species that live in riparian areas must move to other areas to reproduce, as is the case with pond turtles.)

¹² *Active floodplain* means the geomorphic surface adjacent to the stream channel that is typically inundated on a regular basis (i.e., a recurrence interval of about 2–10 years or less). It is the most extensive low depositional surface, typically covered with fine over-bank deposits, although gravel bar deposits may occur along some streams.

¹³ Jones & Stokes. *Setback recommendations to conserve riparian areas and streams in western Placer County*. 2005. February, 2005.

¹⁴ *First order* stream segments are upstream segments that have no tributaries, and *second order* segments are formed by the junction of first order segments.

The problem is simple: land uses (including agricultural uses) within recommended buffer setbacks preclude the effectiveness of setbacks.¹⁵ Conversion of large portions of a watershed to developed and agricultural land uses is associated with broad negative effects on riparian and stream ecosystems (Findlay and Houlihan 1996, Roth et al 1996, Booth and Jackson 1997, Magee et al. 1999, Doyle et al. 2000, Paul and Meyer 2001, Allan 2004, Hatt et al. 2004, Pellet et al. 2004, Wissmar et al 2004, and Jones & Stokes 2005).¹⁶

What Some Relevant Science “Says” About Stream/Riparian Setbacks

The following information was taken from Jones & Stokes, 2005.¹⁷

- Development and encroachment setbacks should include the entire *active floodplain* of a creek or river to adequately preserve stream banks and associated riparian vegetation. Because active floodplain boundaries are more stable and measurable than stream banks or the boundaries of riparian vegetation (that are dynamic and change with time), the boundary of the active floodplain—which can be readily delineated—is a preferable basis for determining setback widths rather than edges of stream banks, stream centerlines (or thalwegs), or any boundaries based exclusively on channel widths or vegetation.
- There is no single, abrupt, well-documented threshold width setback that would provide maximum benefits for all riparian functions. Rather, because riparian functions have different mechanistic bases, they are affected by different site attributes, and the relationship between setback widths and reduction of human effects differs among riparian functions. Nevertheless, several defensible arguments can be constructed regarding the appropriate width for a buffer to include within riparian setbacks. First, most riparian functions would be affected if setbacks included a buffer of less than 20 m (66 feet) beyond the active floodplain; consequently, narrower widths are not adequate for long-term conservation of riparian functions. This conclusion is based largely on a review of the scientific literature. In addition, stream incision and a discontinuous cover of woody plants reduces the benefits of narrow buffers. This variability in vegetation extent and structure reduces the effectiveness of narrow setbacks.

Recommendations for riparian setbacks are presented below:

- Apply to first and second order stream segments a minimum riparian setback that includes the entire active floodplain plus a buffer of 30 m (98 feet) of adjacent land (on each side of the active floodplain), or the distance to the nearest ridgeline or watershed boundary, whichever is less. (First order stream segments are upstream segments that have no tributaries, and second order segments are formed by the junction of first order segments.) Though the purpose of this setback would be to conserve stream and riparian functions; it would not be sufficient for the conservation of many wildlife species with large area requirements.
- Along higher order stream segments (i.e., third order and greater), and along lower order segments at selected sites (e.g., those in or adjacent to conservation lands), apply a setback of at least 100 m (328 ft), and preferably 150 m (656 ft), from the active floodplain for the purpose of conserving and enhancing stream and riparian ecosystem functions including most wildlife habitat functions. Along these larger stream segments, floodplains and riparian areas are more extensive, continuous, and structurally diverse than for lower order stream segments (e.g., first

¹⁵ Jones & Stokes. *Setback Recommendations to Conserve Riparian Areas and Streams in Western Placer County*. 2005. February, 2005.

¹⁶ *Ibid.*

¹⁷ *Ibid.*

and second order). These areas constitute corridors connecting a watershed's lower order stream segments, and, at a watershed scale, the riparian areas of these higher order segments contain particularly important habitats for most riparian-associated species.

- The conservation of wildlife habitat functions within these areas may be necessary for the persistence of their populations. For this reason, a wider setback, sufficient for the retention of wildlife habitat functions, is recommended along stream segments. Recommendations would result in a total setback width ranging from slightly more than 30 m (98 feet) on most first- and second order stream segments to over 150-200 m (492-656 feet) on higher-order streams.
- By basing these recommendations, in part, on the width of active floodplains, a variable, site-specific setback width that accounts for stream size is created. The width of the active floodplain provides a clear, functional basis for a variable width criterion that accomplishes the same purpose more directly than criteria based on stream order, slope, and other attributes of streams and their settings.

Riparian woodland restoration and enhancement measures should include:

- Where feasible, contiguous areas larger than 5 ha (12 ac) should be maintained, enhanced and linked to provide habitat refuge areas for sensitive species. These areas should be connected by riparian corridors more than 30 m (98 feet) wide on both sides of the channel wherever possible, in order to provide movement and dispersal corridors for wildlife.
- The preservation, restoration and linkage of large parcels of undeveloped and uncultivated lands adjacent to riparian areas will provide significant benefits to riparian species. Thus, large contiguous areas of riparian vegetation surrounded by "natural" uplands should be conserved to the greatest extent possible.
- Potential effects of adjacent land uses on riparian areas should be thoroughly evaluated during regional land use planning, and during the environmental review and permitting processes for specific projects, and these effects should be avoided to the maximum extent practicable.
- Re-creation of regular disturbance events (e.g., high water) on the floodplain will enhance vegetation and breeding bird populations in most systems (Riparian Habitat Joint Venture 2004).
- Within setbacks, most developed land uses would be incompatible with the conservation of stream and riparian functions. Developed land uses should be restricted to unavoidable crossings by roads and other infrastructure, because any structures or alterations of topography, vegetation or the soil surface are likely to affect both stream and riparian functions, and could result in substantial effects both on-site and downstream.
- For the purpose of long-term conservation of plant habitat functions, riparian setbacks should include the entire active floodplain, regardless of the current extent of riparian vegetation on that surface. The distribution of riparian vegetation is not static within the active floodplain, and the diversity of vegetative structure and species composition is strongly related to the hydrologic and geomorphic processes within the active floodplain. Therefore, conversion of any portion of the active floodplain to developed or agricultural land-cover types would affect hydrologic and geomorphic functions and affect plant habitat functions.
- Riparian-associated wildlife species differ in the specific habitat attributes they require in riparian systems. Consequently, structurally diverse vegetation, as well as the full range of naturally occurring physical conditions and disturbance regimes, are necessary to provide suitable riparian habitat for the entire community of associated wildlife species. Many riparian-

associated wildlife species use, and often require, both riparian and adjacent upland habitats for reproduction, cover, and/or foraging.

Recommendations for riparian setbacks by agricultural operations are presented below:

- Along first- and perhaps second-order streams, mitigation for adjacent agricultural uses would include filter strips and riparian buffers managed according to standards established by the National Resources Conservation Service. Such practices would improve the buffers' effectiveness for conserving some functions. Along first- and perhaps second-order streams, compatible developed land uses could include open space and low-density residential development, provided no impervious surfaces, infrastructure, or irrigation are placed within the setback.

Request for Information

- Please provide the scientific basis upon which riparian/stream setbacks were developed (such as peer-reviewed research documents, studies from universities, reports from State agencies with expertise in riparian/stream protection).
- Discuss why the riparian setback for a ministerial project is different from a discretionary project, given a hypothetically equivalent environment in each case.
- Discuss the criteria used to determine both the impacts/mitigations for discretionary development projects and the setback size(s) for discretionary projects.
- Include in the dEIR a discussion detailing whether the individual performing the Biological Resource Assessment will be required to consult with agencies with expertise in the field of riparian/stream protection, wildlife protection, etc., and include information from such consultations in the report.
- Discuss who will conduct the monitoring and reporting requirements for ministerial and discretionary projects. (If they will be conducted, who will conduct them, and the qualifications of individuals conducting the monitoring.)
- Describe any penalties or corrective actions that will be required for violations to prescriptive mitigations, and the criteria upon which these actions will be based.
- Identify actions that will be taken to revise ordinances and policies if mitigation measures established in the zoning ordinance are found not to be effective.
- Discuss the impact of livestock on riparian areas and identify the mitigation measures designed to reduce these impacts. If Best Management Practices (BMP) are employed, identify where those BMPs are documented, and discuss their efficacy in terms of mitigating impacts.
- It has been stated that developed land uses (including agricultural uses) within recommended buffer setbacks preclude the effectiveness of setbacks.¹⁸ Discuss why this is/ or is not the case.
- It is also widely believed that conversion of large portions of a watershed or region to developed and agricultural land uses is associated with broad negative effects on riparian and stream ecosystems.¹⁹ Discuss why this is/ is not the case.

¹⁸ Jones & Stokes. *Setback Recommendations to Conserve Riparian Areas and Streams in Western Placer County*. 2005. February, 2005.

¹⁹ Findlay and Houlihan 1996, Roth et al 1996, Booth and Jackson 1997, Magee et al. 1999, Doyle et al. 2000, Paul and Meyer 2001, Allan 2004, Hatt et al. 2004, Pellet et al. 2004, Wissmar et al 2004, and Jones & Stokes 2005).

- Discuss whether the existing riparian setbacks will result in unbuildable parcels in EDC. Quantify how many would become unbuildable if riparian setbacks were increased to protective levels (as discussed in the Jones & Stokes report).
- Discuss whether EDC has developed a database of important surface water features, and if not, when this will be developed. Discuss whether it is possible/legal for EDC to approve development projects that will impact these resources prior to the development of this database.

BRPU, 13D, page 10:

Policy 7.3.3.3 The County shall develop a database of important surface water features, including lake, river, stream, pond, and wetland resources.

Agricultural Operations and Evaluation Under AB 32

Agricultural operations may be exempt from Public Resources Code 21083.4 (Kuehl) provisions under the TGPA/ZOU, but agriculture *is not* exempt from CEQA oak woodland biogenic greenhouse gas emissions (GHG) analysis. (There are no GHG exceptions or exemptions for any oak woodland conversion project.)

Request for Information

- Because the TGPA/ZOU adds 17,000 acres of agricultural land—some of which is currently designated Open Space—impact to oak woodlands is likely significant. While agricultural operations are exempt from oak mitigation (tree replacement measures), they are not exempt from the evaluation of impacts under AB 32. Therefore, this conversion of land from other zoning designations to agricultural land designations must be evaluated as an impact to oak woodlands under this dEIR.
- Discuss the following: Does the project fully account for direct and indirect oak woodland conversion biogenic soil/vegetation GHG emission effects, including carbon dioxide, methane, nitrous oxide and black carbon emission associated with biomass disposal (including from agricultural operations).

Valley Oak Replacement / Request for Information

- Include a discussion regarding valley oak (*Quercus lobata*). Specifically, given the designation of this species as a species of “*special concern*,” why is there no recognition of this fact in terms of enhanced mitigation to protect/replace this species?
- Discuss what mitigation elements will be included to protect this species of special concern.
- If specific mitigation elements are not to be included for this species, discuss why this is the case.
- Quantify the estimated decline of this species if special protections are not provided.

Tree Replacement Scenarios

There seems to be some confusion regarding the tree replacement

Replacement Tree Sizes:

During its June 22, 2015 hearing, the Board requested further clarification and discussion on the potential for allowing different sized container trees to be planted for mitigation. Currently, the draft ORMP requires individual native oak trees to be replaced with 15-gallon sized trees and allows replacement planting for oak woodland mitigation to utilize a variety of smaller sized containers (1-gallon (or equivalent)) or acorns (with a 3:1 replacement ratio).

Source: Dudek Memorandum, September 18, 2015; 17A, page 9.

I believe this is incorrect. The ORMP does not require “...*individual native oak trees to be replaced with 15-gallon sized trees...*”; on page 13 of the May, 2015 ORMP (identical language/criteria is in the revised November 2915 ORMP) it states under “*Individual Native Oak Tree and Heritage Tree Impacts*”:

Replacement tree sizes may vary and may include acorn plantings, based on documentation of inch-for-inch replacement consistency included in an oak resources technical report. If acorns are used, they shall be planted at a 3:1 ratio (3 acorns for every 1-inch of trunk diameter removed)

Source: ORMP, May 2015; 13F, page 13. (Identical language/criteria as in the revised November 2915 ORMP.)

In any case, the formula will presumably work in this manner:

Under the tree-for-inch standard, tree planting would not replace the number of diameter inches removed. However, it would require planting of the same number of trees that would have been planted under an inch-for-inch standard that requires use of 15-gallon trees. To compare the two replacement standards, mitigation for removal of one 12-inch tree under the current draft ORMP would require a project applicant to plant 12 15-gallon oak trees; under the tree-for-inch mitigation standard mitigation for the same impact would require planting of 12 trees of any container size, or 36 acorns.

Source: Dudek memorandum of September 18, 2015; 17A, page 13.

Request for Information

- Once again, **efficacy** (and **performance standards**) should dictate oak tree/woodland mitigation, not an arbitrary formula. Please identify in the dEIR the efficacy of such an approach, and identify specific performance standards (such as canopy cover over time).
- Efficacy of mitigation needs to be demonstrated. The two studies described in the Dudek memorandum 17A (Hobbs, et al., 2001; Young, et al., 2005) actually *do not* support the supposition that acorn planting is “better” than planting larger stock. McCreary—also cited by Dudek—mentions multiple caveats to acorn planting—as presented in my comments of September 29, 2015. But the difficulties of acorn use have been largely ignored, presumably due to its lower mitigation cost.

Tree-for-Inch Mitigation

The tree-for-inch (as opposed to the inch-for-inch) mitigation represents another approach to lessening the cost of mitigation for the project applicant at the expense of oak woodland replacement. As written, this tree-for-inch standard can include replacement of one inch of tree with three acorns. Thus, a 12 inch oak could be replaced with 36 acorns (which are intended to yield 12 live trees, not 36 trees). Based on the growth rate of blue oaks (the species most likely to be removed and replaced via mitigation plantings) it could take a *very* long time to replace an oak.



The oak seedling at left is 8 to 10 inches tall and **12 to 16** years old. Below is a 6 to 8 inch tall seedling estimated to be **10 to 15** years old.



Source: Phillips, et al., 1996



This cross section was derived from a blue oak that was 4.5 inches dbh. This oak was estimated to be 95 years old.

Photo Source: Don & Ellen Van Dyke

A study by Standiford²⁰ on blue oak growth rates revealed an average diameter at breast height (dbh) after 50 years that ranged from 3.4 to 4.1 inches. Even under fairly aggressive restoration efforts, the largest mean diameter of the stand was only 3.9 inches.

Request for Information

- How much “dilution” of mitigation can occur before “mitigation” is no longer mitigation? The following statement was taken from the Dudek memorandum dated September 18, 2015 (17A):

The tree-for-inch standard would be the lesser burden for applicants.

This is great for the applicant; not so good for oak woodland resources. After all is said and done, it is important to remember that—while some individuals have requested that mitigation costs be kept as low as possible—**mitigation must be adequate to mitigate loss**. Affordability is not a criterion under which the effectiveness of mitigation can legitimately be degraded.

As this BRPU/ORMP process has moved forward, more approaches to cost/effort reduction have been inserted. Interestingly, I have not seen documentation in the record, nor heard public testimony requesting these cost-saving changes. Therefore, please disclose in the dEIR the motivation behind the changes. That is, are these modifications based on discovery of what other counties have instituted, or based on mitigation successfully performed in other counties—or are these approaches simply designed to reduce costs/effort for applicants, in spite of the fact that there appears to be *no evidence* to support this approach to mitigation? (And by mitigation I mean the successful replacement of oak woodland within a reasonable amount of time—say five to seven years.) If other counties have instituted these changes (acorn use, tree-for-inch replacement, relying on natural regeneration as a mitigation element, etc.,) please supply documentation that supports the efficacy of these measures in “real world” applications.

- Because it is looking less likely any of the mitigation proposals put forth will realistically mitigate for the loss of oak woodland in a reasonable amount of time, it is reasonable to assume the most effective “mitigation” will be either on-site retention (avoiding the impact in the first place), or the purchase of conservation easements that already contain viable oak woodlands. Therefore, in the dEIR, please evaluate this latter form of mitigation as the primary mitigation scenario. Identify the areas of EDC in which conservation easements are most likely to be established, and the anticipated acreage that is available for easement purchase. Also, identify the plant/wildlife component of these areas, and whether these conservation easements will adequately retain/protect a variety of plant/animal communities, or whether they are limited in scope in terms of diversity.

Oak Tree Replacement

According to the ORMP, “any trees that do not survive the 7-year monitoring and maintenance period shall be replaced by the responsible party listed on the Oak Tree Removal permit and shall be monitored and maintained for 7 years.”

²⁰ Standiford, R, et al. 2001. *Modeling the Effectiveness of Tree Planting to Mitigate Habitat Loss in Blue Oak Woodlands*. USDA Forest Service General Technical Report PSW-GTR-184, 2002.

Request for Information

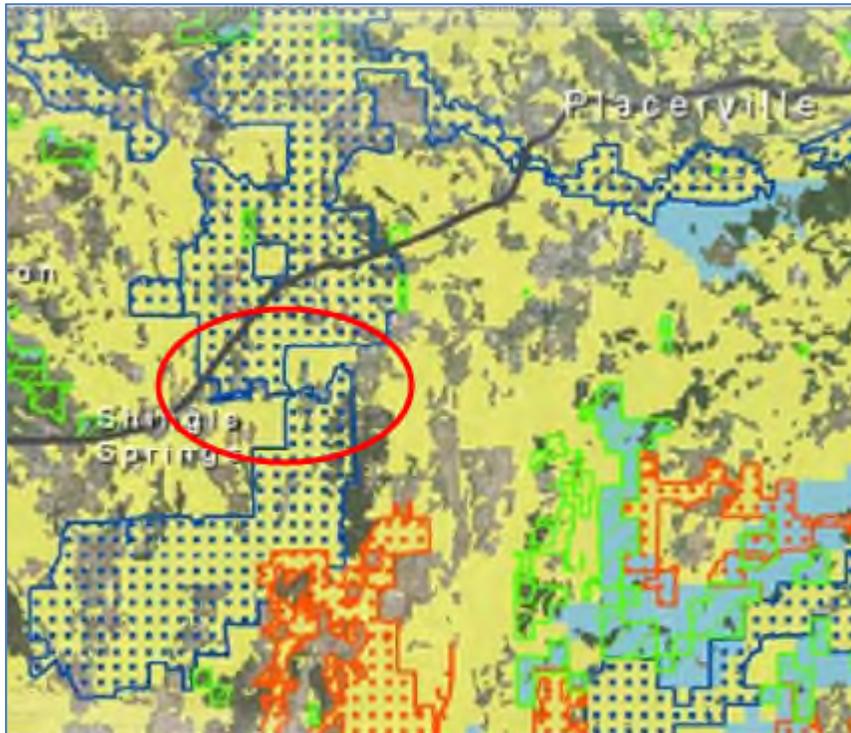
- Please explain in the dEIR how tree replacement is expected to work. That is, are dead trees monitored and replaced annually, or are dead trees only replaced at the end of the 7-year period?

Project Exemptions

- Discuss exemption for County road projects. This is a source of significant impact to oak resources. Bridge projects especially can disproportionately impact valley oak, a species of “special concern.” Discuss—based on scheduled road widening/bridge projects—the anticipated impact to oak resources.

IBC and PCA Maps, etc.

Closer examination of the IBC/PCA maps raises more questions than answers. For instance, in this section of the map, it appears the IBC is greatly constricted in this particular area. Discuss the reason for this constriction—it appears to be artificial.



Request for Information

- Please provide better (more detailed) IBC/PCA maps for each planning area. Identify any outstanding anomalies, and characterize the importance/necessity of each area (what they are designed to protect/serve.)

In Conclusion

In closing I’d like to say the policies proposed in the ORMP represent a significant weakening of environmental protection policies developed under the 2004 General Plan. Therefore, please consider revision to the draft ORMP that strengthen biological resource protections.