From:	Woody Elliott
To:	Calarco, Pete
Cc:	Angela Moskow; Richard Harriman; Paul L. Moore; Natalie Carter; Thad Walker; Scott Huber; Grace M. Marvin; Kirk, Maureen; Jacquelyn Chase; Greg Suba
Subject:	Draft Butte Co Oak Woodland Mitigation Ordinance & Technical Manual
Date:	Sunday, August 12, 2018 10:31:25 AM
Attachments:	MtLChpt_CNPS Logo.jpg Oak-habitat-user-guide.pdf Regenerating Rangeland Oaks.pdf ButteCountyOakWoodlandMitigationOrdinanceDRAFT2018-07-13ElliottEditsComments_2.docx OakWoodlandTechnicalManualDraft2018-07-13ElliottEditsComments.docx

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Pete: The comments and markups in attached draft Oak Woodland Mitigation Ordinance and draft Oak Woodlands Technical Manual plus the following comments are a reiteration and addition to those I emailed to you on July 26, 2018.

My main concerns with the draft ordinance are:

1. According to Angela Moskow, California Oaks Information Network Manager, California Wildlife Foundation/California Oaks, this ordinance should also apply to agricultural lands because: *Although California Public Resources Code 21083.4 states that agricultural conversion of oak woodlands are exempt from CEQA, they are not exempt from CEQA for the analysis of the GHG (Green House Gas) impacts of the conversion to agricultural acreage. Net present value of greenhouse gas emissions forms the foundation of the state's greenhouse reduction objectives, as well as the California Forest Protocol preservation standards. Every ton of carbon dioxide (CO2) released into the atmosphere by oak woodland or forest conversion—alongside the loss of the woodland's or forest's role in carbon sequestration—represents a measurable potential adverse environmental effect, which is covered by CEQA. Thus California requires the analysis and mitigation of greenhouse gas emissions associated with proposed oak woodland or forest conversions.*
2. The draft ordinance allows for deleterious, total removal of oak woodlands on agricultural lands and reduction of oak woodland cover to below the optimum of 40% on all other project sites. I suggest a minimum of 40% canopy cover be required to remain across an area converted from oak woodland on agriculturally zoned land, e.g. harvesting of firewood resulting in the conversion of oak woodland to rangeland for livestock production or vineyards, because:
    1. "(T)he conversion of oak woodland into annual grassland by extensive clearing represents a consumptive use of oaks with only short-term economic benefits at best" (Pavlik, B.M., Muick, P., Johnson, S., and Popper, M., Oaks of California, Chacuma Press and California Oak Foundation, 1991, rev. 2006. Page 113).
    2. "40% canopy cover is about right in most places" for optimum forage production for livestock according to Steven Swain, UC Coop Extension, Environmental Horticulture Advisor, Marin & Sonoma Counties.
    3. Increasing areas of vineyards and other intensively managed crops displacing oak woodland may be coming to Butte County as have occurred in areas throughout California.

    Likewise, all discretionary projects affecting oak woodlands that result in less than 40% oak woodland canopy cover across the project site should be subject to section XX-17 Alternative Project and Design.
3. An arborist, certified to do "physical work on trees" is not a sufficient

qualification for preparation of an Oak Woodlands Evaluation Plan (see: See ISA Certified Arborist Application Guide and https://www.asca-consultants.org/page/RCA) as does a Registered Professional Forester (RPF). Butte County could require that persons preparing such plans be on a list of individuals qualified to do such work that is maintained by the County as other agencies do for professional expertise needed for submittal of various environmental documents, e.g. CEQA.

From my qualitative observations, 24-inch blue oaks exist in the foothills as "heritage trees". I do not have experience evaluating DBH classes of blue oaks in oak woodlands of Butte Co. Andrea Craig, email: acraig@tnc.org, has studied blue oak woodlands in conjunction with of The Nature Conservancy's Sierra Foothills Project. She may have an idea of a size threshold that is typical for such "heritage" blue oaks. I suspect that many blue oaks less than 24 inches DBH could be considered "heritage trees" because of their advanced age.
I am not aware of appropriate oak planting ratios that result in a given replacement canopy cover which seems to be the desired result of the ordinance. The attached Regenerating Rangeland Oaks in Calif. states on page 30: *... canopy cover* (of blue oaks) *after 30 years would be 29 percent with 400 seedlings planted per acre.* Resulting canopies depend on many planting maintenance and environmental factors as discussed in the text of this attached manual.
I believe planting of acorns or seedlings should be discouraged for the reasons expressed in attached Regenerating Rangeland Oaks in Calif. - Chapter 4 Seedling Planting Maintenance & Protection: Planting Patterns pg. 30. However, on sites where documentation shows oaks growing previously, regeneration / replanting may be worthwhile because replanting there may be more successful.
Preservation of oak woodlands in Butte Co and Northern California is best done with conservation easements. Perhaps eventual implementation of the Butte Regional Conservation Plan (BRCP) will facilitate this approach. I do not know of oak woodland sites that can be restored as has been done for riparian habitat along the Sacramento River and elsewhere in Northern California.
The techniques used to evaluate the ecological benefits of oak woodland as described in the attached Oak Habitat Metric - User's Guide could used for specifying appropriate mitigation measures addressed in the draft ordinance and accompanying technical manual. This guide states:

- page 8: *This metric .... may be used to measure the impact to oak habitat on a development site, and to measure the habitat improvement on a site managed for conservation.*
- page 19*: .... what this metric does offer is a quick and low-cost tool to generate relative measures of a project site's ecological and oak habitat values.*
- page 12: *It does not require advanced skills in the identification of vascular plants, lichens, birds, insects, or other fauna. However, it is not intended for use by most landowners, since a background or education in biology, ecology, or environmental sciences is necessary*.

I hope these comments are useful toward Butte County's efforts to preserving oak woodlands. I look forward to review of another revised draft ordinance and technical manual at an upcoming workshop of the Planning Commission. Thank you for the several opportunities to participate in this drafting and learning process.

Woody Elliott , Conservation Chair
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Cell Phone: (530) 588-2555