# Statement of Necessity on Recruitment of Mature Tanoak

Tanoak (*Notholithocarpus densiflorus)* are trees within the beech family which bear acorns and are closely related to true oaks[[1]](#footnote-1). They are a component of the mixed evergreen and redwood forests of the California Coast Ranges; under natural circumstances they almost never dominate a stand or form pure stands. Inland, the species has a shrublike growth form.[[2]](#footnote-2)

Tanoak is a masting species. Acorns take two years to mature, and form a short-lived seed bank, due to widespread caching and consumption by wildlife. Significant production of acorns begins at 30-40 years, and reaches a plateau of the highest acorn production when trees are approximately 30 inches dbh.[[3]](#footnote-3) They are an essential food source for many mammal and bird species including: Northern flying squirrels, Allen’s chipmunks, and dusky-footed woodrats.[[4]](#footnote-4) Other wildlife species consume acorns, foliage, or the ectomycorrhizal fungi that is symbiotic with mature tanoak as a food source including Acorn Woodpecker, Steller’s Jay, Varied Thrush, Chestnut-backed Chickadee, mule deer, chipmunk species, squirrel species, and northern raccoons. These forest systems also provide essential nesting habitats for varied bird species and necessary habitat for varied reptiles and amphibians.[[5]](#footnote-5) Old growth forests with a tanoak component (including redwood-Douglas fir-tanoak and Douglas fir-tanoak forests) also provide favorable Northern Spotted Owl habitat[[6]](#footnote-6). Because the tanoak acorn forms short-lived seedbanks, habitats for the previously listed species are dependent on a mosaic of other tree species, including hardwoods and conifers. While in 1911 tanoak was reported to “never” form pure stands[[7]](#footnote-7), historic timber operations and high-intensity wildfire have resulted in monoculture stands of tanoak.

Since 1994, infections from Sudden Oak Death (*Phytophthora ramorum*) have decimated tanoak populations throughout California, particularly in large single-species stands.[[8]](#footnote-8) Lack of stand management can increase the risk of infection for tanoaks.[[9]](#footnote-9)

This rulemaking effort aims to introduce forest management options for the recruitment of large old tanoaks to provide significant food sources for humans and animals as part of a diverse forest landscape. The goal is to specifically avoid incentivizing the growth of single species tanoak stands that do not provide the same level of support for species that a landscape with several overstory tree species provides. This rulemaking also aims to provide additional options for management instead of prescriptive requirements.

One option is a special prescription under (§913.4, [§933.4, §953.4]), similar to prescriptions allowing management for meadow and aspen stand restoration or variable retention of specific landscape features. Another is to extend large oak tree protections to smaller tanoaks, as relatively few tanoak reach a stump size of 48 inches before senescence. Rulemaking could also examine the definition “Decadent and Deformed Trees with Value to Wildlife” to include the production of mast or other food items.[[10]](#footnote-10) A final option is to review conflicts that may arise in providing protections to large old tanoaks under sustainable forest management standards.

1. Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals. [web application]. 2024. Berkeley, California: The Calflora Database [a non-profit organization]. Available: https://www.calflora.org/ (Accessed: 02/27/2024). [↑](#footnote-ref-1)
2. Tappeiner, J. C., McDonald, P. M., & Roy, D. F. (1990). Lithocarpus densiflorus (Hook. & Arn.) Rehd. Tanoak. Silvics of North America, 2, 417-425. [↑](#footnote-ref-2)
3. McDonald, Philip M. [In press]. Lithocarpus densiflorus (Hook. & Arn.) Rehd.--tanoak, [Online]. Bonner, Franklin T.; Nisley, Rebecca G.; Karrfait, R. P., coords. Woody plant seed manual. Agric. Handb. 727. Washington, DC: U.S. Department of Agriculture, Forest Service (Producer). Available: http://ww.nsl.fs.usda.gov/wpsm/Lithocarpus/pdf [↑](#footnote-ref-3)
4. Tappeiner et al 1990 [↑](#footnote-ref-4)
5. Welsh, Hartwell H., Jr.; Lindi, Amy J. 1988. Old growth forests and the distribution of the terrestrial herpetofauna. In: Szaro, Robert C.; Severson, Kieth E.; Patton, David R, tech. coords. Management of amphibians, reptiles, and small mammals in North America: Proceedings of the symposium; 1988 July 19-21; Flagstaff, AZ. Gen. Tech. Rep. RM-166. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experimental Station: 439-458. [↑](#footnote-ref-5)
6. Thome, Darrin M.; Zabel, Cynthia J.; Diller, Lowell V. 1999. Forest stand characteristics and reproduction of northern spotted owls in managed north-coastal California forests. Journal of Wildlife Management. 63(1): 44-59. [↑](#footnote-ref-6)
7. Jepson WL, Betts HS, Mell CD. 1911. California tanbark oak. Bull. 75.

   Washington, DC: USDA Forest Service. 34 p. [↑](#footnote-ref-7)
8. McPherson, B. A., Mori, S. R., Wood, D. L., Storer, A. J., Svihra, P., Kelly, N. M., & Standiford, R. B. (2005). Sudden oak death in California: disease progression in oaks and tanoaks. Forest Ecology and Management, 213(1-3), 71-89. [↑](#footnote-ref-8)
9. Quiroga, G. B., Simler-Williamson, A. B., Frangioso, K. M., Frankel, S. J., Rizzo, D. M., & Cobb, R. C. (2023). An experimental comparison of stand management approaches to sudden oak death: prevention vs. restoration. Canadian Journal of Forest Research, 53(12), 969-980. [↑](#footnote-ref-9)
10. Calflora ibid [↑](#footnote-ref-10)