permit SONOMA

County of Sonoma
Permit & Resource Management Department

FILE: Comprehensive Tree Ordinance Updates (ORD21-0001)
DATE: November 4, 2021
TIME: At or after 1:20 p.m.
STAFF: Doug Bush
Robert Aguero

SUMMARY

Supervisorial District(s):	All
Location:	Countywide Excluding Coastal Zone
Description:	Tree Ordinance Status Update
CEQA Review:	This is a public workshop so it is not a project under CEQA

RECOMMENDATION

This report provides background, describes current efforts and identifies next steps for a comprehensive planning project to conserve and enhance oak woodland resources. This item is for informational purposes only. Though no formal action is required at this time, Staff welcomes input from the Planning Commission and Public on issues that should be considered through the planning process.

EXECUTIVE SUMMARY

Sonoma County's forest and woodlands make up around 513,000 acres, or approximately 50% of the total land area of the county. These lands support critical habitat for threatened and endangered species, including the northern spotted-owl, steelhead, coho and Chinook salmon. These forests and woodlands of Sonoma County provide a variety of benefits to the community and play a significant role in local ecosystem functions including: beautification, carbon sequestration, air purification, habitat, water quality, soil retention, climate regulation, noise reduction, timber, fuel, spiritual and cultural value, tourism and recreation, and sense of place.

The General Plan sets policy and provides direction on the protection and enhancement of these natural habitats and diverse plant and animal communities, in part by calling for the establishment of standards and programs to protect native trees. This project focuses on Policy OSRC-7l which addresses oaks and oak woodlands and calls for 1) identifying oak woodlands, 2) assessing their protection, 3) identifying options to provide greater protection; and 4) developing recommendations for regulatory and voluntary programs to protect and enhance oak woodlands.

In collaboration with stakeholders and consultation with the University of California Cooperative Extension (UCCE), this project will conserve and enhance natural resources and support community climate and hazard resiliency by implementing the following:

1) develop and implement an Oak Woodland Ordinance or update of existing tree ordinances to provide regulatory protection of sensitive oak ecosystems;

2) identify opportunities for future actions to improve implementation of existing general plan policy; and
3) make recommendations on voluntary conservation programs, as well as education and incentives to support resource protection.

BACKGROUND

On May 18, 2021, a public meeting was held with the Board of Supervisors. At this hearing, staff presented an overview of existing general plan policies addressing trees, current regulations and a brief overview of potential issues that could be addressed by the project. Feedback from the Board included the following:

- Trees are an essential part of our natural landscape, provide important habitat for wildlife and contribute to the scenic quality of the county
- Trees are threatened by climate, fires, drought and development and we need to protect them
- Many in the community are working hard to recover from wildfire and pandemic impacts, and it is important that the project doesn't create undue burden on the community
- The project should support both natural resources and fire hazard mitigation
- Create an effective process that can be understood and followed by the public, reviewed and processed in a timely fashion, and enforced

Since that time, Staff entered into a contract with University of California Cooperative Extension to gather data on existing forest health, identify recent changes across the landscape, identify local challenges to managing the resource, and provide preliminary recommendations to improve forest management and resource protection.

The work of county staff and UCCE is supported in part by a $165,000 Wildfire Resiliency and Recovery Planning Grant awarded by the State of California that expires on October 31, 2022. Deliverables for the grant include: forest resource data gap analysis, ordinance goals and evaluation methodology memorandum, workshops, draft and final ordinance, and a final resolution.

Early outreach has included members of the public and stakeholder groups including the Laguna de Santa Rosa Foundation, California Wildlife Foundation, Sonoma County Farm Bureau, the California Licensed Foresters Association, Sonoma County Conservation Action, Sonoma County Forest Working Group, California Native Plant Society, Pepperwood Foundation, as well as staff from the Sonoma County Agricultural and Open Space District, Department of Agricultural Weights and Measures, and scientists from the University of California. Staff continues to maintain a project webpage which provides details of existing county policies, collects public contacts to support outreach, and increases awareness of this effort.[1]

EXISTING LOCAL POLICY

Management of forests and woodland resources plays a central role in local policies and is addressed in the General Plan, Climate Emergency resolution, and Strategic Plan.

[1] https://sonomacounty.ca.gov/PRMD/Regulations/Comprehensive-Tree-Ordinance/

General Plan

Management of tree resources is necessary for implementation of the General Plan and is essential to achieving Permit Sonoma's own mission to balance environmental protection with sustainable development. General Plan goals, objectives, and policies providing primary direction for this project include:

- *Goal OSRC-7: Protect and enhance the County's natural habitats and diverse plant and animal communities.*
    - *Objective OSRC-7.1: Identify and protect native vegetation and wildlife, particularly occurrences of special status species, wetlands, sensitive natural communities, woodlands, and areas of essential habitat connectivity.*
    - *Objective OSRC-7.6: Establish standards and programs to protect native trees and plant communities.*
    - *Policy OSRC-7l: Identify important oak woodlands, assess current protection, identify options to provide greater protection of oak woodlands and their role in connectivity, water quality and scenic resources, and developing recommendations for regulatory protection and voluntary programs to protect and enhance oak woodlands through education, technical assistance, easements and incentives.*
    - *Policy OSRC-7m: Designate important valley oak habitat areas, reevaluate current designations, and apply a Valley Oak Habitat combining district zoning that requires adequate mitigation for trees removed and monitoring of replacement tree survival.*

Climate Emergency Resolution

On September 17, 2019, the County of Sonoma declared a climate emergency, finding that "a climate emergency threatens humanity and the natural land built environments," and that in order to "avoid irreversible, catastrophic climate change impacts, we cannot only focus on reducing emissions but must also dramatically increase and enable meaningful carbon sequestration while preparing communities now for significant climate impacts." As part of the adopted resolution, the County committed to contributing to the development of a countywide Climate Emergency Mobilization Strategy, led by the Regional Climate Protection Agency (RCPA). On March 8, 2021, RCPA adopted the Sonoma Climate Mobilization Strategy which addresses several focus areas including decarbonization to reduce emissions, and carbon sequestration and ecosystem services to capture and store emissions. The strategy identifies forest protection and tree planting as two primary means of addressing climate change in local actions.

Strategic Plan

On March 2, 2021, the Sonoma County Board of Supervisors approved a Five-Year Strategic Plan that includes a broad spectrum of goals intended to shape the County's priorities and activities. The Strategic Plan identifies five pillars of focus including Climate Action and Resiliency. This pillar includes underlying goals and objectives that are supported by this project including making Sonoma County carbon neutral by 2030, and maximizing opportunities for mitigation of climate change and adaptation through land conservation work and land use policies.

California Environmental Quality Act

As lead agency for discretionary land use permits subject to the California Environmental Quality Act, the County is required to implement guidelines pertaining to Oak Woodland Conversion (Public Resource Code Section 21083.4) which in certain instances requires avoidance, minimization and mitigation of impacts to oak woodlands. According to the guidelines, there are four alternatives available to mitigate significant impacts to oak woodlands: conserve woodland through conservation easements, contribute funds to the state Oak Woodlands Conservation Fund, utilize other mitigation measures developed by the county, or plant an appropriate number of replacement trees (replanting can be used to fulfill no more than 50 percent of required mitigation). This state guideline applies only to discretionary projects and includes exemptions for agricultural conversions and affordable housing.

CURRENT IMPLEMENTATION

The General Plan policies described above are implemented through the County Code, primarily through Zoning Code Chapter 26.[2] The Code addresses management of trees through several ordinances as summarized below:

Tree Protection Ordinance. Chapter 26, Section 88-010(m).

- Applies only to discretionary projects (e.g. conditionally permitted uses).
- The ordinance does not prohibit tree removal.
- Exempts agricultural activities (e.g. removing trees for new vineyard planting) and most building and planning permits (e.g. paved parking areas, clearing trees for new dwellings)
- The ordinance applies to a limited subset of the County's native tree species.
- If trees are proposed for removal, they must be replaced at a ratio specified in the ordinance.

Valley Oak Habitat Combining Zone. Chapter 26, Section 67.

- The purpose is to protect and enhance valley oak trees, one of more than ten local oak species.
- Does not prohibit removal of valley oaks, and mitigations are not required if less than 50% of existing valley oak trees are removed.
- Trees with a diameter of 20 inches or less, or multi-stemmed trees having a cumulative diameter 60 inches or less are not protected.
- The zone applies to parcels with soil types associated with the species. Recent mapping has identified gaps between the actual location of valley oaks and where the zoning applies.
- When mitigation is required, it may include: keeping a portion of existing trees, planting replacement trees on- or off-site, or paying an in-lieu fee for a county parks planting program.

Heritage and Landmark Tree Ordinance. Chapter 26D.

- Provides a process for trees to be nominated for recognition and protections based on age, size, shape, rarity, or location.
- Trees can be nominated for protection by land owner or member of the public. The Board of Supervisors considers the nomination on a case by case basis in a public meeting.

[2] https://library.municode.com/ca/sonoma_county/codes/code_of_ordinances?nodeId=CH26SOCOZORE

- These protections have been applied to approximately 50 individual trees and prevent removal unless the tree poses a safety threat, or creates an unreasonable negative economic impact.

Riparian Corridor Combining Zone. Section 26-65.

- The purpose of the zone is to protect riparian ecosystems (e.g. creeks and rivers)
- The RC Zone prohibits disturbance of riparian vegetation and trees, unless a conservation plan is developed by a biologist to show how, despite planned disturbance, the natural value of an area will be retained.
- Exceptions to this requirement include fire related vegetation management, road and utility crossings, mining and timber operations, grazing of livestock, and some agricultural cultivation.

Timberland Production Zones. Chapter 26, Section 14.

- The Timberland Production Zoning District applies to those areas where the County has identified timber and forest products as the highest and best use of the land.
- Like agricultural zoning, this district is intended to support the conservation and protection of lands capable of producing timber and forest products.
- Harvest of commercial timber species in this zone is typically handled through a State led review process that involves limited local jurisdiction.

Timberland Conversion Permits (Section 26-88-140)

- Permanent conversion of timberland to other uses is regulated through timberland conversion permits.
- *Minor Timberland Conversions.* Sonoma County requires zoning permits for the conversion of timberland to a non-timber growing use on less than three (3) acres.
- *Major Timberland Conversions.* Sonoma County Code regulates timberland conversions greater than three acres as "major timberland conversions." Primary regulatory authority for major timberland conversions typically resides with CALFIRE, with the County acting as a responsible agency for these projects.

Vineyard and Orchard Development and Agricultural Grading and Drainage (VESCO). Chapter 36.

- Growers planting new vineyards, orchards or replanting existing vineyards or orchards are exempt from the Tree Protection Ordinance but may be subject to VESCO.
- VESCO considers impacts of tree removal relating to grading and drainage and tracks these impacts on projects removing more than 1/2 acre of trees.
- Tree removal is only prohibited in areas with very steep slopes over 40% with non-cohesive soil.

Oak Woodlands

The General Plan contains numerous policies and programs supporting the protection and enhancement of trees and forest resources, many of which are implemented through the county code described above. Riparian forests are primarily protected through the Riparian Corridor Ordinance as well as through state and federal protections. Coniferous forests in the County are protected from permanent conversion through timberland conversion ordinances, and timber harvesting is regulated through California Forest Practice Rules. The County's coastal forests are protected through various provisions of the Local Coastal Plan and Coastal Act.

Not all tree protection policies have been fully implemented however. Most notably, oaks and oak woodlands are not addressed meaningfully by existing code, despite General Plan policies calling for their protection (Goal OSRC-7, Policy OSRC-7l and OSRC-7m, Objective OSRC-7.6, Program 18). With 10 different species and extensive hybridization, there is more diversity among oak species than any other trees in the county. Many of these are considered keystone species – those that serve as the essential backbone of their respective ecosystems. More than 300 birds, mammals and other vertebrate animals, 2,000 plant species, and 4,000 insect species inhabit oak woodlands during all or part of their lives.[3] Their role as keystone species means that the future of many of Sonoma County's native animals and plants depends largely on how the County plans and manages oak woodlands in the face of increasing pressure from climate, development and other factors.

Many oak species like valley oak, Oregon white oak, coast-live oak and blue oak reside in valleys and foothills proximate to urban development and agriculture which means that they face significant conversion pressure. While analysis is still being done to determine the extent of removal and habitat conversion in recent years, the location, longevity and slow reproductive rates of oaks make them particularly susceptible to climate and development impacts. As noted in the summary of existing code, oaks are not explicitly prohibited from removal except where they reside within a designated riparian corridor, and impacts to oaks or oak woodlands are considered only when they are associated with discretionary development projects like conditional use permits. One specific species of oak, the valley oak, is addressed through the separate Valley Oak Combining District which applies to both ministerial and discretionary projects. Like the Tree Protection Ordinance however, this ordinance does not prohibit the removal of trees and up to 50% of existing trees may be removed before mitigation is required (County Code §26-67-030). In addition, new data shows that more than 80%[4] of valley oaks are located outside the Combining District and thus are not addressed or protected by the district.

In those limited cases where mitigation is required to address impacts to oaks, mitigation options include paying a fee to support county-led replanting, or replanting on-site by the applicant. This reliance on replanting can be problematic however. Sapling survivability varies based on numerous factors, such as fire, which can kill young trees but may spare the more resilient and fire adapted, mature trees that they are intended to replace. Of those saplings that do survive, it can take many decades to replace the habitat value and other benefits lost due to the removal of the mature trees that came before them[5]. In the past, these same replanting strategies were relied upon by many jurisdictions as a viable means of insuring oak sustainability. Today however,

> *"…most 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*

[3] Marianchild, K., & Maglinte, A. M. (2018). *Secrets of the Oak Woodlands plants and animals among California's oaks.* Heyday.
[4] Sonoma County Vegetation Mapping and Lidar Program. (2013). *Quercus lobata alliances*. County of Sonoma.
[5] Barry, S., Giusti, G. A., McCreary, D. D., & Standiford, R. B. (2005). *A Planner's guide for Oak Woodlands.* University of California Agriculture and Natural Resources.

> *strategy to ensure the viability of oak woodlands. Although recruitment of young cohorts is still an important consideration, there is broad recognition that it is critical to conserve the inherent values that exist in mature oak forests wherever possible…" (A Planner's Guide, 2005)*

The tree protection ordinance and valley oak ordinance emphasize replanting, only address impacts to individual oak trees and don't fully address landscape or ecosystem level impacts. A dedicated Oak Woodland Ordinance or separate processes to address oak woodlands within the existing tree ordinance will not only protect individual oak trees, but also the important and biodiverse oak woodland ecosystems of Sonoma County. These woodlands provide ecosystem services that serve not only the flora and fauna of the County, but also its citizens. These woodlands also serve as a valuable asset in mitigating impacts from climate change, and an oak woodland policy would help eliminate indiscriminate removal of large swaths of oak woodland, address cumulative impacts of individual tree removal, and serve to mitigate impacts where removal is appropriate. At the same time this ordinance will support vegetation management efforts, limit regulatory burden on private landowners, support existing conservation efforts and facilitate beneficial land uses.

Data Collection

In the 25-30+ years since the adoption of the Tree Protection Ordinance and the 13 years since the General Plan was adopted, forest and woodland resources and the benefits they provide to the community have been increasingly affected by a variety of factors including: urban and rural development, agricultural conversion, forestry practices, historical fire suppression, and climate related phenomena including drought, fire, pests and pathogens. Some of these factors were present at the time of general plan adoption, while others are newly emerging or have been significantly amplified since that time. For example, in Sonoma County from 2017 through 2020, around 233,000 acres, or just under ¼ of the county's land area has been affected by fire.[6] These fires have occurred across multiple forest types and geographies. While fire can have ecological benefits, especially for local fire adapted species, the intensity of recent wildfires has also resulted in the deaths of thousands of mature trees.[7] When considering drought, it is estimated that from 2011 to 2019, drought alone killed an estimated 150 million trees throughout the State of California.[8] In terms of changes in local forest health, preliminary estimates suggest that over 5,600 acres of forest outside of wildfire perimeters, and 69,000 acres of forest within wildfire perimeters have shown signs of disturbance (both natural and human caused) since 2013.

The County has several existing ordinances intended to protect and enhance local tree resources but they share several shortcomings: with the exception of the RC district, none explicitly prohibit tree removal or consider ecosystem impacts, clearly address methods of enforcement, or establish methods to track cumulative removal or habitat conversion over time. The lack of current data on tree removal

---

[6] CAL FIRE Wildfire Perimeters and Prescribed Burns. https://gis.data.ca.gov/datasets/CALFIRE-Forestry::california-fire-perimeters-all/about. California Department of Forestry and Fire Protection, May, 2021.

[7] Ackerly, David D., Kozanitas, Melina, Oldfather, Meagan, Papper, Prahlad, & Clark, Matthew.. *Mortality and Resprouting in California Oak Woodlands Following Mixed-Severity Wildfire*. *International oaks*, *30* (). Retrieved from https://par.nsf.gov/biblio/10209458. https://doi.org/10.6084/m9.figshare.13554701

[8] M, L. G. & R, C. B. (2019). California forest die-off linked to multi-year deep soil drying in 2012–2015 drought. *Nature Geoscience*, *12*(8), 632–637. https://doi.org/10.1038/s41561-019-0388-5

makes it difficult to evaluate efficacy and learn from local practice. To help inform this and future forest management work, UCCE staff are now using remote sensing data to track forest cover changes since 2013. Their work will identify the scope, location and nature of current trends most affecting our forest and tree resources, which habitat types are affected and what uses have caused the impact. This analysis should identify both abrupt changes (e.g. a forest is burned in a wildfire) as well as long-term trends (e.g. forest mortality slowly increases due to drought stress) by comparing a series of satellite imagery from 2013-Present.

Data were also collected from county VESCO data, and CalTREES, the online timber harvest permitting system maintained by Cal Fire. Data from 2013 until now are being assessed for acres converted under different permit options and in which dominant forested habitat type the conversion occurred. These data will be used to provide context for the changes observed in the mapping analysis described above. This effort is expected to be complete by the end of 2021. Though detailed data on tree removal and mitigation is unavailable at this time, UCCE's data analysis will help shed light on existing trends while also serving as a preview to the type of insights the county could glean from improved data collection in the future. This project will identify opportunities and mechanisms to improve data collection and improve management capacity in the future.

Conclusion

Wildfire and climate impacts have highlighted gaps in our existing tree and forest related ordinances. A new Oak Woodland Ordinance will address a crucial gap in local conservation by protecting native oaks and oak woodlands. Because many native oaks are keystone species relied upon by hundreds of local plants and animals, protecting oaks means protecting local ecosystems and community benefits on a grand scale. This project is the first in what is anticipated to be several measures to improve local forest resource management, and will not only improve resource protection but also enhance data gathering and support the county's climate resiliency by implementing existing policy of the general plan:

- Drafting an oak and oak woodland ordinance that protects oaks and oak woodlands, and that requires adequate mitigation where removal is appropriate;
- Consider including in the ordinance CEQA mitigation measures to mitigate the impacts of oak woodlands conversion in compliance with Public Resources Code section 21083.4 ;
- Identifying new opportunities for voluntary or incentive based conservation programs to support woodland conservation and ways to promote or enhance existing programs;
- Developing reporting mechanisms to help track removals, plantings and other tree related work for the oak woodland ordinance and existing regulations; and
- Providing education and outreach to support the community in resource stewardship and vegetation management.

Next steps will include:

- Staff will continue development of an Oak and Oak Woodland Ordinance (Tentative hearing with Planning Commission by March, 2022, Board of Supervisors hearing by August, 2022);
- A discussion draft will be introduced for collaborative development with stakeholders (Tentatively scheduled for December, 2021);

- Data collection and analysis will continue in collaboration with UCCE to identify the location, type and degree of habitat conversion over time;
- Voluntary conservation mechanisms, incentive programs and other approaches will be identified in collaboration with county partners;
- Consulting with project review staff to develop new protocols for keeping track of tree removals and mitigations moving forward; and
- Staff will conduct review of the ordinance under the requirements of CEQA.

Attachments:

Attachment 1. Public Comment
Attachment 2. Materials from the May 18, 2021 Board of Supervisors meeting, including staff report and video of the hearing are available at https://sonomacounty.ca.gov/PRMD/Regulations/Comprehensive-Tree-Ordinance/