



**CITY COUNCIL MEETING  
STAFF REPORT**

<b>Meeting Date:</b> September 5, 2024		<b>Subject:</b> Update on Response to the Mediterranean Oak Borer (MOB)	
		<b>Staff Member:</b> Georgia McAlister, Associate Planner	
		<b>Department:</b> Community Development	
<b>Action Required</b>		<b>Advisory Board/Commission Recommendation</b>	
<input type="checkbox"/> Motion <input type="checkbox"/> Public Hearing Date: <input type="checkbox"/> Ordinance 1 <sup>st</sup> Reading Date: <input type="checkbox"/> Ordinance 2 <sup>nd</sup> Reading Date: <input type="checkbox"/> Resolution <input type="checkbox"/> Information or Direction <input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Council Direction <input type="checkbox"/> Consent Agenda		<input type="checkbox"/> Approval <input type="checkbox"/> Denial <input type="checkbox"/> None Forwarded <input checked="" type="checkbox"/> Not Applicable  <b>Comments:</b> N/A	
<b>Staff Recommendation:</b> Staff recommends Council receive the Mediterranean Oak Borer response update and provide any direction.			
<b>Recommended Language for Motion:</b> N/A			
<b>Project / Issue Relates To:</b>			
<input type="checkbox"/> Council Goals/Priorities	<input checked="" type="checkbox"/> Adopted Master Plan(s) Urban Forest Management Plan (2021)	<input type="checkbox"/> Not Applicable	

**ISSUE BEFORE COUNCIL:**

Staff desires to provide the City Council with an update on the City’s response to the Mediterranean Oak Borer.

## **EXECUTIVE SUMMARY:**

The presence of Mediterranean Oak Borer (MOB) infesting Oregon white oak trees (OWO) within the City of Wilsonville was discovered a year ago in the Summer of 2023. In October and January, staff completed the preparation of a Mediterranean Oak Borer (MOB) Status Report, which are included as Attachment A and Attachment B in the packet materials. Prior to that, the City Manager created a multi-disciplinary team of staff members from the Community Development, Public Works and Parks and Recreation Departments to respond to the MOB infestation. This remains an evolving situation that will change over time with the addition of information, knowledge, field observations and real science that will inform and adjust the City's approach and response.

Meetings with the core coordination team are no longer biweekly as much of the immediate planning has been completed, general protocol for removal and disposal has been established, and we are transitioning to a management and information gathering phase.

Contact from residents, tree care companies and State officials has increased since the January update. On average, planning staff are contacted three to four times a week by various parties inquiring about MOB and specific tree issues. The removal of infested Oregon white oak trees has continued at a slow rate. More methods for treatment and testing opportunities have increased throughout the year offering alternative paths to removal. The results of these alternative methods are unknown at this time, but it is a positive sign to be moving away from removal and towards tree care.

### ODF/ODA coordination:

Staff's partnership with Oregon Department of Agriculture (ODA) and Oregon Department of Forestry (ODF) continues to grow and is a strong working relationship. City staff attends the monthly statewide working group to keep informed and update partners regarding the status of Wilsonville. The regular communication has facilitated partnership and coordination on several exciting research opportunities in Wilsonville.

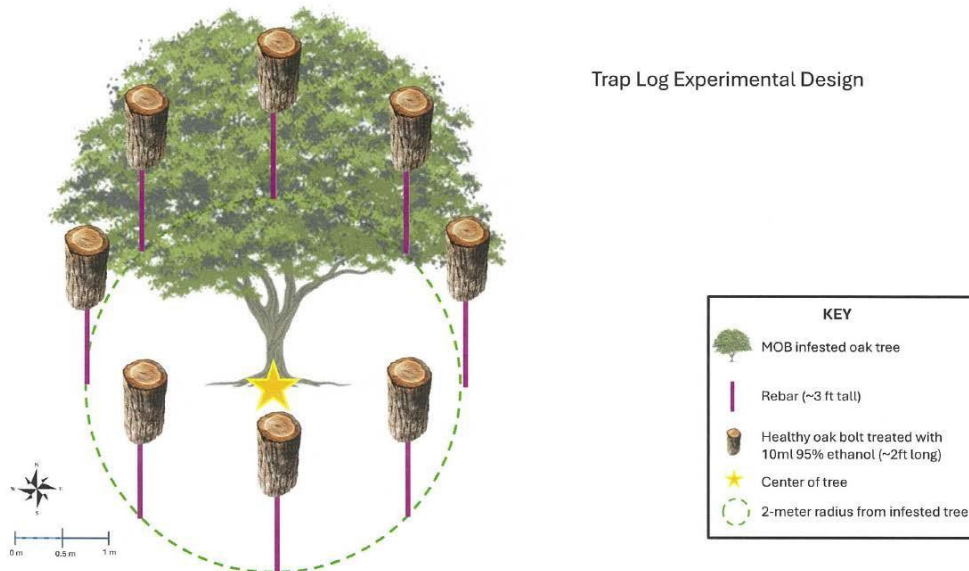
Observations to date by ODF/ODA staff reveal that the MOB prefers trees that are stressed (keep in mind that all of our oaks are stressed in one way or another due to climate change, drought, more severe storms), have fungus, insect damage or have otherwise experienced damage or breakage from ice. Many of the recent field observations suggest that the MOB may be a secondary cause of tree death, not the primary cause. Research within Wilsonville are focused the following issues:

- MOB behavior and presence
- Treatment and management opportunities
- Resiliency improvement by reducing stressors

Active projects within the City include the following:

## Log Catch Experiment

Allison Monroe, Oregon State University Graduate Student, is conducting a “Log Catch Experiment” with support of ODA staff. The “Log Catch Experiment” is a simple experiment aimed to investigate a potential management method for MOB using “Biological controls”, which is the introduction of a natural predator to reduce the presence of MOB. Allison’s experiment’s goal is to identify whether a parasitoid wasp species interested in preying on MOB exists. The experiment includes the use of eight bolts of oak wood treated with 10ml of ethanol, installed in a circle around the base of an infested tree. The goal is to attract the MOB with the ethanol, a chemical released by injured trees, and trap within the bolt in order to investigate their behavior and colonization patterns. An additional benefit from the experiment is testing the potential use of ethanol logs as a management strategy as well. See both the diagram below and further information included in Attachment C.



With the assistance of City Staff, Allison is conducting the “Log Catch Experiment” at the following sites in Wilsonville:

- Memorial Park
- Edelweiss Park
- Park at Merrifield
- WES Mitigation Site
- 26120 SW Parkway Ave (Privately Owned)

The control site is located on privately owned land outside the City of Wilsonville.

## **Insecticide and Fungicide Treatment**

Oregon white oak trees treated by the City with the injection of systemic insecticide directly into the trunk of the tree to protect against future infestation include the WES grove on Kinsman, the Failmezger heritage oak on Parkway, two of the Three Sister Oak trees, the OWO preserved in the 5<sup>th</sup> to Kinsman project, the OWO trees preserved at Willow Creek drive, the grove of oaks in Piccadilly Park in Villebois, oaks at Park at Merrifield, and the Target tree. The West Linn-Wilsonville School District treated the Cumberland Heritage Oak tree located at Wilsonville High School (WHS). The injected trees are under observation and City owned treated trees are included in Attachment D, Morgan Holen and Associate's Oregon White Oak Monitoring Report.

The results of the injections appear mixed. While some of the OWOs continue to be in good health the Park at Merrifield Tree (56833) has lost 80% of its canopy, the Target tree has shown similar decline, and the Cumberland Oak tree located at WHS had a large branch removed on August 14, 2024, due to infestation.

## **Grove Irrigation**

A grove of OWO trees located in the Frog Pond Neighborhood has shown signs of MOB with two OWO trees required to be removed this past fall. While there are signs of MOB, the OWOs appear in good health with full crowns and no clear signs of decline. There is concern that removing any tree that shows signs of MOB may result in the loss of the entire grove within a few years and that a similar pattern could appear across the City. As such, City staff reached out to ODF and ODA to facilitate an experiment focused on improving the health of the grove with the goal of bolstering the health of the trees, allowing the trees to fight off the infestation. The methodology for this experiment includes deep watering and irrigation during peak summer heat as OWO trees are experiencing a period of prolonged drought weakening their natural defenses. With coordination between ODF, Bartlett Tree Experts, the homeowner's association (HOA) and City the experiment is now underway.

## **Limb Removal and Tree Health Support**

With the sudden decline of the Cumberland Oak Heritage tree, partners at ODF, Bartlett Tree Experts, and the West-Linn Wilsonville School District are interested in exploring whether removal of infested limbs combined with other known best care practices can stop the spread of the infestation and by eliminating stressors allow the tree to fight off further infection naturally.

## **MOB Trapping**

MOB traps have been set throughout the City on various private and public properties by ODA and ODF. The purpose of these traps is to learn about the MOB's activity including when the MOB becomes active, when they are most active, and when they may be dormant. Information about the geographic extent of the insect infestation is also being collected. These traps have been set throughout the Metro region and east of the Cascades. This work is on-going with the majority of collection occurring April-September of 2024. If the geographic extent is narrow, then a quarantine could be proposed similar to the Emerald ash borer. Time will be needed to determine the extent of infestation.

## **Repellent Testing**

Christine Buhl with ODF is partnering with Wilsonville's residents on the testing of a repellent as a management method in one of Wilsonville's more heavily impacted areas on Oak Patch Court east of Canyon Creek Road.

## **Ad Hoc Removal Investigation**

City staff is coordinating with both ODA and ODF staff to allow for the investigation of infested trees during and after removal when possible. These investigations inform the study of MOB's pattern of colonization and their behavior within the trees as they decline.

## Disposal Options

Guidelines for proper disposal of infested OWO debris from ODA and ODF continue to be recommendations and not enforced by quarantine. Burning the debris continues to be the most effective method for disposal followed by chipping debris into 1-inch chips and composting at high heat. Other disposal methods include deep burial as well as chipping debris to 1-inch chips and leaving in place.

The use of visqueen for solarization, a technique used in California, while once thought to be a potential effective disposal method utilizing heat from the sun to suppress the MOB population, presents challenges in the more humid climate of Oregon. In some cases, visqueen has been found to trap moisture creating favorable conditions for fungi growth supporting the MOB population.

## City Owned Oregon White Oak Monitoring Report

On June 21, 26 and July 10, 2024, consulting arborist Morgan Holen conducted an inventory of 119 OWOs owned and managed by the City of Wilsonville for the purposes of updating Wilsonville's tree health inventory and providing management recommendations. The recommendations included in the report will serve as guidelines for management.

The tables below included in Morgan Holen and Associate’s Oregon White Oak Monitoring Report, Attachment D, present promising findings from the assessment.

**Table 1. Count of Trees by Health Rating.**

Health	2024 Assessment	Percent
Healthy	96	85%
Stressed	13	12%
In Decline	4	3%
Dead	0	0%
<b>Total</b>	<b>113</b>	<b>100%</b>

**Table 2. Count of Trees by Condition Rating.**

Condition	2024 Assessment	Percent
Excellent	2	2%
Good	40	35%
Fair	64	57%
Poor	7	6%
<b>Total</b>	<b>113</b>	<b>100%</b>

Of the 119 trees only 6 are showing signs of MOB infestation. General recommendations based on the results of the inventory include periodic monitoring of the OWOs every three years to inform management strategies and reapplication of systemic treatments when necessary. The report also recommends specific management practices for 87 of the trees including:

- Arborist chip mulch application to help moderated soil temperature, retain soil moisture provide soil nutrients and keep lawn mowers away from tree trunks
- Selective pruning
- Supplemental watering
- Structural support
- Blackberry removal

### Charbonneau

On August 1, 2024, consulting arborist Morgan Holen conducted a window survey of the over 800 mature red oaks (*Quercus rubra*) along French Prairie Drive, following-up from the window survey conducted in the fall of 2023. No signs of MOB were observed continuing the positive trend for red oaks within Wilsonville. Some signs of stress are present due to planting and environmental conditions. The Public Works team continues to closely monitor the trees while providing regular care including the removal of deadwood, pruning, and selective removal when necessary.

### OWO Tree Removals

The removal of OWOs with signs of infestation having progressed past the point of treatment continue at a slow rate on private property. The four removed trees are within an approximately ¼ mile stretch of neighborhoods along Canyon Creek Road. Debris from the trees have been chipped and recycled at high heat.

As more information is learned about MOB and the patterns of infestation, experts are encouraging the use of alternative treatment methods before removing trees. Evidence points to MOB being a secondary cause of decline in OWOs, meaning MOB are observed to be targeting trees already experiencing stress and a decline in health. The positive implication of these findings is improving the health of OWO trees may prevent infestation and/or support the recovery of infested trees with properly timed intervention. This is a significant finding and reason to be encouraged about the future of mature OWO trees.

**EXPECTED RESULTS:**

MOB is going to be a significant issue for the community for the foreseeable future. Staff is on the leading edge of knowledge and is charting approaches far ahead of any other municipality in Oregon. The expected results will be to protect the oaks that we have and prevent further degradation of this precious resource.

Parks and Planning staff continue to support education efforts to inform local communities and key tree stewards with staff presenting to Oregon Community Trees in March of 2023 and Parks staff from local jurisdictions touring Wilsonville in spring to learn more about our local approach as well as signs and symptoms of MOB. Staff coordination with ODA and ODF has facilitated ongoing research throughout the community which will contribute to the growing knowledge of MOB in Oregon.

**TIMELINE:**

Timelines are on-going.

**CURRENT YEAR BUDGET IMPACTS:**

Staff is utilizing CIP #9088 Oregon white oak fund and #9179 Urban Forest Climate Resilience, both of which have sufficient funds this fiscal year to cover anticipated work.

**COMMUNITY INVOLVEMENT PROCESS:**

Staff is in consistent communication with citizens, tree companies, HOA's and other interested parties regarding the dissemination of information regarding how to identify MOB as well as providing options for proper disposal.

Community members have been and will continue to be essential partners in the management and research efforts taking place as many of Wilsonville's OWOs grow on private land.

Residents and businesses reporting infestations and removing trees have been open to connecting with ODF and ODA representatives to support research efforts including the observation of removed trees, participation in trapping, repellent testing, irrigation efforts, and reporting signs of MOB. The participation of the community is an important asset that cannot be overlooked. It is a testament to the importance of OWOs and the strength of our community.

**POTENTIAL IMPACTS OR BENEFIT TO THE COMMUNITY:**

A healthy, thriving urban forest that includes Oregon white oak promotes many benefits to quality of life and livability of the Wilsonville community.

**ALTERNATIVES:**

The Council can direct staff on any number of alternatives. None are recommended at this time.

**CITY MANAGER COMMENT:**

N/A

**ATTACHMENTS:**

- A. MOB Status Report (October, 2023)
- B. MOB Status Report (January, 2024)
- C. Log Catch Experiment Information
- D. Morgan Holen and Associate's Oregon White Oak Monitoring Report