

Lakeview Area PM Advance Program Action Plan - Update

September 2017



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Executive Summary

In 2014, the Town of Lakeview and Lake County (Lakeview area) prepared a PM Advance Plan in conjunction with DEQ. For the past few years, the Town and County have been implementing the plan and seeing the results of their efforts. Fine particulate matter (PM_{2.5}) is the biggest concern in the Lakeview area due to smoke impacts from woodstoves, fireplaces and other wood burning appliances. Other sources of PM_{2.5} include open burning, prescribed burning, wildfires, smoke from industrial stacks, and some road dust from vehicle travel.

Monitoring

Current monitoring shows that the Lakeview area has struggled to meet the 24-hour PM_{2.5} standard but has exhibited improvement in recent years. 2016 was an excellent year for the community, bringing the 3 year average (2014-2016) to below the 24-hour standard.

Key Strategies

To continue to meet the standard, the Lakeview area will need to maintain their key strategies of reducing PM_{2.5} from wood stoves, open burning, industrial operations and other sources of fine particulate matter. Compliance with their town and county ordinances is critical to their success. These ordinances and its implementation of them include the mandatory wood stove curtailment and open burning requirements and enhanced public education. Other key strategies include a local wood stove changeout program and forestry agreements to minimize impacts from prescribed burning.

1. Overview and Monitoring

Lakeview is a small community in the South Central part of Oregon that experienced poor air quality in the 1990s and more recently in the 2000s and 2010s. In 2014, the Town of Lakeview and Lake County submitted an action plan to achieve emission reductions to help the area meet the daily and annual PM_{2.5} standard.

A single federal reference method sampler is sited in Lakeview at the corner of Center and M Street. DEQ has monitored at this site since 1991 for PM₁₀ and since 2007 for PM_{2.5}.

1.1 Yearly Monitoring Results

Although the Lakeview area met the daily standard (98th percentile) in 2016, historically this community exceeded the standard (Figure 1).

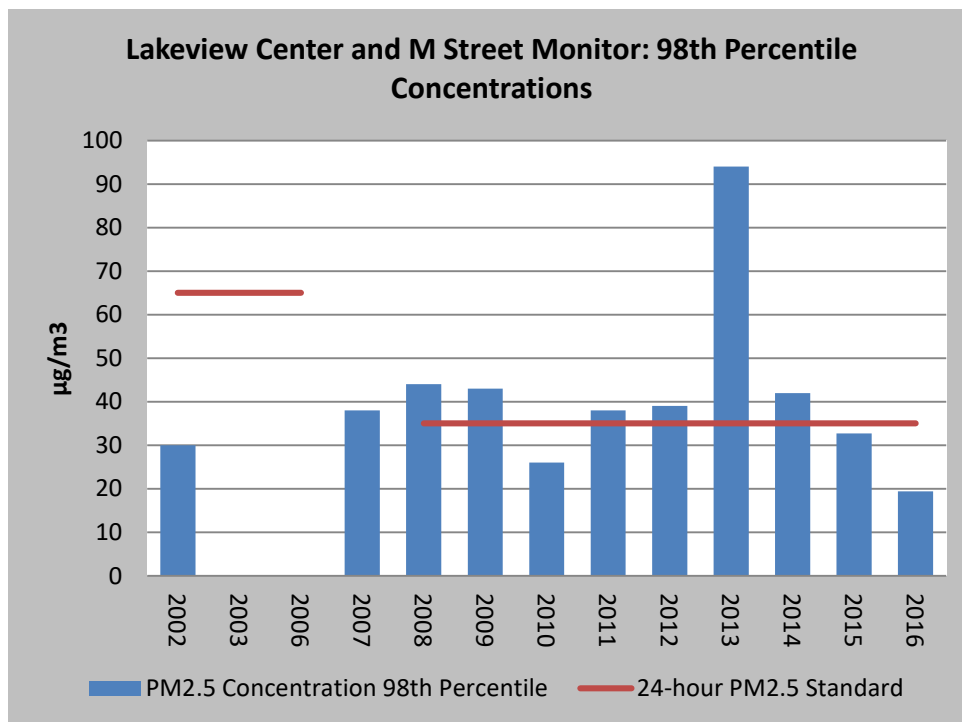


Figure 1: 24-hr 98th percentile concentrations measured at Center and M Street Monitor^{1,2}

The area was not designated nonattainment for the 24-hour PM_{2.5} NAAQS in 2007 because there was not sufficient monitoring information available at the time of the designations. However, in 2013, prolonged winter inversions occurred causing a significant increase in ambient concentrations and caused Lakeview to violate the standard. Since 2013, the Lakeview area has worked hard to bring the levels below the standard, as evidenced in 2015 and 2016.

¹ In 2012, the Barry Point fire was excluded from the monitoring data.

² For 2013, the 98th percentile concentration is 94 ug/m³, and the 2011-2013 average was 56.0 ug/m³.

1.2 Three Year Average Monitoring Data

Lakeview is currently meeting the standard based on the most recent data (2014-2016) data. Figure 2 shows the 3-year averages:

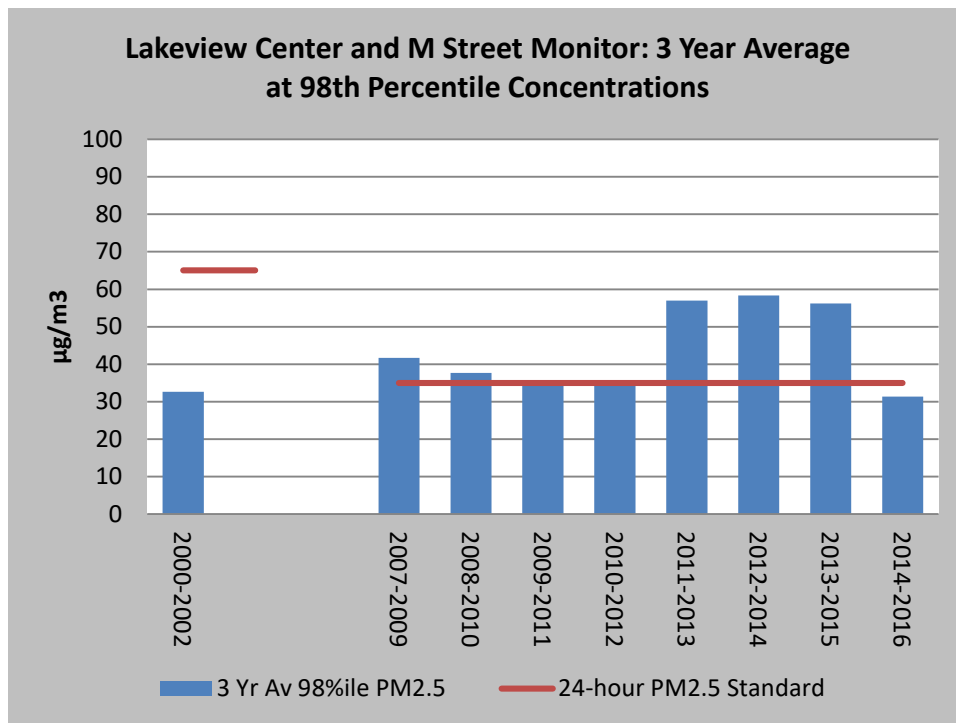


Figure 2: Three Year Average 98th Percentile Concentration Measured at Center and M Street

2. Emissions Update

In evaluating 2017, the original emission inventory was used to provide a comparable estimate of progress. Wood stove emissions (residential wood combustion) are still prominent, but all recent activity in the Lakeview area appears to be on a downward trajectory compared to the original emission inventory estimates.

Significant improvements to air quality continue to be implemented since the original emission estimates were made for 2011 and 2019. They include implementation of the mandatory woodstove curtailment program and the ongoing uncertified woodstove replacement program. The difference between the predicted 2019 emission inventory in the original plan and current estimates for 2017 is in Table 1 below.

Table 1: Emission Inventory Projection for 2019 compared to estimated actual emissions in 2017

Source	Original Future Year 2019 Lbs/day	Estimated Current Year 2017 Lbs/day
Residential Wood Combustion	588	415
Permitted Sources	238	66
Residential Open Burning	24	24
Prescribed Fire	0	0
Fugitive Dust	0.1	8
Other Area Sources	16	9
Nonroad	3	3
Onroad	2	6

Total	871	531
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The Lakeview area has made significant progress toward meeting the standard. Table 1, above, shows the community is ahead of our projected 2019 estimated reductions already in 2017.

3. Implemented Strategies

Over the years Lakeview and DEQ have developed strategies to manage particulate matter air pollution concentrations in the Lakeview area, based in part on its history of dealing with particulate (PM₁₀) pollution from the early 1990s. The emission reduction measures identified in this section include actions to address residential wood heating smoke, restrictions on residential open burning, and public education. These strategies were implemented in 2014 and they continue to this day.

3.1 Mandatory Woodstove Curtailment Program

The Town and County changed their woodburning ordinance to a mandatory curtailment program and considerable reductions have been observed. The Town of Lakeview and Lake County inside the urban growth boundary require residents to curtail their residential wood combustion on red days (high pollution, high health risk days) and curtail their uncertified woodstove use on yellow days (moderate pollution days). In November 2016, the exemption program that allowed low income and sole source homeowners to burn even on yellow and red days, was no longer offered within the town limits.

The advisory continues to be available to the public every day during the wood heating season (November 1 – February 28). One part-time program staff person is responsible for providing the advisory calls and conducting patrols to see if there is compliance with the advisory. Implementation and enforcement of the advisory continue to occur through letters and home visits. Specifically, for any offenders, a warning letter is issued that also includes information about funding opportunities for changeouts (woodstove monies that were available in 2016-17) and weatherization. While the ordinance has the potential to issue fines for continued offenses, the primary focus of enforcement would be through education and awareness.

Continued enforcement of the curtailment program, increased public awareness as a result of the program, and better compliance shows the change in public behavior towards addressing woodsmoke. Table 2 shows the number of advisory call days made.

Table 2: 2016 Winter Heating Season Advisory Calls

2016 Winter Heating Season		
Green Advisory Calls	Yellow Advisory Calls	Red Advisory Calls
146	3	3

During the 2016 year the Town conducted about six compliance surveys throughout the community to identify violators of the ordinance. Surveys were conducted on both yellow and red days. There were no warning letters sent out in the 2016 year, primarily due to the mild winter through December 31st, 2016.

3.2 Woodstove Changeout Program & Weatherization of Homes

Lakeview has had a history of conducting woodstove changeouts by replacing old uncertified stoves with cleaner burning units. In 2014, House Bill 5201, appropriated \$750,000 in funding for a regional solutions air quality project in Lake County. Since 2014, the regional solutions air quality project has changed out stoves in 104 homes in addition to weatherizing 19 of those homes in the Lakeview area. Overall:

- 52 woodstoves and fireplaces were replaced with non-wood heating alternatives such as ductless heat pumps.
- 42 woodstoves and fireplaces were replaced with either pellet stoves or “hybrid” low emitting stoves. For those residents who received a very low emitting woodstove or pellet stove they were also required to install a non-wood burning alternative stove to heat homes on red days. The homeowner is required to sign a paper stating they will use the alternative to burning on predicted poor air quality days in the winter.

Funding for the program will cease at the end of December 2017. It is anticipated another 10 more changeouts may occur prior to the conclusion of the program.

3.3 Open Burning Prohibitions

The Town of Lakeview and Lake County established an ordinance prohibiting outdoor open burning that extends to the urban growth boundary limits between November 1 and February 28th of each year. The ban has been effective in controlling open burning in the critical winter months when potential PM_{2.5} exceedances might occur.

3.4 Public Education and Awareness

The County will work in coordination with the Town to reach out to the UGB on education and outreach efforts. DEQ has provided funding to the Town, through an interagency agreement, to conduct ongoing and enhanced education efforts in the Lakeview community about proper use of woodstoves and how to reduce wood smoke.

Although difficult to quantify, the enhanced educational efforts include:

- 1) Changing the curtailment call times to noon to noon of the following day.
- 2) Improved education on burning properly, wood storage, seasoned wood, and types of wood to burn
- 3) Conducting follow up calls and visits to households who have had a woodstove changeout within the past year or two.
- 4) Public education in schools and service groups
- 5) Installation of reader board (in a high visibility spot) to inform residents of curtailment call

Daily advisories were available to the public at 11:00AM each day, seven days a week between November 1 and March 1 of the 2016-2017 season. The advisories were available to the public by the following media outlets:

- 1) Local Radio Stations
- 2) Town Website
- 3) Stoplight in the second story window at Town Hall
- 1) Local reader board located in front of the fire hall
- 4) 24-hour hotline
- 5) Email to those who sign up, and
- 6) Facebook

The advisories were prepared based on information from the National Weather Service, Oregon Department of Forestry forecasts and local knowledge of the weather patterns. DEQ prepared a forecast tool for the Lakeview area that is available for use as a second source of information for the advisory call.

3.5 Prescribed Burning

The U.S. Forest Service continues to maintain its agreement with the Town of Lakeview and Lake County to not burn within the Lakeview Special Protection Zone (LSPZ or Goose Valley airshed) an area surrounding the Town of Lakeview, during poor air quality days. The Collins Pine Company also has a similar agreement. This helps prevent smoke impacts from prescribed burning entering into Lakeview's airshed.

4. Future Efforts

1. The Lakeview area will continue to implement the mandatory woodstove curtailment program for the 2017-2018 woodheating season and future years. Compliance surveys on red and yellow days will continue, with warning letters continuing to be sent out to any violators of the ordinance.
2. The County will work in coordination with the Town to reach out to areas in the greater Lakeview area airshed on education and outreach efforts.
3. Approximately \$100,000 in funding from the regional solutions air quality project remains for the woodstove changeout and weatherization program. Increased efforts within the town will continue to ensure the funds are spent before the program ends.
4. Continued efforts to conduct education and outreach regarding proper use of woodstoves, reducing woodsmoke, and daily woodstove curtailment advisories. Woodstove curtailment calls may also be posted on the County Fairground's reader board, a high visibility location. The Town will continue to do community outreach through health fairs, community groups, and print and social media outreach.
5. Reinstating the town block grant for residential improvements to be used to replace wood stoves when money has been paid back from the program. Possibly broadening the grant program to include businesses that can be eligible for woodstove changeouts.

5. Summary

In summary, the Lakeview area has a robust PM Advance Plan that is working. This includes continued implementation and compliance of the mandatory woodstove curtailment ordinance. Woodburning emissions remain the primary source of PM_{2.5} emissions in the Lakeview area and must continue to be reduced for the area to come into compliance with the National Ambient Air Quality Standards.

In general, the Town of Lakeview and Lake County have conducted a unique set of steps to improve air quality in the area. DEQ anticipates them meeting the standard in the near future provided they continue to implement their ordinance and use the tools they have as outlined in the PM Advance Plan.

Appendix A – Town of Lakeview Annual Reports



TOWN OF LAKEVIEW

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AIR QUALITY

2016-2017 ANNUAL REPORT

June 27, 2017

In the following is the report for the 2016-2017 wood smoke advisory season. Information will be provided regarding the work done by the Air Quality Program Coordinator as well as some changes that have taken place in Lake County.

This being my first Air Quality season I was able to see the progress we have made with educating the community on the importance of Air Quality.

On October 27, 2015 the town council adopted Ordinance No. 853, **An Ordinance Prohibiting the Use of Solid Fuel Burning Devices within the Town of Lakeview; Providing Certain Exemptions Therefrom; Establishing Controls for the Enforcement of this Ordinance; Providing Penalties for violations Hereof; Repealing Ordinance No. 851 in its Entirety and Declaring an Emergency.**

The County and the Town's ordinance still share both similarities and differences.

The Town approved Ordinance No. 853 to extend the sole source exemptions in hopes that the local woodstove change out program would make significant change outs throughout the year eliminating those sole source homes.

The County has made no changes to their Ordinance at this time.

The Town is still in charge of patrolling and monitoring the Counties air quality program.

This season the public was not able to obtain an exemption, a total of 97 stoves were replaced

For the 2016-2017 season there were 146 green burn days advised, and 3 yellow burn, 3 red days advised.

Public Awareness

Daily advisories were made available to the public at 11:00 a.m. seven days a week from Beginning November until March 1, 2017.

These advisories were made available to the public in the following ways:

- 1) Local radio stations
- 2) Town's Website
- 3) Stop light in the second story window at Town Hall
- 4) Local reader board located in front of the fire hall
- 5) 24 hour hot-line
- 6) Flash Friday- Lake Co Examiner and I put together a local broadcast of the definitions of RED-YELLOW-GREEN.

We also contacted the community via- email per their request with the daily advisories.

Daily information was also available to the public through Town Hall.

The information for the daily advisories came from a few different Intel's.

I took information from national weather service station as well as the DEQ's website to help make my decision on the burn advisory.

Community Participation and Compliance

The AQ Coordinator continued to compile names and phone numbers to relay to SCOEDD for the woodstove change out project.

There were a total of 97 change outs for the program at this point, 4 waiting to be completed and 6 that still need to be inspected in the next two weeks. The 97 replacements devices consisted of:

- 1-Electric Furnace
- 30- Heat Pumps
- 7- Mini Splits
- 6- Propane Furnace
- 5- Propane Fireplace Inserts
- 1-Propane Stove
- 6- Hybrid wood burning fireplaces Insert
- 26-Hybrid woodstoves
- 2- Pellet Fireplace Inserts
- 13-Pellet Stoves

Recently there were some changes on rules and regulations to the program to help fit Lake County and its needs.

The AQ Coordinator did not have to conduct many compliance surveys due to the mild Air Quality Season.

In the wood smoke advisory season there were no warning letters sent.

Planning Measures to Develop a Path Forward

The reader boards as well as all other methods of daily calls still contribute to the Town's outreach to the public.

With the public's input the AQ Coordinator Dawn Roberts would like to develop ways to help the community improve their air quality while not making it impossible to understand the need for improvement.

Planning Measure to Improve Air Quality

In the matter of improving air quality the town continues to enforce their Ordinance as well as educating the public on the importance of Air Quality and programs available to help improve air quality.

The Town Manager continues to work with the natural gas working group to try and obtain natural gas for the area to help improve air quality.

The Town would like to see the grant money that is available to help with the change out program be well utilized for the area to help reduce the wood smoke.

Dawn Roberts,
Town of Lakeview
Air Quality Program Coordinator

