REQUEST FOR REDESIGNATION OF KALISPELL PM_{10} NONATTAINMENT AREA

&

ATTAINMENT AREA LIMITED MAINTENANCE PLAN

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DEQ
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of Environmental Quality

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ACRONYMS

AIRS	Aerometric Information Retrieval System
ARM	Administrative Rules of Montana
CAA	Federal Clean Air Act
CMB	Chemical Mass Balance
DEQ	Montana Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
FR	Federal Register
LMP	Limited Maintenance Plan
NAA	Nonattainment area
NAAQS	National Ambient Air Quality Standard(s)
NEI	National Emission Inventory
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PM_{10}	Particulate Matter of 10 Microns or Less
$PM_{2.5}$	Particulate Matter of 2.5 Microns or Less
PSD	Prevention of Significant Deterioration
RACM	Reasonable Available Control Method
RACT	Reasonably Available Control Technology
RFP	Reasonable Further Progress
SIP	State Implementation Plan
tpy	tons per year
TSP	Total Suspended Particulate
USC	United States Code Annotated
VMT	Vehicle Miles Traveled
$\mu g/m^3$	micrograms per cubic meter

REQUEST FOR REDESIGNATION OF THE KALISPELL PM_{10} NONATTAINMENT AREA AND APPROVAL OF A LIMITED MAINTENANCE PLAN

1. INTRODUCTION

The purpose of this document is to formally request redesignation of the Kalispell nonattainment area (NAA) for particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) from 'nonattainment' to 'attainment' with a limited maintenance plan (LMP). This document supports the request by demonstrating each of the redesignation requirements set out in Sections 107, 110 and Part D of the Clean Air Act (CAA), including:

- A determination that the area has attained the PM_{10} National Ambient Air Quality Standards (NAAQS);
- An approved State Implementation Plan (SIP) for the area under Section 110(k) of the CAA;
- A determination that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the SIP and other federal requirements;
- A fully-approved maintenance plan under Section 175A of the CAA; and
- A determination that all Section 110 and Part D requirements of the CAA have been met.

This section provides detail on the history of the NAA designation, major source contributors, and control plan details. Subsequent sections provide support for each of the redesignation requirements outlined above including monitoring data, SIP provisions, emission inventory, and limited maintenance plan specifics.

1.1. NAA History

The United States Environmental Protection Agency (EPA) promulgated new NAAQS for particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) on July 1, 1987 (52 Federal Register (FR) 24634). The primary (health-based) standards were set at 150 micrograms per cubic meter ($\mu g/m^3$), averaged over a 24-hour period, not to be exceeded more than once per year on average over a 3-year period, and 50 $\mu g/m^3$ annual arithmetic mean, averaged over 3 years. The secondary (public welfare-based) standards were set the same as the primary standard.

On August 7, 1987 (52 FR 29383), the Kalispell area of Flathead County was classified by the EPA as a Group I area, meaning it is likely to violate the PM_{10} NAAQS. Then on November 6, 1991 (56 FR 56694), the EPA designated Kalispell as one of the initial moderate PM_{10} NAAs through the enactment of the 1990 CAA Amendments per 42 US Code (USC) 7407(d)(4)(B). The Kalispell area

has always achieved the annual PM_{10} NAAQS, so this document only pertains to the 24-hour PM_{10} NAAQS.

Flathead County lies along Montana's border with Canada on the western side of the state as shown in Figure 1.1. The Kalispell PM_{10} NAA encompasses the City of Kalispell and vicinity. Kalispell is bisected by both Montana Highway 93 (north-south) and Montana Highway 2 (east-west). Commercial development lies along these highways with residential neighborhoods predominantly situated immediately behind these commercial areas. Industrial sources generally were located along the commercial and urban-rural interface. The unincorporated community of Evergreen is situated on the northeast side of Kalispell and most of Evergreen lies within the NAA. The Flathead County and the NAA have experienced a significant population growth since 1991. Numerous subdivisions with new roads and more homes with wood burning stoves or fireplaces now lie both within the NAA and along the perimeter of the defined NAA boundary. The NAA is an irregularly shaped area that was defined in 1991 (56 FR 56794) and is shown in Figure 1.2.

Particulate monitoring has been conducted in Kalispell since 1971. From 1980 to 1987, monitoring of total suspended particulate (TSP) at the old Universal Athletics location (30-029-1015), which was in the downtown area within one block of U.S. Highway 93 (223 Main St.). In 1985, the Department of Environmental Quality (DEQ) installed a PM_{10} monitor at this location. Additionally, a visibility monitor operated at the Courthouse East site (30-029-1018) from 1991 to 1993, and acted as a surrogate for real-time particulate matter data. A continuous monitor was installed in 1993 and ran until the site was shut down in 1995. In 1994, a source-oriented PM_{10} site was established northeast of Kalispell along U.S. Highway 2 at the Evergreen Fire Station (30-029-0043). This site showed levels below the NAAQS and declining, and was shut down in 1999. Due to issues with the Universal Athletics site, a continuous PM_{10} monitor was installed at the centrally located Flathead Electric site (30-029-0047), about 0.5 miles away. The continuous PM_{10} data from Flathead Electric showed good correlation with the manual sampler data at the Universal Athletics, so the Universal Athletics site was closed in 2001. PM_{10} data has been collected at the Flathead Electric site from July 1999 to present, and is indicated by the green triangle in Figure 1.2.

Figure 1.1 – Flathead County, Montana

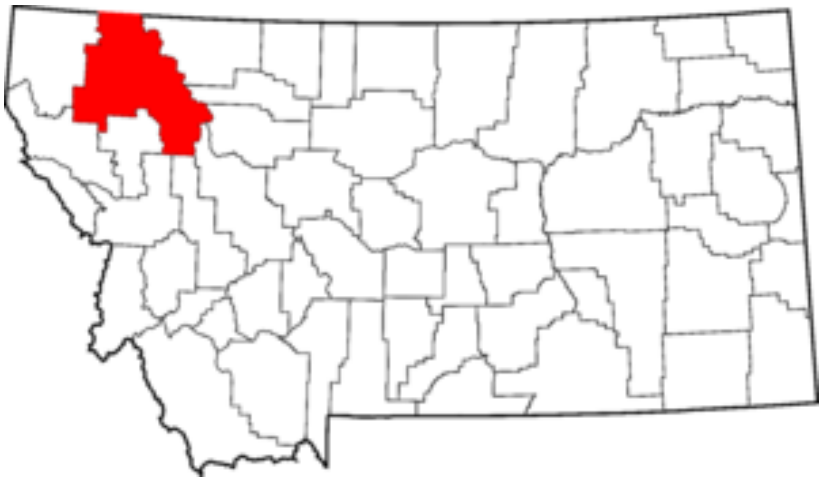
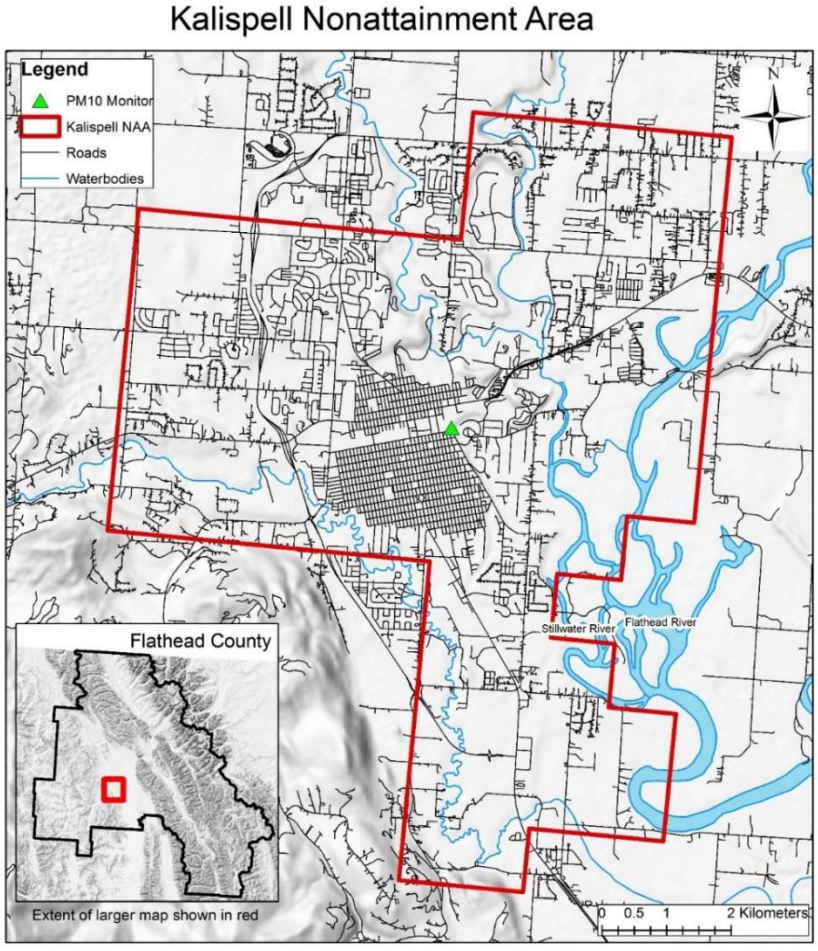


Figure 1.2 – Kalispell and Vicinity PM_{10} NAA Boundary

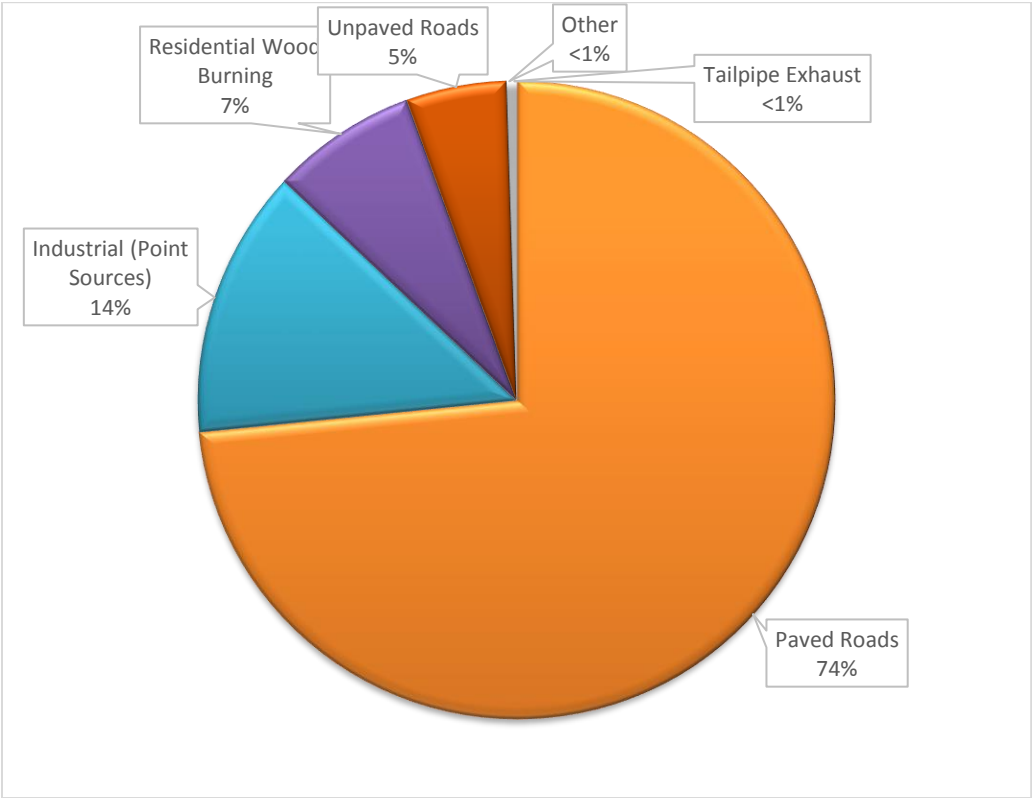


1.2. Historical Sources of PM_{10}

To develop strategies to reduce PM_{10} emissions within the NAA, the Montana Department of Environmental Quality (DEQ) investigated what the major emission sources were in the area. First, a receptor modeling technique known as a chemical mass balance (CMB) study was used to identify the major emission sources contributing to noncompliance from fugitive area sources in and near Kalispell. Second, dispersion modeling was conducted to represent industrial source impacts. Controlling fugitive area sources was not sufficient to attain the NAAQS, so industrial sources were required to adopt restrictions.

The majority of emissions are from area sources. Industrial sources only represented 14 percent of the emissions. Re-entrained road dust from paved and unpaved roads had the largest contribution. These two road sources comprised almost 80 percent of the PM_{10} emissions on an annual basis and in all four seasons. A breakdown of sources is shown in Figure 1.3.

Figure 1.3 – PM_{10} Emissions in Kalispell During Control Plan Development



1.3. Control Plan Details

DEQ submitted the first elements of the control plan to the SIP on November 25, 1991, and followed up with additional SIP elements on January 11, 1994, August 26, 1994, and July 18, 1995. EPA approved the Kalispell Control Plan on March 19, 1996 (61 FR 11153). The approved control

plan satisfied the requirements for reasonably available control measures (RACM) of area sources and reasonably available control technology (RACT) for stationary sources.

The Kalispell PM_{10} control plan was based on:

- Local regulations to control re-entrained road dust (from roads, parking lots and commercial lots),
- Local regulations to control residential wood combustion,
- Revised permit conditions for industrial sources, and
- Federal tailpipe standards.

The control plan for fugitive dust is based on rules adopted by the Flathead County Health Department (FCHD) and the City of Kalispell. These rules are part of the Flathead County Air Pollution Control Program. Rules applicable to Kalispell can be found at http://flatheadhealth.org/wp-content/uploads/2015/05/AIRQUAL.pdf.

Local Regulations for Re-Entrained Road Dust, Construction, and Demolition Activity

Specific to Kalispell, the Flathead County Air Pollution Control Program Rules 501 and 505 are designed to control PM_{10} emissions from re-entrained dust due to winter sanding. These are the only two rules whose control actions received emission reduction credit in the EPA accepted SIP control strategy. Rule 501 (material to be used on roads and parking lots-standard) requires the use of sanding and chip seal material that has a durability as defined by the Montana Modified L.A. Abrasion test of less than or equal to 7 and has a content of material smaller than 200 mesh, as determined by standard wet sieving methods, which does not exceed 3.0 percent oven dry weight. Rule 505 (street sweeping and flushing) requires a prioritized street sweeping and flushing program that commences on the first working day after any streets become either temporarily or permanently ice-free and temperatures are above 32 degrees Fahrenheit. The prioritized sweeping program is in effect during November, December, January, February, March, and April.

Rules 502, 503, 504, and 506 control dust from construction and demolition activity, paving of roads and parking lots and land clearing. The construction and demolition rules require a permit that describes the project and contains a dust control plan which constitutes reasonably available control technology (RACT). RACT techniques prevent the emission and/or airborne transport of dust and dirt from the site and includes application of water or other liquid, limiting access to the site, securing loads, enclosing, shrouding, compacting, stabilizing, planting, cleaning vehicles as they leave the site, and scheduling projects for optimum meteorological conditions or other such measures. The paving regulation requires a plan and schedule of implementation to improve unpaved roads and parking lots by paving, routine application of dust suppressants, or other effective measures that control dust. New streets or roads and parking lots meeting certain specifications must be paved. The owner or operator of any land greater than 0.25 acres in size that has been cleared or excavated, shall use RACT to control dust emissions. In this instance, RACT means techniques to prevent the

emission and/or airborne transport of dust and dirt from any disturbed or exposed land including: planting vegetative cover, provided synthetic cover, water and/or chemical stabilization, covering the coarse aggregate, installing wind breaks, or other equivalent method or technique approved by the FCHD.

These re-entrained road dust rules are applicable within the Kalispell City/County Air Pollution Control District. This district is defined in the Flathead County Air Pollution Control Program as, "a special district within Flathead County defined by the area within the city limits of Kalispell and the extraterritorial area…."

Rule 507 is a re-entrained road dust contingency plan that would be enacted if the EPA notifies DEQ that the SIP for Kalispell failed to timely attain the PM_{10} NAAQS or make reasonable further progress towards attainment. Rule 507 provides that the following will occur if the contingency measure is triggered:

> Within the Kalispell Air Pollution Control District, only liquid de-icer shall be placed on any road or parking lot with the exception of priority routes with extraordinary circumstances existing. During extraordinary events, priority routes must use sanding material which has a durability, as defined by the Montana Modified L.A. Abrasion test, or less than or equal to 7, and has a content of material less than 200 mesh, as determined by standard wet sieving methods, which is less than 3.0 percent oven dry weight.

The rule defines extraordinary circumstances to be a specific period of time when the thickness of ice on a road, the air temperature, and/or the slope of a road would preclude the effective use of liquid de-icer.

Local Regulations for Residential Wood Combustion

The control plan also includes open burning regulations in the Flathead County Air Pollution Control Program in Sub-chapter 2, that are designed to complement with the Montana Smoke Management Plan, but under some circumstances are more stringent. The regulations require that open burning sources minimize emissions to the maximum degree achievable for the source. Minimization techniques and methods include the following:

- scheduling of burning during periods and seasons of good ventilation;
- applying dispersion forecasts;
- utilizing predictive modeling results performed by and available from the FCHD to minimize smoke impacts;
- limiting the amount of burning to be performed during any one period of time;
- using ignition and burning techniques, which minimize smoke production;
- selecting fuel preparation methods that will minimize dirt and moisture content;

- promoting fuel configurations which create an adequate air to fuel ratio;
- prioritizing burns as to air quality impact and assigning control techniques accordingly; and
- promoting alternative treatment and use of materials to be burned.

There is also a voluntary solid fuel burning device curtailment program regulation in Sub-chapter 3. This program is intended to establish guidelines which may be utilized to control emissions of air contaminants from solid fuel burning devices (residential wood stoves). When the PM_{10} levels exceed or are expected to exceed 100 $\mu g/m^3$, as measured with a nephelometer, the FCHD will call an air pollution alert. The public will be informed that an air pollution alert has been called and will be requested to curtail burning until the alert has passed.

Control of Industrial Source Emissions

To address industrial source emission contributions, the control plan reduced the allowable emissions from nine Kalispell industrial sources. These nine sources are:

1. A-1 Paving;
2. Equity Supply Company (2 stipulations issued);
3. Flathead Road Department (2 stipulations issued);
4. Klingler Lumber Co.;
5. McElroy and Wilkins;
6. Montana Mokko;
7. Pack and Company, Inc.;
8. Pack Concrete; and
9. Plum Creek Inc. (Evergreen).

The industrial stipulations only addressed PM_{10} because the EPA found that PM_{10} precursors were insignificant to the PM_{10} concentration because of the nature of the stationary sources in Kalispell. The Flathead County Air Pollution Control Program rules and the industrial source stipulations have proven to be effective control because Kalispell has not incurred a PM_{10} NAAQS exceedance for several decades

Federal Tailpipe Standards

Tailpipe emissions were minimal at less than 1 percent of the impact. EPA has required federal tailpipe standards that are designed to reduce vehicle emissions, including PM_{10}. Tailpipe reductions are anticipated for the future as required by the 1990 CAA Amendments.

2. REQUEST FOR KALISPELL NAA REDESIGNATION TO ATTAINMENT

Section 107(d)(3)(E) of the CAA establishes five requirements that must be met before a NAA can be considered for redesignation to attainment. Guidance from the September 4, 1992 Calcagni Memo for *Procedures for Processing Requests to Redesignate Areas to Attainment* and applicable provisions of the CAA, provide the basis for redesignation and maintenance of the 1987 24-hour PM_{10} NAAQS for the Kalispell NAA.

This section of the document addresses each of the five requirements (as listed in Section 1) and demonstrates that the area has attained and will maintain compliance with the 1987 PM_{10} NAAQS. While these conditions must be met before redesignation of an area from nonattainment to attainment may occur, the Calcagni memo allows that a state may submit both the redesignation request and maintenance plan concurrently.

2.1. CAA §107(d)(3)(E)(i) – Determination that the Area Has Attained the PM_{10} Standards

The Calcagni memo indicates that determining if an area has attained a NAAQS is based on two components. First, the area may be considered attaining the NAAQS if the number of expected exceedances per year for PM_{10} is equal to or less than 1.0. In making this PM_{10} showing, data must rely on three complete, consecutive calendar years of quality-assured air quality monitoring data, collected in accordance with 40 CFR Part 50, Appendices H and K. The second component of this demonstration relies upon supplemental, EPA-approved air quality modeling. However, when dealing with a limited number of initial PM_{10} NAAs that were designated as moderate NAAs, dispersion modeling is not required. The Kalispell NAA followed the federal adoption of the PM_{10} standard, and received the designation of being a moderate NAA. Therefore, no air quality modeling is required for this demonstration of attainment.

The PM_{10} 24-hour standard of 150 $\mu g/m^3$ is not to be exceeded more than once per year on average over 3 years. Since 1985, PM_{10} monitoring data has been collected in Kalispell and has been quality-assured to meet the requirements of 40 CFR Part 58. This data has been recorded in the EPA's Air Quality System, the successor of the Aerometric Information Retrieval System (AIRS), and is available for public review. Table 2.1 shows the number of monitored exceedances per year for the most recent five years of quality-assured monitoring data, 2013 through 2017. Data substitution was used for any quarters with less than 75% data completeness. The process used for data substitution is outlined in Appendix B. Table 2.1 shows both the number of exceedances and the number of exceedances with concurred exceptional events removed. Table 2.2 shows the 3-year average of these exceedances along with the 5-year average. Both tables demonstrate that Kalispell's monitored data remain below the 1987 PM_{10} NAAQS.

Table 2.1 – Kalispell's Recent 5-year 24-hour PM_{10} Exceedances

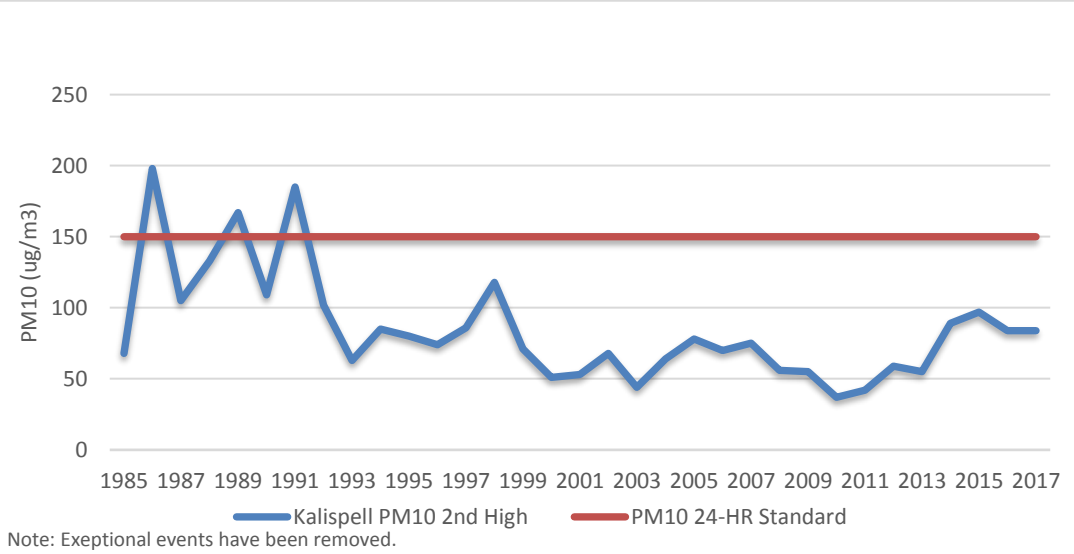
	2013	2014	2015	2016	2017
Number of Exceedances	0	0	0	0	5
Number of Exceedances Excluding Exceptional Events with Regional Concurrence	0	0	0	0	0

Table 2.2 – Kalispell's Recent 3-year Averages of the 24-Hour PM_{10} Exceedances

	2013-2015	2014-2016	2015-2017	5-year Avg.
3-year Exceedance Averages	0	0	1.7	0.6
3-year Exceedance Averages Excluding Exceptional Events	0	0	0	0

The data in Figure 2.1 has been collected and reported in accordance with the quality assurance requirements of 40 CFR Part 58, Appendix A. This figure is for informational purposes only and does not represent the area's design value. All wildfire impacted events have been removed both with and without EPA regional concurrence. Due to EPA's exceptional event policy, wildfire impacted days below the NAAQS are not concurred on. By removing these days from the figure below, the full impact of the control plan can be determined. As shown in the figure, the last exceedance of the PM_{10} 24-hour NAAQS was in 1991.

Figure 2.1 – Kalispell's Second Highest PM_{10} 24-hour Averages ($\mu g/m^3$)



The design values for the past five years have been determined using the monitoring results above in Table 2.2. These values do not include exceptional events with regional concurrence. Each design value spans three years and was determined using the "table lookup" method outlined in the 1987 PM_{10} SIP Development Guidance (EPA-450/2-86-001). Data substitution was used to fill in missing data from the 1st quarter of 2013 following the method outlined in "Guideline on Exceptions to Data Requirements for Determining Attainment of Particulate Matter Standards".

Using the monitored values, a local design value has been calculated for Kalispell which is a statistic that describes the air quality relative to the level of the NAAQS. The design value is calculated over the most recent three consecutive 3-year intervals. As shown in Table 2.3, Kalispell's 5-year average design value is 127 $\mu g/m^3$ using the "table lookup" method outlined in the 1987 PM_{10} SIP Development Guidance. The table lookup method identifies which monitored data value is to be used as the design value. This is based on the number of measurements collected by the monitor during the 3-year period. The design value calculation excludes regionally concurred exceptional events but includes data substitution, as outlined in Appendix A. Concurred exceptional events only include events where the NAAQS has been exceeded. Additional days with wildfire impacts below the NAAQS are still included in the design value calculation.

Table 2.3 – Kalispell's Recent 5-year 24-hour PM_{10} Design Value Excluding Regionally Concurred Exceptional Events

	2013-2015	2014-2016	2015-2017	5-year Avg.
Number of Measurements	1075	1088	1089	--
Data Value to Use	4th Highest	4th Highest	4th Highest	--
Design Value ($\mu g/m^3$) (Table Lookup Method)	125	125	131	127

Kalispell's most recent 5-year average design value from 2013 through 2017 demonstrates that Kalispell has attained the PM_{10} 24-hour NAAQS as of December 31, 2017, and meets the requirements of CAA §107(d)(3)(E)(i).

2.2. CAA §107(d)(3)(E)(ii) – Approved Implementation Plan for the Area Under Section 110(k)

DEQ submitted the first elements of the control plan SIP on November 25, 1991, and followed up with additional SIP elements on January 11, 1994, August 26, 1994, and July 18, 1995. The Kalispell NAA implementation plan was approved by the EPA on March 19, 1996 (61 FR 11153). The implementation plan demonstrated through CMB receptor modeling technique and air dispersion modeling of emissions, that the Kalispell's PM_{10} NAA would attain the 24-hour PM_{10} NAAQS. The significant emission sources contributing to the PM_{10} impacts and included in the implementation plan are: fugitive dust from paved and non-paved roads, residential wood burning, and nine

industrial sources. The implementation plan consisted of an emission control plan that controls fugitive dust emissions from roads, parking lots, construction and demolition projects, and barren ground as well as stipulations on industrial emissions.

Montana fulfills this requirement since the SIP has a fully approved implementation plan for Kalispell's NAA under 110(k) of the CAA.

2.3. CAA §107(d)(3)(E)(iii) – Determination that the Improvement in Air Quality is Due to Permanent and Enforceable Reductions in Emissions Resulting from Implementation of the SIP and Other Federal Requirements

This section demonstrates that emission reductions in the Kalispell NAA are both permanent and enforceable, and are a result of SIP and other federal requirements.

SIP Provisions

The control plan emission inventory, was approved by the Board of Environmental Review (BER) on September 17, 1993, and adopted into the SIP. The control plan identified the fugitive area sources and industrial sources contributing to PM_{10} concentrations in the NAA. Fugitive source emissions were conservatively based on the maintenance year emissions from 1998 because these emissions were larger than the 1995 attainment year emissions. Table 2.3 shows the emission reduction achieved from 1998 to the most current fugitive source emissions available that are from the 2014 national emission inventory (NEI). The 2014 NEI values represent the implemented fugitive dust control measures adopted in the Flathead County Air Pollution Control Program and in the SIP. As described above, fugitive dust from roads are reduced through the use of specific sanding materials, de-icer, street sweeping, and flushing. Many of the unpaved roads and parking lots are now paved. The complete methodology to calculate the recent area source emissions can be found in Appendix C. At EPA Region 8's request, DEQ included light and heavy-duty non-road diesel emissions with the 2014 NEI emission inventory in Table 2.3, although there are no comparative 1998 values. Despite increasing the number of source categories from the original approved control plan, 2014 PM_{10} area emissions are shown to be well below the total 1998 values for each category and in total.

Table 2.4 – Kalispell, MT - PM_{10} Area Emission Summary

Source Categories	1998 Maintenance Year (tons)[1]	2014 Emissions (tons)[2]
Area Sources		
Paved Roads	6,679	55
Residential Wood Burning	673	48
Unpaved Roads	463	1,903
Tailpipe Exhaust	22	11
Diesel[1]	n/a	11
Other	23	16
Total	7,860	2,044

[1]Diesel emissions were not included in the 1998 maintenance plan. Diesel emissions from the 2014 NEI include light- and heavy-duty on road emission and nonroad equipment.

According to the Calcagni memo, to demonstrate the improved air quality is from permanent and enforceable emission reductions, a state shall estimate the percent reduction achieved from federal measures such as the Federal Motor Vehicle Control Program and fuel volatility rules as well as control measures that have been adopted and implemented by the state. The Federal Motor Vehicle Control Program controls tailpipe emissions and evaporative emission standards for new vehicles. Tailpipe emissions and fuel vaporization were a small fraction of the Kalispell area emissions in 1998. Federal vehicle fleet requirements have reduced tailpipe emissions since 1998. The effectiveness of the Federal Motor Vehicle Control Program is demonstrated because the area has continued to experience a population growth since 1998 which has resulted in an increased quantity of vehicle miles travelled in the NAA, and yet there is a small decrease in the PM_{10} emissions since the maintenance year. Because tailpipe and fuel vaporization impacts were less than 0.3 percent of the 1998 maintenance year emissions, this demonstration also discusses other control measures adopted by the SIP for fugitive area sources and industrial sources that generated the larger emission reductions.

The approved attainment plan incorporated permanent and enforceable rules from the Flathead County Air Pollution Control Program which established rules as described above in the Section 1.3. Specific to Kalispell, rules 501 and 505 are the only rules whose control actions received emission reduction credit in the initial EPA accepted SIP control strategy. Rule 501 specifies the allowed material to be placed on roads and parking lots for sanding and chip sealing. Rule 505 specifies street sweeping and flushing requirements during both winter and summer months to reduce fugitive road dust. The significant increase in fugitive emissions from unpaved roads is a result of the method used to estimate unpaved road emissions. DEQ believes this method has overestimated emissions from unpaved roads because the method scales all vehicle miles traveled (VMT) in the county to the portion of VMT in the NAA. Kalispell's large NAA accounts for a majority of the

VMT in the county and therefore predicts a very high level of emissions for unpaved roads. Kalispell's unpaved roads are mainly alley ways and lightly travelled streets on the edges of town. Residential wood burning emissions have also gone down since 1998 because of voluntary solid fuel burning device curtailment program in Sub-chapter 3 of the Flathead County Air Pollution Control Program which requires the FCHD to call Air Pollution Alerts when the PM_{10} level exceeds or is expected to exceed 100 $\mu g/m^3$.

Industrial air quality impacts did not initially demonstrate compliance with the PM_{10} NAAQS. Several industrial sources included in the approved control plan required additional stipulations to demonstrate compliance with the PM_{10} NAAQS. These stipulations generally include opacity limits, controlling fugitive dust from roadways, parking lots and storage piles. When necessary, individual pieces of equipment also had PM_{10} emission restriction stipulations. Table 2.5 shows the 1993 industrial PM_{10} annual emissions with federally approved stipulations that were used to demonstrate compliance with the PM_{10} NAAQS in the control plan. These emission reductions are based on federally enforceable stipulations submitted September 19, 1993, and met the requirement for RACT for each facility.

Table 2.5 – Annual Kalispell Industrial Source PM_{10} Emissions

Source Name	1993 SIP Restricted (tons)	2017 PTE (tons)
Stationary Sources		
Plum Creek – Wood Productions (Weyerhaeuser NC Company)	364	235
Equity Supply #1 – Feed Mill	77	NA
Equity Supply #2 – Grain Elevator (CHS – Mountain West Co-op – Kalispell)	85	85
McElroy & Wilkens Inc. – Concrete	73	NA
McElroy & Wilkens Inc. – Aggregate	128	NA
Flathead County Road Dept. – Asphalt	115	69
Flathead County Road Dept. – Aggregate	69	NA
Pack and Company, Inc. – Asphalt (NUPAC – Asphalt)	153	NA
Pack Concrete Inc. (NUPAC – Concrete)	22	NA
A-1 Paving – Asphalt (Knife River)	81	20
Montana Mokko – Wood Products (Stillwater Forest Products)	61	NA
Klingler – Wood Products	10	10
Total	1,238	419

A review of the status of each industrial source and their 2018 PM_{10} potential to emit (PTE) has been completed and included in Table 2.5. There have been numerous changes to the industrial sources since 1993 resulting in a significant reduction of emissions and impact to the NAA. These changes are discussed below.

Weyerhaeuser NC Company

Weyerhaeuser NC Company bought the Plum Creek facility in 2016. The facility is now referred to as Weyerhaeuser – Evergreen Facility. The facility is currently operated under operating permit (OP) 2602-04 and Montana Air Quality Permit (MAQP) 2602-11 and has the following operating stipulations imposed as part of the September 17, 1993 control plan:

- Facility-wide limit to process no more than 850,000 tons of logs per year;
- Operate an electrostatic precipitator on the hog fuel boiler;
- Operate an electrostatic precipitator on the two veneer dryers;
- Operate water sprays on the sawmill log debarking;
- Operate water sprays on plywood log debarking;
- Operate a cyclone on the sawmill chip bin;
- Operate a baghouse on the planner shavings bin;
- Operate a cyclone on the plywood fines;
- Operate a baghouse on the sander dust silo;
- Operate a baghouse on the sander cyclone;
- Operate a baghouse on the sawline;
- Operate a baghouse on the dry fuel;
- Partially enclose the planer shavings loadout; and
- Restrict fugitive dust from haul roads.

The 2017 PM_{10} PTE for Weyerhaeuser is determined to be 235.26 tons per year (tpy), according to MAQP 2602-11 which is less than when the control plan was developed.

Equity Supply

Equity Supply had two emission sources in the 1993 inventory, one for their feed mill and the other for their grain elevator. The feed mill and grain elevator were both located near downtown Kalispell, within the NAA. Equity Supply was sold to CHS – Mountain West Co-op – Kalispell (CHS) in about 1999. CHS indicated they no longer operate the feed mill, but they continue to operate the grain elevator. CHS permitted (MAQP 5170-00) a new grain elevator and dry fertilizer storage facility on March 23, 2017 at 801 Whitefish Stage Road, Glacier Rail Park, Kalispell, MT 59901, within the Kalispell NAA that has a PM_{10} PTE of 10.05 tpy. CHS will close the original grain elevator when the new grain elevator is operational, sometime in the next year or so. PM_{10} emissions will be significantly reduced when the new grain elevator is operational.

McElroy and Wilkens, Inc.

McElroy and Wilkens, Inc. had two emission sources in 1998, an aggregate plant and a ready-mix concrete plant. McElroy and Wilkens have closed their operations. The property owned by McElroy and Wilkens along the Whitefish Stage Road is now being developed as the Glacier Rail Park and is owned by the Flathead County Economic Development Authority. This will be the location for CHS' new grain elevator discussed above.

The Flathead County Road Department

The Flathead County Road Department operated two emission sources during the initial implementation plan. These sources were a portable asphalt plant and a portable aggregate facility. Currently the Flathead County Road Depart holds MAQP 0310-03 for a portable asphalt plant, whose home pit address is 1333 Holt Stage, Kalispell (Steel Bridge Pit) and located on the east boundary of the NAA, south of Hwy 35 along the Flathead River. The permit analysis indicates the facility has a potential to emit 68.73 tpy of PM_{10}, which is less than estimated in the original control plan. The aggregate facility (portable crusher) was originally located at the Four Corners Pit just west of Hwy 35 along Cemetery Road, but was also allowed to operate at the Steel Bridge Pit and Sheepherders Pit at 203 West Valley Drive on the west side of Kalispell north of Hwy 2. Flathead County Road Department confirmed that they no longer operate the aggregate facility having sold it about eight years ago.

Pack and Company, Inc., and Pack Concrete Inc.

Pack and Company, Inc., and Pack Concrete Inc. both operated as businesses from one location, 2355 Hwy 93 North. They operated an asphalt plant and concrete plant, respectively. These businesses were located outside the NAA but had significant air quality impacts in the NAA. The asphalt facility did not have an air quality permit at that time and emission stipulations were established in a BER action on September 17, 1993. Eventually NUPAC acquired these businesses and operated them as NUPAC Asphalt and NUPAC Readi-Mix. NUPAC is no longer in operation at this location. The property at 2355 Hwy 93 North is no longer an industrial site, but is now a large shopping complex with paved parking lots.

A-1 Paving

According to the permit history in MAQP 2699-02, A-1 Paving was originally allowed to operate a portable drum mix asphalt plant at NW ¼ of Section 22, Township 29 North, Range 21 West in Flathead County. This location has a street address of 3131 US Hwy 2 East, Kalispell, MT, which is outside the NAA. This permit incorporates stipulations that protected the Kalispell NAA. In 2008, the equipment list was updated, and the ownership was changed to Knife River. Based on MAQP 2699-02, A-1 paving has a PTE of 19.68 tpy of PM_{10}, which is a reduction from the emissions in the original control plan.

Montana Mokko

Montana Mokko operated a sawmill in 1993 under MAQP 2959 at 955 Whitefish Stage Road. The facility name was eventually changed to Stillwater Forest Products. About a decade ago, the sawmill was moved out of Kalispell. The 1993 PM_{10} PTE from the sawmill operations were originally determined to be 61.21 tpy.

Klingler Lumber Company

Klingler Lumber Company was also included in the 1993 implementation plan. Klingler Lumber Company was described in the control plans as being located a ¼ mile northeast of Kalispell on Whitefish Stage Road with stipulations restricting emissions from the planer mill. Klingler Lumber Company continues to operate at 250 Flathead Drive in Kalispell, near Whitefish Stage Road. Stipulations on Klingler Lumber identified opacity limits for the facility, fugitive dust control, and the dismantling or demolishing the tepee burner. The PM_{10} PTE from the planer mill was estimated to be 9.85 tpy of PM_{10}. The facility continues the same operations today as in 1993 and is still at the same location. There is no expected change to the PM_{10} PTE.

Most of the industrial sources are shown to have permanent reductions in emissions and these lower emission levels are federally enforceable through the permitting program. The fugitive area emissions reductions are based on permanent and federally enforceable requirements. The total emissions from the area sources and industrial sources within the Kalispell NAA initially were estimated to be 9,098 tons of PM_{10} (7,860+1,238) and demonstrate attainment with the NAAQS. Those same sources now are estimated to emit 965 tons of PM_{10} (546 + 419), which is an 89 percent reduction from the original emissions.

The Kalispell NAA remains protected from air quality impacts with federally enforceable permits, air quality rules, and the BER stipulations. The Department has permitting rules in Administrative Rules of Montana (ARM) 17.8. 901 through 17.8.906 for major stationary sources or major modifications locating within nonattainment areas. The rules require all new sources or modifications to use the lowest achievable emission rates (LAER). The source must obtain emission reduction offsets in tons per year which provide a positive net air quality benefit in the NAA using a 1 to 1 offset and be from other emission sources within the same NAA. There must be demonstrated improvement to the PM_{10} NAA with permanent, quantifiable and federally enforceable emission reductions. A reduction of actual emissions, not potential emissions, must occur before a new source can be permitted to operate.

Montana has a federally enforceable permitting program for minor sources that emit 25 tpy or more of PM_{10} to ensure the NAA is not negatively affected. Montana also requires permitting of asphalt concrete plants, mineral crushers, and mineral screens that have PTE of 15 tpy (although this is not federally enforceable). Current department practice for these portable sources, is to require more stringent limits and conditions for their operation within a NAA or within 10 kilometers of a NAA to ensure that the portable operations do not result in additional degradation of air quality in the

affected NAA. These restrictions may come as seasonal restrictions for certain locations depending on the NAA situation.

Emissions in Tables 2.4 and 2.5 demonstrates that these enforceable emission control strategies to improve air quality in the Kalispell NAA have been effective. The improvement in air quality in the Kalispell NAA is due to the closure of some facilities and permanent and federally enforceable reductions in PM_{10} emissions which complies with CAA §107(d)(3)(E)(iii).

2.4. CAA §107(d)(3)(E)(iv) – Fully Approved Maintenance Plan Under CAA Section 175A

This request for redesignation is being submitted concurrently with a limited maintenance plan (Section 3.0). As described in CAA Section 175A(c), until a maintenance plan is approved, all SIP requirements for the NAA will remain applicable. Section 3.0 of this document addresses the necessary maintenance plan elements. With the EPA's concurrence, the area will have a fully approved limited maintenance plan providing for continued attainment of the PM_{10} NAAQS for 10 years meeting the requirement of §107(d)(3)(E)(iv).

2.5. CAA §107(d)(3)(E)(v) – Determination that the Department Has Met all Requirements Applicable to the Area Under Section 110 and Part D of the CAA

Prior to redesignation, a state containing a NAA must demonstrate compliance with all requirements applicable to the area under Section 110 and Part D of the Act. This means the state must meet all requirements that applied to the area prior to, and at the time of, the submission of a complete request for redesignation to attainment.

CAA Section 110

Section 110(a) of the CAA contains the general requirements for a SIP. Only Section 110 requirements that are linked with an area's designation are the relevant measures to consider in evaluating a redesignation request. EPA has approved Montana's SIP provisions for Kalispell's PM_{10} NAA and therefore meets the requirements of Section 110(a). The EPA approved the control plan and proposed final revisions for the Kalispell SIP on March 19, 1996 (61 FR 11153). The 1996 SIP addressed the 24-hour primary and secondary PM_{10} NAAQS. It also demonstrated compliance with the requirements "applicable to the area" under CAA Section 110. CAA Section 110(a)(2) contains the general requirements or infrastructure elements necessary for EPA approval of the SIP. These requirements include, but are not limited to, submittal of a SIP that has been adopted by the state after reasonable notice and public hearing. The approved SIP described above met these requirements.

Part D, Plan Requirements for Nonattainment Areas (CAA Section 171, et seq.)

CAA Part D contains requirements applicable to all areas designated nonattainment. PM_{10} NAAs must meet the general provisions of Subpart 1 and the specific PM_{10} provisions in Subpart 4. The

limited maintenance plan (see Section 3.0) associated with this request for redesignation of the Kalispell NAA is a SIP revision for an area designated as a NAA and the plan shall meet the applicable requirements of Part D of the CAA. The Kalispell PM_{10} SIP (fully-approved by EPA in Federal Register: March 19, 1996 61 FR 11153) shows that the state has satisfied all requirements under section 110(a)(2) of the Act.

CAA Section 172

These provisions contain the general requirements to include NAA documents and revisions in the SIP. These include attainment demonstrations, RACM, reasonable further progress (RFP), inventory data, and permitting requirements. Submittal of a comprehensive PM_{10} emissions inventory is required by 40 CFR 51.1008 to meet the requirements of Section 172(c)(3) of the CAA. The Kalispell NAA PM_{10} baseline emissions inventory, which also serves as the attainment year inventory, is being submitted as part of the limited maintenance plan (Section 3.0), and therefore, is submitted concurrently with this request for redesignation.

CAA Section 173

These provisions outline the requirements related to permitting of air pollution sources in NAAs. Stationary sources of air pollution are subject to the applicable regulations of the ARM, Title 17, Chapter 8. These regulations include:

- Standards of Performance for New Stationary Sources (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAPs) promulgated by the EPA (ARM 17.8.102);
- Permit, Construction, and Operation of Air Contaminant Sources (ARM, Title 17, Chapter 8, Sub-chapter 7);
- Prevention of Significant Deterioration of Air Quality (ARM, Title 17, Chapter 8, Sub-chapter 8);
- Permit Requirements for Major Stationary Sources or Major Modifications Locating Within Nonattainment Areas (ARM, Title 17, Chapter 8, Sub-chapter 9);
- Preconstruction Permit Requirements for Major Stationary Sources or Major Modifications Locating Within Attainment or Unclassified Areas (ARM, Title 17, Chapter 8, Sub-chapter 10); and
- Annual Emission Statements and required emissions reporting (ARM 17.8.505).

These requirements were adopted to implement the federally mandated requirements in Sections 110, 172, 173 and 182(a) of the CAA. The EPA has approved these regulations as SIP revisions, as indicated in Table 2.6, below.

Table 2.6 – State of Montana Federally Approved Air Quality Rules

State Rule(s)	Federal Action	Action Reference
ARM 17.8.101 et seq.	approved	60 FR 36715
ARM 17.8.701 et seq.	approved	60 FR 36715
ARM 17.8.801 et seq.	approved	60 FR 36715
ARM 17.8.901 et seq.	approved	60 FR 36715
ARM 17.8.1001 et seq.	approved	60 FR 36715

CAA Section 176(c)

These provisions prohibit federal financing of projects or activities that do not conform to an approved SIP. DEQ adopted and incorporated EPA's general conformity rule (40 CFR Part 93, Subpart A), in ARM 17.8.1302. The general conformity regulation describes procedures to determine if federally-financed, non-transportation projects are in conformity with air quality plans. The EPA and the U.S. Department of Transportation have issued regulations regarding criteria and procedures for demonstrating and assuring conformity of transportation improvement programs, long range plans, and individual transportation projects with the requirements of the CAA and the SIP for the specific NAA. Federal actions are handled independently in 40 CFR 93 Subpart B that prohibits the federal government from providing financial assistance, licensing, permitting or approving activities that do not conform with Montana's SIP.

Subpart 4, Additional Provisions for Particulate Matter Nonattainment Areas:

Kalispell has an approved control plan as required by CAA section 191(a) for the PM_{10} NAA. This plan controlled PM_{10} emissions from area sources and an industrial source which impacted the NAA. Therefore, DEQ has met the requirements of Subpart 4 of the CAA. Further, as required under section 191(b) of the CAA, DEQ has a fully-approved New Source Review (NSR), Prevention of Significant Deterioration (PSD), and Part D permitting programs (60 FR 36715).

2.6. Redesignation Request

DEQ requests redesignation of the Kalispell PM_{10} NAA to attainment. The criteria applicable to redesignation are addressed in Section 2.0 of this document, above. Concurrent with the request for redesignation, DEQ is providing for maintenance of the PM_{10} NAAQS according to the applicable provisions of section 175A of the CAA (Section 3.0).

3. Kalispell NAA PM_{10} Limited Maintenance Plan

On November 6, 1991 (56 FR 56694), the EPA codified the designation and classification of Kalispell as a 'moderate' NAA for the 1987 PM_{10} NAAQS. Based on quality assured monitoring data collected from PM_{10} monitoring in the area from 2013 through 2017, the Kalispell NAA is shown to have attained compliance with the 1987 24-hour primary PM_{10} NAAQS.

Section 2.0 of this document includes DEQ's formal request for redesignation according to the requirements of Section 107(d)(3)(E) of the CAA. For the Kalispell NAA to be formally redesignated to attainment, DEQ must submit, and the EPA must approve, a SIP revision providing for maintenance of the PM_{10} NAAQS within the affected area for at least 10 years after redesignation. This maintenance plan has been developed in support of DEQ's request for redesignation according to the Calcagni memo, EPA's August 9, 2001 memo for *Limited Maintenance Plan Option for Moderate PM10 Nonattainment Areas,* applicable provisions of the CAA, additional guidance received from EPA's Region 8 Air Quality Planning Unit, and the requirements of Section 175A of the CAA.

This maintenance plan addresses the following elements:

- Attainment inventory,
- Maintenance demonstration,
- Control plan,
- Monitoring network,
- Verification of continued attainment, and
- Contingency plan.

3.1. Attainment Inventory

According to the requirements of Section 107(d)(1)(A)(i) and 107(d)(1)(B)(i) and (ii) of the CAA, in establishing the final NAA boundary the EPA determined that the fugitive area sources and the industrial source listed in Tables 2.4 and 2.5 of the previous section are the major contributing emission sources relevant to the Kalispell NAA. Table 3.1 below shows the approved emission categories from the attainment plan and at EPA Region 8's request DEQ has included light and heavy-duty diesel emissions in the emission inventory. The methodology for calculating the 2014 NEI emissions from within the Kalispell NAA from all the 2014 NEI emissions of Flathead County can be found in Appendix C. Despite increasing the level of emission detail over the original approved attainment plan, PM_{10} emissions are still well below the approved 1998 maintenance plan values shown in Tables 2.4 and 2.5.

Table 3.1 – Kalispell NAA 2014 NEI PM_{10} Emissions

Source Category	2014 NEI Emissions (tons)
Unpaved Roads	1,903
Paved Roads	55
Residential Wood Burning	48
Tailpipe Exhaust	11
Diesel	11
Other	16
Total	2,044

3.2. Maintenance Demonstration

For this redesignation request to be complete and approvable, the CAA requires that the maintenance plan provide for maintenance of the PM_{10} NAAQS for at least 10 years following EPA's approval of the plan. As stated earlier in this document, attainment of the PM_{10} NAAQS has been demonstrated in the Kalispell area, and this maintenance demonstration will demonstrate continued attainment, or "maintenance" of the PM_{10} NAAQS through the year 2031.

The maintenance plan will continue to implement the controls of the attainment plan. The following are the criteria that must be met to demonstrate maintenance and meet LMP requirements.

Design Value

As described above in Section 2.1, the local design value for Kalispell is based on averaging three consecutive 3-year averages of monitoring data from 2013-2017. To qualify for a LMP the design value must be below the critical design value discussed below.

Using the monitored values, a local design value has been calculated for Kalispell which is a statistic that describes the air quality relative to the level of the NAAQS. The local design value calculation excludes regionally concurred exceptional events and regionally concurred values, as specified in Appendix A. EPA's concurrence letters for the 2015 and 2017 exceptional events can be found in Appendix A. Data substitution has also been applied where appropriate, as outlined in Appendix B. The concurred exceptional events are monitored values above the NAAQS impacted by wildfires. The excluded regionally concurred values are values between 98 $\mu g/m^3$ and 150 $\mu g/m^3$ impacted by wildfires. The design value is calculated over the most recent three consecutive 3-year intervals. As shown in Table 3.2, this Kalispell design value uses the "table lookup" method outlined in the 1987 PM10 SIP Development Guidance. The table lookup method identifies which monitored data value

is to be used as the design value. This is based on the number of measurements collected by the monitor during the 3-year period.

Table 3.2 – Kalispell's Recent 5-year 24-hour PM_{10} Design Value Excluding Regionally Concurred Exceptional Events and Regionally Concurred Values

	2013-2015	2014-2016	2015-2017	5-year Avg.
Number of Measurements	1095	1096	1096	--
Data Value to Use	4th Highest	4th Highest	4th Highest	--
Design Value (µg/m³) (Table Lookup Method)	89	89	88	89

The 5-year average design value from 2013-2017 is 89 µg/m³, as shown above.

Critical Design Value

The EPA has determined that some PM_{10} NAAs have little inter-annual variation. This has led the EPA to develop a 'Critical Design Value' (CDV) that is an indication of the 'likelihood of future violations of the NAAQS given the current average design value and its variability. The process for developing a CDV is outlined in Attachment A of the EPA guidance titled "Limited Maintenance Plan Option for Moderate PM10 Nonattainment Areas." In this guidance, the EPA states that an area "may still be able to qualify for the LMP option if the average design values of the site are less than their respective site-specific CDV."

The equation to calculate a CDV is as followed:

$$CDV = NAAQS/(1+t_c*CV)$$

Where:

CDV	=	Critical Design Value
NAAQS	=	National Ambient Air Quality Standard
t_c	=	Critical t-value corresponding to a probability of exceeding the NAAQS in the future and the degree of freedom in the estimate of the coefficient of variation (CV).
CV	=	Coefficient of variation (CV) of the annual design value, calculated as the ratio of the standard deviation and average design values in the past.

DEQ has defined 'the past' as eleven 3-year periods of design values, beginning with the 2005-2007 design value and ending with the 2015-2017 design value. The table lookup method, described in Section 2.1, was used to calculate design values for each of these three-year periods. Table 3.3 below

provides the number of measurements, lookup ranking, and design value for each period. The design value calculation excludes regionally concurred exceptional events and regionally concurred values, as specified in Appendix A. Data substitution has also been applied where appropriate, as outlined in Appendix B. The concurred exceptional events and values exclude all wildfire impacts events above 98 $\mu g/m^3$.

Table 3.3 – Design Values from the Past Eleven 3-years Periods ($\mu g/m^3$)

3-year Period	Count	Lookup Ranking	Design Value
2005-2007	1095	4	102
2006-2008	942	3	105
2007-2009	640	2	115
2008-2010	336	1	61
2009-2011	281	1	108
2010-2012	584	2	108
2011-2013	888	3	108
2012-2014	1096	4	88
2013-2015	1095	4	89
2014-2016	1096	4	89
2015-2017	1096	4	88

The low number of measurements in 2008-2011 is due to a change in monitoring equipment in July 2008. Continuous monitors were replaced by filter-based monitors until 2011, when continuous monitors were once again used to measure PM_{10} in Kalispell.

The coefficient of variation is calculated as the standard deviation of the eleven design values divided by the mean of the 11 design values. The critical t-value was derived by assuming a one-tailed distribution with a tolerable risk factor of 10% probability of a NAAQS violation, which matches the method used by EPA to demonstrate a CDV.

The parameter values used for the calculations are as follows:

NAAQS	= 150 $\mu g/m^3$
t_c	= 1.372
Standard deviation of design values (2005-2017)	= 15.36 $\mu g/m^3$
Mean of design values (2005-2017)	= 96.45 $\mu g/m^3$
Coefficient of Variation [CV= StDev/Mean]	= 0.16
CDV [NAAQS/(1+t_c*CV)]	**= 123.1 $\mu g/m^3$**

A CDV of 123 $\mu g/m^3$ will be used to determine if the Kalispell area qualifies for an LMP.

Regional Motor Vehicle Analysis

To qualify for the LMP option, an area must expect only limited growth in on-road motor vehicle PM_{10} emissions (including fugitive dust) as described in the EPA guidance titled *Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas*. Limited growth is demonstrated when the regional motor vehicle growth value is below the CDV for the area. When adjusted for future on-road mobile emissions, Kalispell has a motor vehicle regional emissions analysis test design value of 109.8 $\mu g/m^3$. These results are less than the CDV of 123 $\mu g/m^3$ used as the margin of safety in the LMP guidance. The equation used to determine eligibility of Kalispell for the LMP is based on the regional motor vehicle analysis equation set forth in the guidance:

$$DV + (VMT_{pi} * DV_{mv}) \leq MOS$$

Where:

DV	=	5-year PM_{10} design value (2013-2017), ($\mu g/m^3$)
VMT_{pi}	=	Projected increase in vehicle miles traveled (VMT) over the next 10 years (2021-2031), (%)
DV_{mv}	=	Product of the design value and the fraction of the inventory represented by on-road mobile sources in the attainment year ($\mu g/m^3$); and
MOS	=	Margin of safety for PM_{10} or CDV, which is 98 $\mu g/m^3$ for the 24-hour standard.

DEQ has assumed the attainment year to be 2017, the year for which the most recent Kalispell NAA emissions inventory was prepared. The Montana Department of Transportation projected VMT_{pi} for the next 10 years following projected EPA approval in late 2020 (2021-2031) and provided that data to DEQ. The design value was derived from the PM_{10} monitoring data collected at the Kalispell Electric Co-op site for the most recent 5 years (2013-2017). Data substitution was used to fill in missing data from the 1st quarter of 2013 following the method outlined in "Guideline on Exceptions to Data Requirements for Determining Attainment of Particulate Matter Standards". PM_{10} values that were greater than 98 $\mu g/m^3$ due to exceptional events (e.g. wildfires) were excluded from the design value analysis based on EPA guidance. Based on the criteria given above, Kalispell qualifies for the LMP option for the 24-hour standard for all considered cases. Details of the calculations are described above, and the parameter values used for the calculations are as follows:

Table 3.4 – Regional Motor Vehicle Analysis Parameters

Parameter	Value
DV ($\mu g/m^3$)	89
VMT_{pi} (2021-2031)	29.01%
% of the 2017 EI from on-road mobile sources in 2017	80.43%
DV_{mv} ($\mu g/m^3$)	71.6
Calculated [DV + (VMT_{pi} * DV_{mv})] ($\mu g/m^3$)	**109.8**

As shown, the calculated regional motor vehicle analysis value is less than the CDV of 123.1 $\mu g/m^3$, and therefore the area passes the regional analysis criteria.

Based on the analyses above, the local design value and the regional motor vehicle analysis values are below the CDV. The Kalispell NAA qualifies for the LMP option from these analyses according to the *Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas* memo.

3.3. Control Plan

The Kalispell area has a robust control plan adopted into local ordinances (Chapter VIII) of the Flathead County Air Pollution Control Program. The plan contains the following sub-chapters all designed to control PM_{10} in Flathead County with specific rules for the Kalispell in Sub-chapter 5 (complete text of these control plan sub-chapters are located at http://flatheadhealth.org/wp-content/uploads/2015/05/AIRQUAL.pdf.

- Sub-chapter 1 – Definitions
- Sub-chapter 2 – Open Burning
- Sub-chapter 3 – Voluntary Solid Fuel Burning Device Curtailment Program
- Sub-chapter 4 – Prohibited Materials for Wood or Coal Residential (Solid Fuel Burning Device) Stoves
- Sub-chapter 5 – Kalispell Air Pollution Control District
  - It is the intent of this rule to establish a control plan which will provide protection to the residents of the City of Kalispell from air pollution levels in excess of the state and federal ambient air quality PM_{10} standards. The provisions of this Sub-chapter apply only to the Kalispell Air Pollution Control District.
    - 501 – Material to be used on Roads and Parking Lots – Standards
    - 502 - Construction and Demolition Activity
    - 503 - Pavement of Roads Required
    - 504 - Pavement of Parking Lots Required
    - 505 - Street Sweeping and Flushing

- 506 - Clearing of land greater than 1/4 acre in size
- 507 - Contingency Plan

A more detailed discussion of these rules is included above in Section 1.3.

DEQ has long-standing, SIP-approved major NSR and minor source permitting programs (ARM Title 17, Chapter 8, Subchapters 7, 8, 9, and 10). These administrative rules include provisions for PSD, approved in 60 FR 36715. In conjunction with all SIP-approved requirements of DEQ's PSD permitting program, the Source Impact Analysis (ARM 17.8.820), requires that "(1) the owner or operator of the proposed source or modification shall demonstrate that allowable emission increases from the proposed source or modification, in conjunction with all other applicable emissions increases or reductions (including secondary emissions), *would not cause or contribute to air pollution in violation of any national ambient air quality standard in any air quality control region or any applicable maximum allowable increase over the baseline concentration in any area.*" (Emphasis added.)

Further, in conjunction with all SIP-approved requirements of DEQ's minor source permitting program, ARM 17.8.749, Conditions For Issuance or Denial of Permit, requires that "(3) A Montana air quality permit may not be issued for a new or modified facility or emitting unit unless the applicant demonstrates that the facility or emitting unit can be expected to operate in compliance with the Clean Air Act of Montana and rules adopted under that Act, the Federal Clean Air Act and rules promulgated under that Act (as incorporated by reference in ARM 17.8.767), and any applicable requirement contained in the Montana State Implementation Plan (as incorporated by reference in ARM 17.8.767), *and that it will not cause or contribute to a violation of any Montana or national ambient air quality standard.*" (Emphasis added.)

DEQ will continue to implement its SIP-approved major and minor source permitting programs in the Kalispell maintenance area to ensure that any new or modified (or reopened) industrial source of PM_{10} emissions will not cause or contribute to a subsequent PM_{10} NAAQS violation in the area. Further, any appropriate changes to the ARM will be submitted to the EPA for approval as a SIP revision.

3.4. Monitoring Network

DEQ has historically operated the "Kalispell" PM_{10} monitor within the Kalispell NAA (Monitor 30-029-0047).

3.5. Verification of Continued Attainment

DEQ intends to continue operating the Kalispell monitor (30-029-0047) or an approved alternatively located monitor until such a time that an approved alternative monitoring method is agreed upon. DEQ will request approval of an alternative monitoring methodology in a separate request.

3.6. Contingency Plan

As required by Section 175A(b) of the CAA, DEQ will submit to the EPA, eight years after redesignation, a revision of this maintenance plan. This revision will contain DEQ's plan for maintaining the 1987 24-hour PM_{10} NAAQS for 10 years beyond the first 10-year maintenance period following redesignation.

As discussed in Section 3.2 of this document, any new source planning to locate within the maintenance area or existing source proposing a significant increase in PM_{10} emissions would be subject to Montana's SIP-approved major NSR and minor source permitting programs promulgated under ARM Title 17, Chapter 8, Subchapters 7, 8, 9, and 10. These permitting programs require a demonstration of NAAQS compliance prior to construction and operation of the source.

Section 175(A)(d) of the CAA requires that the maintenance plan contains contingency provisions to assure that the state will promptly correct any violation of the PM_{10} NAAQS that may occur after the redesignation of the area to attainment. The EPA's redesignation guidance notes that the state is not required to have fully adopted contingency measures that will take effect without further action by the state. As such, the contingency plan should ensure that the state has the capacity to adopt the contingency measures expediently if the need were triggered. Therefore, the primary elements of this contingency plan involve the tracking and triggering mechanisms to determine when contingency measures would be necessary and a process for implementing appropriate control measures.

Tracking

The tracking plan for the Kalispell maintenance area will consist of monitoring and analyzing PM_{10} concentrations. In accordance with 40 CFR Part 58, DEQ will continue to operate the Kalispell monitor (30-029-0047) or an approved alternatively located monitor until such a time that an approved alternative monitoring method is agreed upon.

Trigger and Response

Triggering of the contingency plan does not automatically require a revision of the SIP, nor is the area necessarily redesignated once again to nonattainment if a PM_{10} exceedance occurs. Instead, DEQ will have an appropriate timeframe to correct the violation with implementation of one or more adopted contingency measures. If violations continue to occur, additional contingency measures will be adopted until the violations are corrected.

Upon notification of a PM_{10} exceedance, DEQ and Kalispell's local government will develop appropriate contingency measure(s) intended to prevent or correct a violation of the PM_{10} standard. Information about historical exceedances of the standard, the meteorological conditions related to the recent exceedance(s), and the most recent estimates of growth and emissions will be reviewed. The possibility that an exceptional event occurred will also be evaluated. Under the 2016 revisions to

the Treatment of Data Influenced by Exceptional Events Rule (81 FR 68216), DEQ would confer with EPA Region 8 regarding whether the flagged event would meet the criteria of a regulatory decision, and if so, a determination would be made on whether to move forward with producing a demonstration.

This process will be completed within twelve months of the exceedance notification. If a violation of the PM_{10} NAAQS has occurred, DEQ and local government will review the current control plan. If it is determined that the implementation of current local contingency measures will prevent further exceedances or violations, no changes to the control plan will be made. If, however, DEQ and the local government finds locally adopted control measures to be inadequate, DEQ and the local government will adopt state-enforceable measures as deemed necessary by DEQ to prevent additional exceedances or violations. Measures to be considered could include, implementation of Kalispell rule 507 including the use of deicers, additional street cleaning, etc.

3.7. Conformity for LMP Areas

The Federal transportation conformity rule (40 CFR Parts 51 and 93, subpart A) and general conformity rule (40 CFR Part 93, subpart B) apply to nonattainment and maintenance areas. Typically, under either rule, an acceptable method of demonstrating that a federal action conforms to the applicable SIP is to demonstrate that expected emissions from the planned action are consistent with the emissions budget for the area. The EPA's LMP policy does not exempt an area from the need to demonstrate conformity; however, it allows the area to do so without submitting a transportation conformity Motor Vehicle Emissions Budget (MVEB) that would then need to be analyzed under 40 CFR 93.118. This is because data demonstrates no violation of the NAAQS will occur when accounting for reasonable growth projections for mobile sources. For transportation purposes, the emissions in a qualifying LMP area need not be capped for the maintenance period and thus no regional emissions analysis is required. The Kalispell area does not have a Metropolitan Planning Organization (MPO); transportation conformity will then by default go to the Montana Department of Transportation in consultation with DEQ

Regional transportation conformity is presumed due to the limited potential for emission growth in the area during the LMP period. A regional emissions analysis and associated regional conformity requirements (40 CFR 93.118) are no longer necessary. Similarly, Federal actions subject to the general conformity rule would automatically satisfy the "budget test" specified in 40 CFR 93.158(a)(5)(i)(A) for the same reasons. However, since Kalispell will still be a maintenance area after redesignation, transportation conformity determinations are still required for transportation plans, programs and projects. The conformity determination for transportation plans and programs should state that a regional emission analysis is not required because the area has an approved LMP.

Transportation plans and the programs should still be made available for public review. The portions of the conformity rule that still apply are found in 40 CFR 93.112 and 93.113. In addition,

transportation projects would still need to meet the criteria for PM_{10} hot spots (40 CFR 93.116 and 93.123) and for PM_{10} control measures (40 CFR 93.117). DEQ will continue to work with the affected jurisdictions and interested parties to develop an evaluation criteria and process to meet these transportation conformity requirements. Public Participation

According to the applicable requirements of 40 CFR 51.102, Public Hearings, DEQ must provide the affected public with notice, opportunity for comment, and the opportunity to request a hearing regarding DEQ's request for redesignation and associated maintenance plan for the Kalispell PM_{10} NAA.

4. Public Participation

On DATE, 2019, DEQ issued 30-day public notice meeting all the above referenced public participation criteria. Also, a public hearing was held on DATE, during the public notice period, which concluded on DATE. No public comments were received during the public comment period or at the hearing. A transcript of the DATE public hearing is included in Appendix D for reference.

Or

On DATE, 2019, DEQ issued 30-day public notice meeting all the above referenced public participation criteria. Public comments were received during the public notice period. These comments, DEQ's responses, as well as documentation of the public notice, are included in Appendix D for reference.

5. Conclusion

The Kalispell NAA has attained the 1987 24-hour primary and secondary PM_{10} NAAQS for 26 years. The attainment is demonstrated by the monitoring data from 1992 through 2017 which shows compliance with the standards. Actual emissions are much less than those identified in the approved 1996 control plan. The 2014 NEI area source emissions are 24 percent of the area source emission from maintenance year of 1998. The 2017 stationary sources potential emissions are 34 percent of the SIP restricted potential emissions of 1993. Both the area and stationary sources show a dramatic emission reduction in Kalispell since the control plan was first developed. The current emissions are expected to increase at a rate no greater than the population growth rate because of improved vehicle fleet emissions and the Flathead County Health Department rules restrict fugitive emissions which has ensured compliance with the PM_{10} NAAQS.

Further, DEQ has demonstrated compliance with all applicable provisions of the CAA for the redesignation and maintenance of the 1987 PM_{10} NAAQS in the Kalispell NAA. Documentation to that effect is contained herein.

Therefore, DEQ requests formal redesignation of the Kalispell PM_{10} NAA to attainment (Section 2.0) concurrent with EPA approval of the associated limited maintenance plan (Section 3.0) ensuring ongoing PM_{10} NAAQS compliance in the area.

6. References

EPA, 1987, *PM_{10} SIP Development Guideline*, June 1987 (EPA-450/2-86-001).

EPA, 1992, *Memorandum: Procedures for Processing Requests to Redesignate Areas to Attainment,* by John Calcagni, September 4, 1992.

EPA, 2001, *Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas*, by Lydia Wegman, August 9, 2001.

State of Montana, 1993, *Kalispell, Montana PM-10 SIP Dispersion Modeling Study*, , Montana DHES, Air Quality Bureau, September 16, 1993.

Weyerhaeuser, February 19, 2016, *Weyerhaeuser completes merger with Plum Creek*, http://investor.weyerhaeuser.com/2016-02-19-Weyerhaeuser-completes-merger-with-Plum-Creek, April 2, 2018.

APPENDIX A

EPA REGION 8 LETTERS CONCURRING SPECIFICI WILDFIRE EXCEPTIONAL EVENTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region8

NOV - 1 2018

Ref: 8P-AR

Mr. Dave Klemp, Bureau Chief
Air Resources Management Bureau
Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Dear Mr. Klemp:

This letter is in response to your letter of April 24, 2017, requesting the U.S. Environmental Protection Agency's concurrence on exceptional event claims for fine ($PM_{2.5}$) and course (PM_{10}) particulate matter data impacted by wildfires in 2015 and 2016. The Montana Department of Environmental Quality (DEQ) determined that regional wildfire smoke events caused exceedances of the 24-hour $PM_{2.5}$ and PM_{10} National Ambient Air Quality Standards (NAAQS) at monitoring sites across Montana in 2015 and 2016. In addition, the DEQ determined that the smoke events caused multiple sites to exceed 98 $\mu g/m^3$, which is the eligibly threshold for the use of a limited maintenance plan (LMP) for a nonattainment area redesignation. The DEQ has flagged these data to support future plans to redesignate PM_{10} nonattainment areas using the LMP Policy.

The EPA concurs with the Montana DEQ's determination that the 24-hour PM_{10} exceedance at the Libby monitoring site on August 24, 2015, and the PM_{10} exceedances at the Missoula monitoring site on August 28 and August 29, 2015, meet the criteria for an exceptional event in the Exceptional Events Rule (EER). The basis for this concurrence is set forth in the enclosed technical support document. Concurrence flags have been entered for these data in the EPA's Air Quality System (AQS) database. For those PM_{10} values in August 2015 and the one value in August 2016 that exceeded the LMP Policy eligibility threshold, (98 $\mu g/m^3$)but were under the minimum value that is determined to be an exceedance of the PM_{10} NAAQS (155 $\mu g/m^3$), the EPA concurs that the elevated PM_{10} concentrations meet the general definition and criteria for exceptional events, and thus in accordance with EPA guidance, those values may be excluded when considering whether the areas are eligible for use under the LMP Policy for PM_{10}.

The EPA, at this time, has not reviewed the $PM_{2.5}$ exceptional event requests. 40 CFR 51.14(a)(1)(i) limits the applicability of the EER to data concerning NAAQS exceedances or violations that are relevant to regulatory determinations by the EPA. Data in AQS flagged as exceptional events that are not relevant to regulatory determinations will not be reviewed by the EPA for concurrence. The EPA has determined that the $PM_{2.5}$ data do not have any regulatory significance. In the event that any of the data on which the EPA is deferring action become significant for a future regulatory action, the EPA will retain the demonstration for potential

future consideration.

The determination conveyed in this letter does not constitute final action regarding any matter on which the EPA is required to provide an opportunity for public comment. In particular, this applies to determinations regarding the attainment status or classification of this area. Final actions will take place only after the EPA completes notice and comment rulemaking on those determinations.

If you have any questions on this matter, you may contact me at (303) 312-6776 or your staff may contact Ethan Brown, of my staff, at (303) 312-6403.

Sincerely,

Martin Hestmark

Martin Hestmark
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Enclosure

cc: Annette Williams, Montana DEQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region8

FEB - 8 2019

Ref: 8P-AR

Mr. Dave Klemp, Bureau Chief
Air Resources Management Bureau
Montana Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Re: Exceptional Event Requests Regarding Exceedances of the 24-hour PM_{10} NAAQS and the LMP Eligibility Threshold at Montana Monitoring Sites within PM_{10} Nonattainment Areas

Dear Mr. Klemp:

This letter is in response to your letter of June 1, 2018, requesting the U.S. Environmental Protection Agency's (EPA) concurrence with the Montana Department of Environmental Quality's (DEQ) request to exclude PM_{10} data impacted by wildfires in 2017 as exceptional events. The DEQ determined that regional wildfire smoke events caused exceedances of the 24-hour PM_{10} National Ambient Air Quality Standard (NAAQS) at monitoring sites across Montana in 2017. In addition, the DEQ determined that the smoke events caused multiple sites to exceed 98 $\mu g/m^3$, an eligibility threshold for EPA's Limited Maintenance Plan Option for Moderate PM_{10} Nonattainment Areas (the LMP Policy),[1] and the DEQ flagged these data as exceptional events to support future plans to redesignate PM_{10} nonattainment areas using the LMP Policy.

In 2016, the EPA revised sections of the Exceptional Events Rule (EER) found in 40 CFR 50.14 and 51.930. After careful consideration of the information provided, the EPA concurs, based on the weight of evidence, that the state has made the demonstrations referred to in 40 CFR 50.14(a)(2), (b)(1) and (b)(4) of the EER. In addition, the state has met the schedule and procedural requirements in section 50.14(c) with respect to the same information. The EPA has reviewed the documentation provided by the DEQ to demonstrate that the exceedances identified in the submitted demonstration meet the criteria for an exceptional event in the EER. The basis for this concurrence is set forth in the enclosed technical support document. Concurrence flags have been entered for these data in the EPA's Air Quality System (AQS) database. For those values included in the DEQ's demonstration that exceeded the LMP eligibility threshold of 98 $\mu g/m^3$ but were under 155 $\mu g/m^3$, the EPA concurs that the elevated PM_{10} concentrations were caused by wildfire smoke, and that these data may be excluded when considering whether the areas are eligible for use of the LMP Policy.

[1] https://www.epa.gov/sites/production/files/2016-06/documents/2001lmp-pm10.pdf.

The determination conveyed in this letter does not constitute final action regarding any matter on which the EPA is required to provide an opportunity for public comment. In particular, this applies to EPA determinations regarding PM_{10} attainment status or classification. Final actions will take place only after the EPA completes notice and comment rulemaking on those determinations.

If you have any questions on this matter, you may contact me at (303) 312-6776 or your staff may contact Ethan Brown, at (303) 312-6403.

Sincerely,

Martin Hestmark
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Enclosure

cc: Annette Williams, Montana DEQ

APPENDIX B

KALISPELL DATA SUBSTITUTION METHODOLOGY

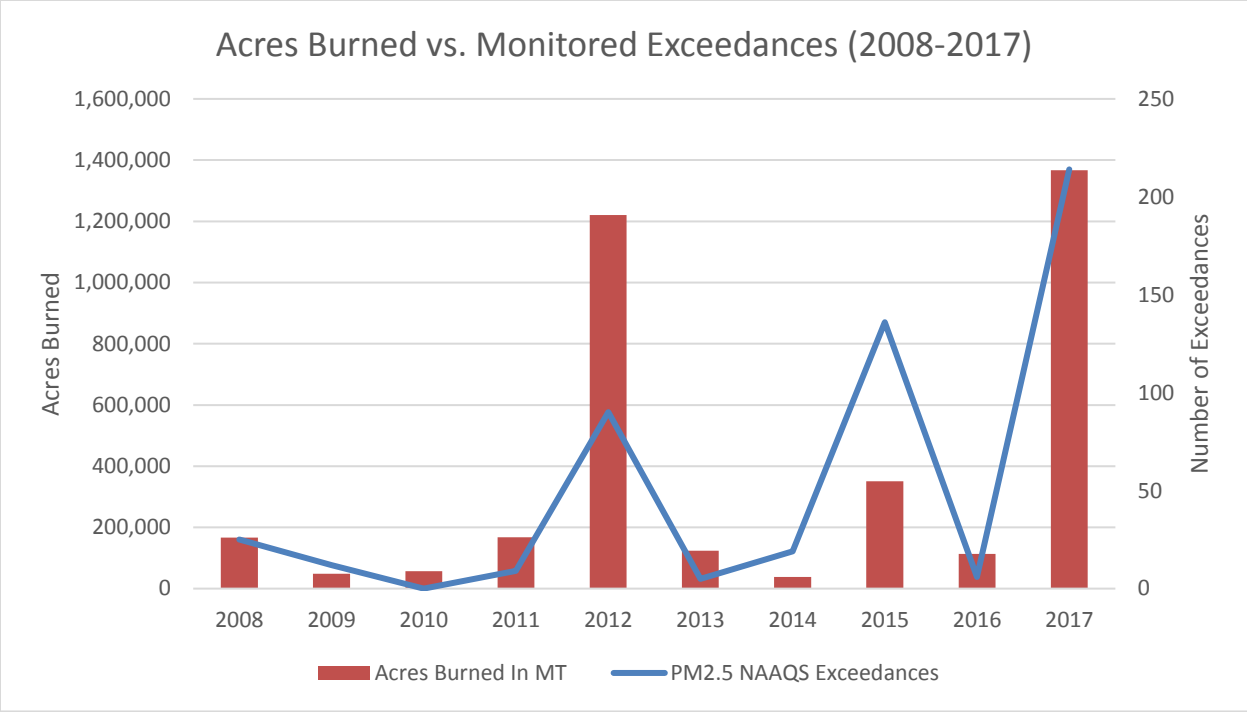
Over the past eleven years, two quarters of PM_{10} data in Kalispell are below the 75% reporting threshold, making the quarters incomplete. To address the missing data, Montana used the method outlined in the April 1987 "Guideline on Exceptions to Data Requirements for Determining Attainment of Particulate Matter Standards."

The third quarter of 2011 only achieved 71% data completeness and the first quarter of 2013 only achieved 53% data completeness of PM_{10} monitoring values. Therefore, Montana set out to substitute missing data in the 3rd quarter of 2011 and the 1st quarter of 2013. These quarters meet the minimum requirement of having at least 50% of required samples in the missing quarters.

An initial review of quarter 3 indicated that 2012, 2015 and 2017 were exceptionally high years for PM values due to wildfire impacts. The graphic below shows the acres burned in Montana from 2008-2017 compared with the number of monitored NAAQS exceedances at our $PM_{2.5}$ monitors. The graphic shows particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$) monitors instead of PM_{10} monitors because the network is more extensive and is the primary pollutant of concern during wildfire season in Montana. $PM_{2.5}$ exceedances are a good way to judge the severity of a fire season in Montana. The discrepancy in 2015 between acres burned in Montana and the number of exceedance is due to the extreme fire conditions in Washington state. Transported smoke from these fires caused frequent, widespread air quality impacts in Montana in 2015.

Due to the extreme nature of the 2012, 2015, and 2017 wildfire seasons, DEQ has omitted those years when selecting the highest value in quarter 3.

In addition, smoke from wildfires in northwest Montana in 2007 caused significant air quality impacts in Kalispell in August. These days were all included in the exceptional events package submitted to EPA on December 14, 2007. Due to the elevated impact of wildfires in Kalispell in 2007, this year has also been excluded from determining the highest 3rd quarter value. The air quality impacts in Kalispell due to wildfire in 2007 were on par with the impacts seen in 2015 and 2017 due to the proximity of the fires to the monitor.



When excluding those years, the following high values were selected for data substitution:

- Q3: 108 µg/m^3 from 7/18/2014
- Q1: 88 µg/m^3 from 3/6/2015

The following high values were omitted from the analysis because they occurred in the years highly impacted by wildfire.

Date	Quarter	PM_{10} Conc. (µg/m^3)
8/16/2007	3	147
8/29/2015	3	146
8/24/2015	3	139
8/28/2015	3	133
9/5/2017	3	131
8/20/2015	3	125
8/26/2015	3	125
8/27/2015	3	123
8/17/2007	3	115

APPENDIX C

FLATHEAD EMISSION INVENTORY

DEQ has developed an emission inventory for each nonattainment area within Flathead County, including Kalispell, Whitefish, and Columbia Falls. The source of the emission inventory is the 2014 National Emission Inventory (NEI). The NEI catalogs emissions from 60 various sources for Criteria pollutants and HAPs. However, the NEI only reports to county level resolution. The emissions listed in the table below are combined for all of Flathead County, not just each of the NAAs. This list is limited to only those sectors used in the attainment plans for each area as well as diesel emissions from mobile sources.

Table 1. 2014 NEI Data for Flathead County by Sector

Flathead County 2014 NEI

PM_{10} Emissions		
Sector	**Tons/year**	**Percent**
Dust - Unpaved Road Dust	13,529.50	94.84%
Dust - Paved Road Dust	389.66	2.73%
Mobile - On-Road Gasoline Light Duty Vehicles	80.64	0.57%
Mobile – Diesel Emissions[1]	79.31	0.56%
Mobile - Locomotives	46.62	0.33%
Fuel Comb - Comm/Institutional - Natural Gas	0.37	0.00%
Fuel Comb - Residential - Natural Gas	0.42	0.00%
Fuel Comb - Residential - Wood	139.37	0.98%
Total	14,265.89	100.00%

[1] Diesel emissions from "Mobile On-Road Diesel Heavy Duty Vehicles" (44.52 Tons/year), "Mobile On-Road Diesel Light Duty Vehicles" (12.23 Tons/year), and "Mobile – Nonroad Equipment Diesel" (22.56 Tons/year)

This document will outline the methodology for scaling the county level emissions to each nonattainment area. These methods vary by sector.

Fuel Combustion Emission Calculations

Fuel combustion source emissions, including commercial and industrial natural gas, residential natural gas, and residential wood, are available at the county level. There are no direct emission calculations within the nonattainment areas. Since these three sectors are linked to population, the 2010 census tract data was used to estimate an appropriate scaling factor.

The nonattainment areas represent the more populated parts of the county. Below shows the census track data for the county, with a higher population in the nonattainment areas and surrounding areas, compared to the more rural parts of the county.

Figure 1. Population within Flathead County

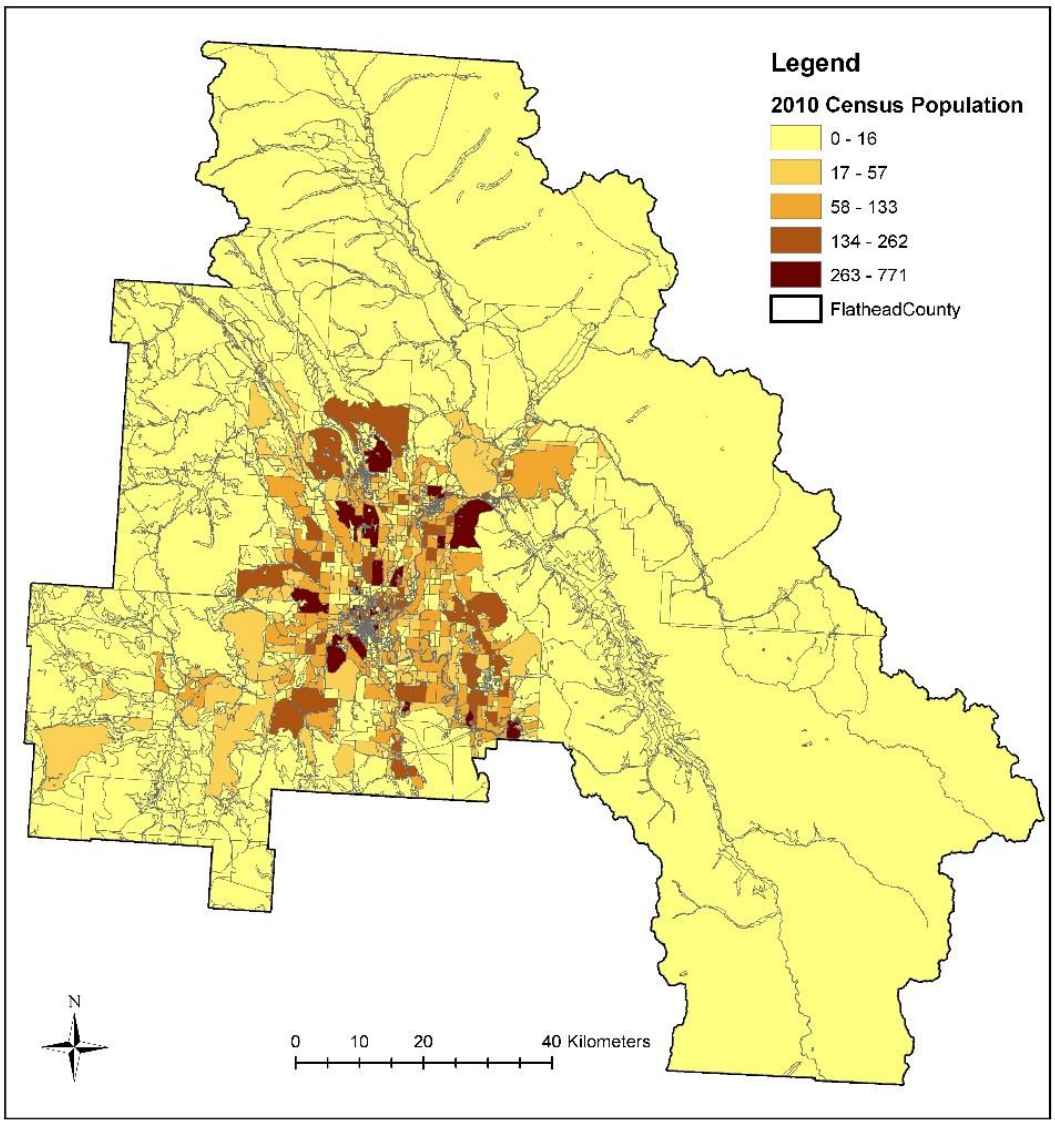


Figure 2. Population within Columbia Falls NAA.

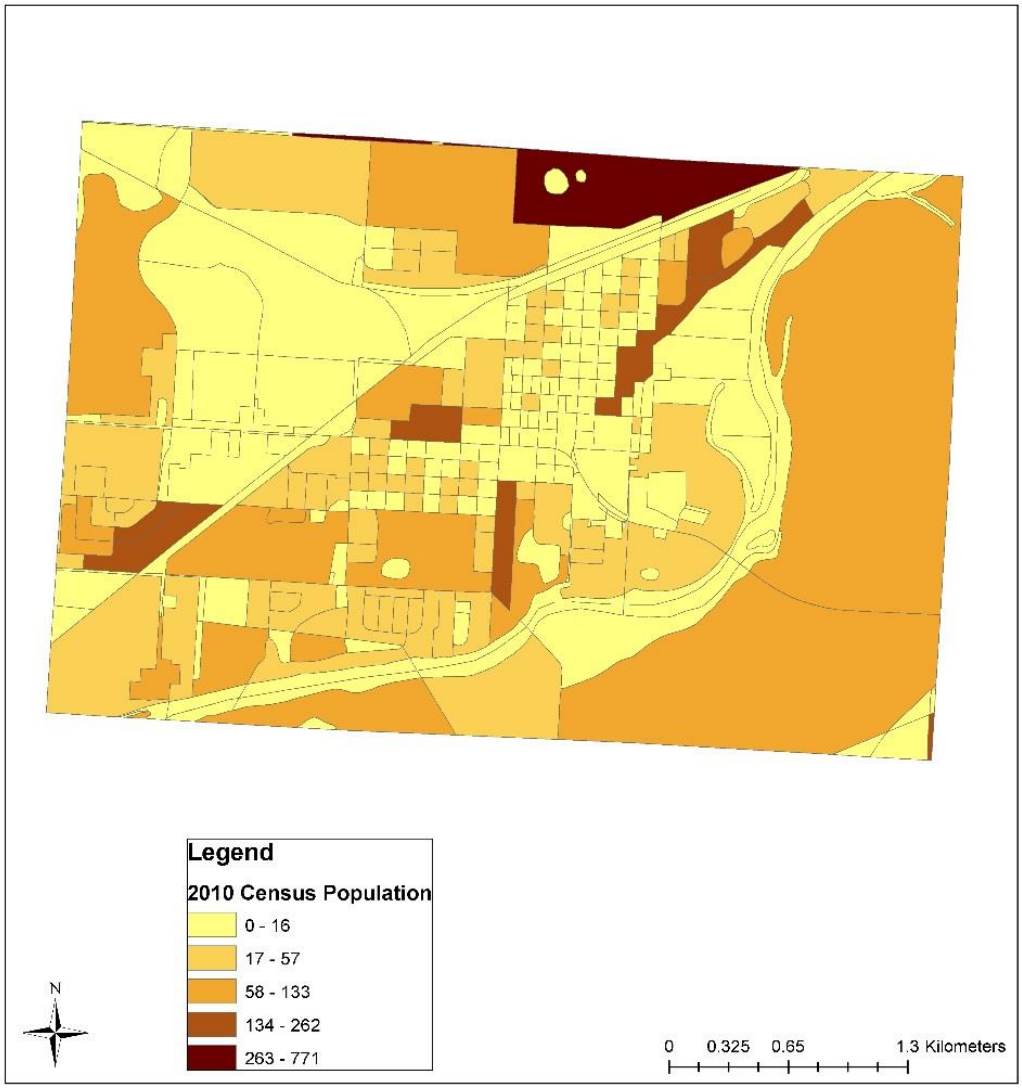


Figure 3. Population within Kalispell NAA.

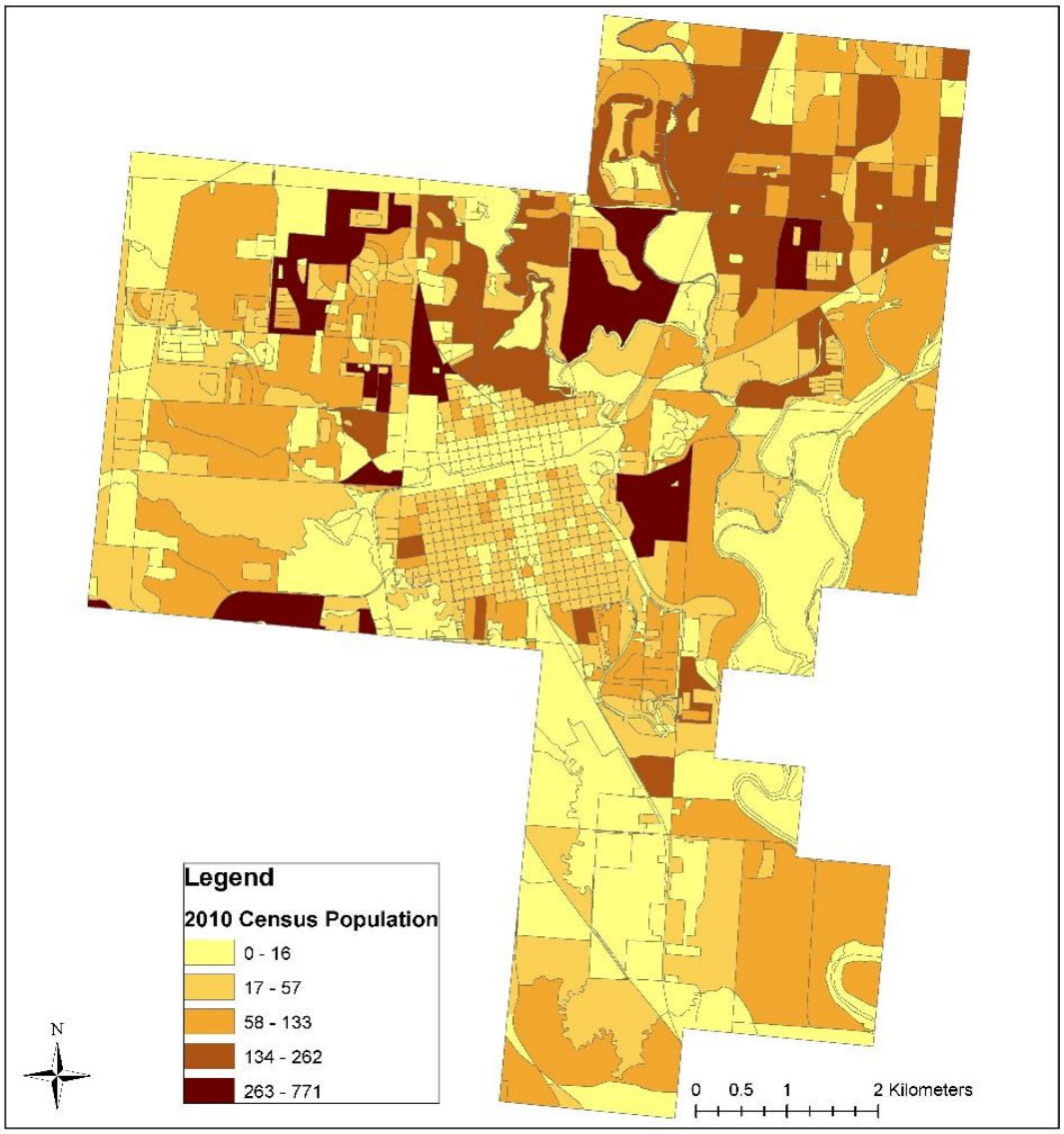
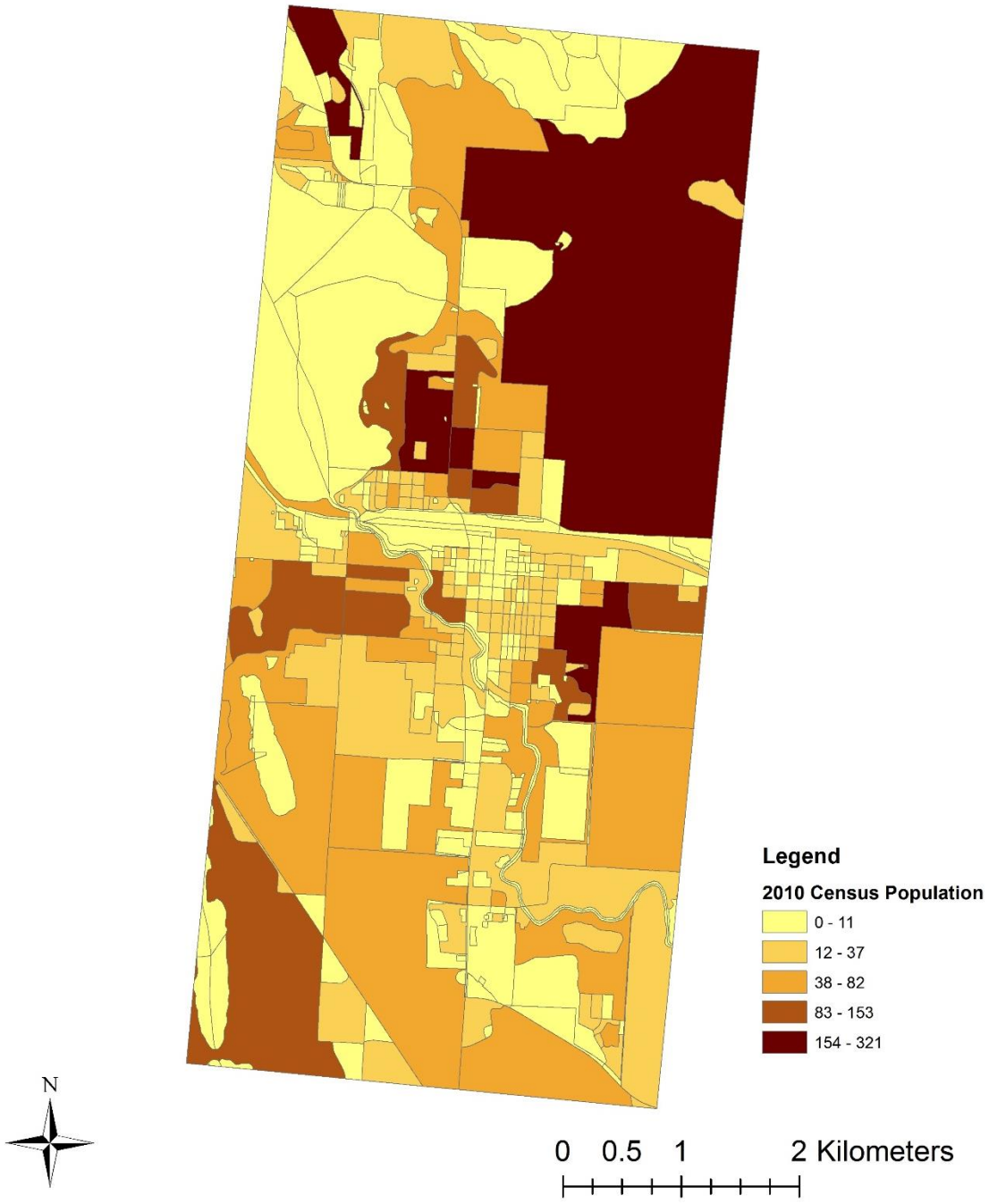


Figure 4. Population within Whitefish NAA



The table below shows the 2010 population totals of the county and the three nonattainment areas. This shows that Kalispell makes up 34.1% of the county population, while Columbia Falls makes up 7.3% of the county population.

Table 2. 2010 Census Population by County and NAA.

	Pop. 2010	% of County
Total County	90,928	--
Columbia Falls	6,615	7.3%
Kalispell	30,995	34.1%
Whitefish	7,687	8.5%

This method uses the percent of county population within the nonattainment areas to scale the fuel combustion emissions. The table below shows the scaled emission estimated for each sector/NAA using this approach.

Table 3. Fuel Combustion Emission Estimate.

	% of County	Tons/year		
		Fuel Comb - Comm/Institutional - Natural Gas	Fuel Comb - Residential - Natural Gas	Fuel Comb - Residential – Wood
Total County	100.0%	0.37	0.42	139.37
Columbia Falls	7.3%	0.03	0.03	10.14
Kalispell	34.1%	0.13	0.14	47.51
Whitefish	8.5%	0.03	0.04	11.78

Road Dust and Vehicle Emission Calculations

A reasonable emissions estimate from paved and unpaved road dust, mobile on-road gasoline light duty vehicles, and diesel emissions, including heavy duty, light duty, and non-road vehicles, would be scaling the NEI emissions to the ratio of vehicle miles traveled (VMT) within the county to the VMT in the NAA. Unfortunately, VMT data within the NAA is not available. The method outlined below demonstrates the best available estimate to scale county-level vehicle emissions to the NAA within Flathead County.

2017 daily VMT data is available through the Montana Department of Transportation for Flathead County and the cities of Columbia Falls, Kalispell, and Whitefish. County level data is provided through the MDOT website, while the city estimates were provided to DEQ in August 2018 via email. The table below shows the total daily VMT in the county compared to each city in 2017 and the percentage of these VMT.

Table 4. 2017 VMT Data by County and Urban Area.

	2017 Daily VMT	% of County
Flathead County[1]	2,722,689	n/a
Columbia Falls	72,345	2.7
Kalispell	382,949	14.1
Whitefish	153,510	5.6

The table below shows the proposed nonattainment area emissions for unpaved and paved road dust, and on-road mobile emissions based on the percent VMT in each city compared to the county.

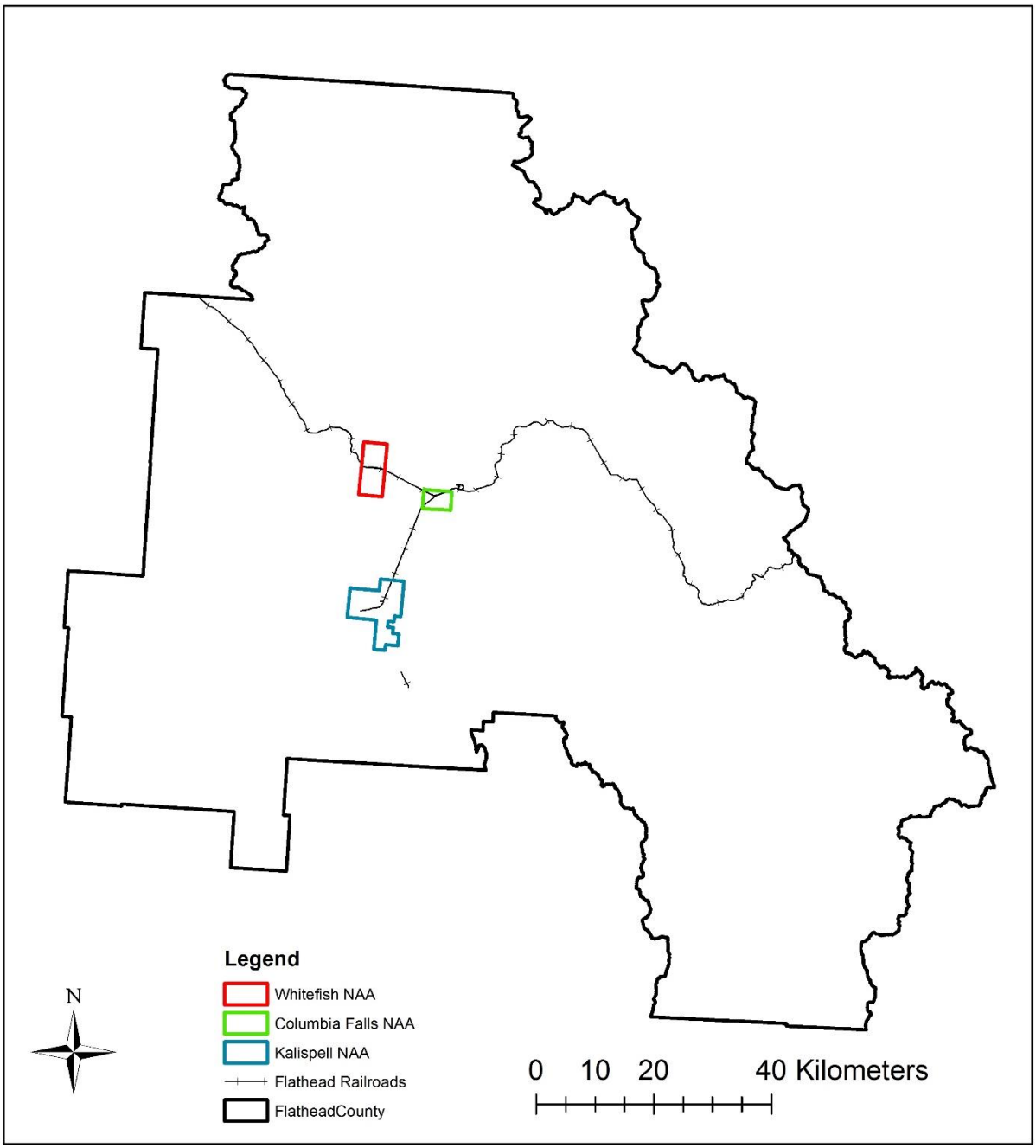
Table 5. Roadway Emission Estimates Based on VMT Scaling.

	% of County	Mobile - On-Road Gasoline LDV (tons)	Mobile - On-Road Diesel Heavy Duty Vehicles	Mobile - On-Road Diesel Light Duty Vehicles	Mobile - Non-Road Equipment - Diesel	Mobile - Diesel Total
Flathead County (2014 NEI)	100	80.64	44.52	12.23	22.56	79.31
Columbia Falls	4.6	2.14	1.18	0.32	0.60	2.11
Kalispell	23.7	11.34	6.26	1.72	3.17	11.15
Whitefish	4.1	4.55	2.51	0.69	1.27	4.47

Locomotive Emission Calculation

A railroad runs through Flathead County, including all three nonattainment areas. The location of the railroad tracks is shown below.

[1] http://mdt.mt.gov/other/webdata/external/Planning/traffic_reports/tbcounties.pdf



The locomotive emissions are available at the county level. Emission data within the nonattainment areas are not available. Since all three nonattainment areas are within the same county, using the county-total for each NAA would be a significant over estimation of locomotive emissions. On the other hand, scaling emissions based on the length of track in the NAA vs. the county may underestimate the emissions. The NAA all include stations, where idling emissions may be higher than on the tracks connecting the stations. To balance these two options, DEQ allocated all the county-level emissions to the NAAs, then scaling by the length of track in each area. In other words,

the county-level emissions totally 52.79 typ and were divided into Columbia Falls, Kalispell, and Whitefish based on the length of track in each area, compared to each other. DEQ believes this method adequately addresses idling concerns because Columbia Falls, which has the largest 'hub', where idling emissions are likely to occur, also receives the largest share of emissions. When looking closely at the Columbia Falls rail lines, numerous additional tracks are present in and around the train depot, increasing the share of emissions Columbia Falls ultimately receives. See the table below for the breakdown.

Flathead County 2014 NEI Mobile Emissions – Locomotives = 46.62 tons/year

Table 6. Locomotive Emission Estimate.

	Track Length (km)	**% compared to all NAA**	**Scaled Emissions (tons/year)**
Flathead County	211.51	--	--
Columbia Falls	24.35	47%	21.71
Kalispell	17.37	33%	15.48
Whitefish	10.58	20%	9.43
Total within NAAs	57.70	100%	46.62

APPENDIX D

PUBLIC NOTICE DOCUMENTATION, COMMENTS AND DEQ'S RESPONSE