Alaska's 2013 Air Monitoring Network Plan

Chapter 1

Monitoring Plan

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1.1.Introduction

In 1970 the Congress of the United States created the U.S. Environmental Protection Agency (EPA) and promulgated the Clean Air Act (CAA). Title I of the CAA established National Ambient Air Quality Standards (NAAQS) to protect public health. NAAQS were developed for six *criteria pollutants*: particulate matter (PM), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), and lead (Pb). Particulate matter has two associated NAAQS: one for fine particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$) and one for coarse particulate matter less than 10 micrometers in diameter (PM_{10}). Threshold limits established under the NAAQS to protect human health are known as primary standards. The primary health standards are to protect the most sensitive of the human population, including those people with existing respiratory or other chronic health conditions, children, and the elderly. Secondary standards established under the NAAQS are to protect the public welfare and the environment.

Since promulgation of the original CAA, the EPA has continued to revise the NAAQS based on its assessment of national air quality trends and on current (and ongoing) health studies. Since 2008, the EPA has strengthened the NAAQS for lead, ozone, sulfur dioxide, and nitrogen dioxide. Table 1.1presents the NAAQS with the most recent updates.

To protect public health and assess attainment with NAAQS limits, the State of Alaska Department of Environmental Conservation (DEC) established an air quality monitoring program. The State of Alaska has a large geographical area with a small population. Anchorage and the Matanuska-Susitna (Mat-Su) Valley have the bulk of the 710,231[1] people in the state, about 54%. The remainder of the population is distributed among the cities of Juneau and Fairbanks with populations of about 30,000-40,000 and many scattered and isolated small villages most of which are off the road system and have populations ranging from 16 people to 10,000 people. The total area of the state is approximately 1.7 million square kilometers (km) or 656,425 square miles[2].

In accordance with the National Monitoring Strategy, DEC plans air monitoring activities using the following criteria:

1. Monitor in larger communities to cover the largest possible population exposure;

2. Monitor in designated smaller towns and villages that are representative of multiple communities in a region; and

3. Monitor in response to air quality complaints.

[1] Population data obtained from the 2010 US Census, http://live.laborstats.alaska.gov/cen/dp.cfm
[2] Geographical data obtained from NetState.com, http://www.netstate.com/states/geography/ak_geography.htm

In addition to the NAAQS for *criteria pollutants*, Title III of the CAA regulates a list of 188 hazardous air pollutants, often referred to as *HAPs* or air toxics. These air pollutants have been shown to be carcinogenic or exhibit high toxicity in humans and the environment. Air toxics are regulated through emission limits established for stationary sources, mobile sources, and other area sources. Special monitoring projects may be developed to evaluate source-specific locations. Currently, DEC has no air toxics monitoring planned for 2012-2013.

Table 1.1 – NAAQS for Criteria Pollutants (as revised October 2011)

Pollutant [Final Rule Citation]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide [76 FR 54294, Aug 31, 2011]		Primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead [73 FR 66964, Nov 12, 2008]		Primary and Secondary	Rolling 3-month Average	0.15 $\mu g/m^3$(1)	Not to be exceeded
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		Primary and Secondary	Annual	53 ppb(2)	Annual Mean
Ozone [73 FR 16436, Mar 27, 2008		Primary and Secondary	8-hour	0.075 ppm(3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3-years
Particle Pollution [71 FR 61144, Oct 17, 2006]	$PM_{2.5}$	Primary and Secondary	Annual	15 $\mu g/m^3$	Annual mean, averaged over 3 years
			24-hour	35 $\mu g/m^3$	98th percentile, average over 3 years
	PM_{10}	Primary and Secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sep 14, 1973]		Primary	1-hour	75 ppb(4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard

(0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.(4)

(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO2 standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

1.2. Monitoring Priorities

The Air Monitoring & Quality Assurance (AMQA) section of the DEC Air Quality Division has a small staff of professionals which coordinate with the Municipality of Anchorage, the Fairbanks North Star Borough, the City and Borough of Juneau, the City of Seward, the Kenai Peninsula Borough, and other, smaller communities to support and operate the statewide monitoring system. To protect public health and the environment, the 2013 Alaska Air Monitoring Plan is focused on eight air quality issues:

- Fine particulate matter ($PM_{2.5}$) monitoring
- Coarse particulate matter (PM_{10}) monitoring
- Carbon monoxide (CO) monitoring
- Lead (Pb) monitoring
- Ozone (O_3) monitoring
- Sulfur dioxide (SO_2) monitoring
- Wildland fire monitoring ($PM_{2.5}$)
- Rural communities and tribal village monitoring (primarily PM_{10})

1.2.1 Fine Particulate Matter-$PM_{2.5}$

The primary source of fine particulate matter ($PM_{2.5}$) is combustion. $PM_{2.5}$ is a major health issue for communities across the State of Alaska. More and more health studies show the higher rate of disease associated with particles penetrating deep into the lungs. For the people of Alaska, this problem is exacerbated by increased exposure to fine particulate during extended wintertime temperature inversions and wildland fires during the summer months. $PM_{2.5}$ monitoring is currently being conducted in all the major networks. Only the Seward PM_{10} monitoring program does not monitor for $PM_{2.5}$.

Fairbanks has consistently experienced the highest $PM_{2.5}$ values measured in the state. During the winter months, strong temperature inversions have contributed to trapping fine particle emissions in the lowest levels of the atmosphere. Since the strengthening of the $PM_{2.5}$ standard in December 2006, Fairbanks routinely records 20-30 exceedances each winter of the new 24 hour standard of 35 $\mu g/m^3$. Based on these exceedances, in December 2009 the Fairbanks North Star Borough was designated non-attainment for the $PM_{2.5}$ NAAQS. Fairbanks North Star Borough, DEC, the University of Alaska – Fairbanks (UAF), and a group of other air quality

professionals are currently investigating the problem to develop an effective control strategy for bringing the community into attainment status.

Particulate pollution in Juneau was recognized in the 1970s prompted by public complaints concerning road dust and woodstove emissions especially during wintertime inversions. The current monitoring site located in the Mendenhall Valley at the Floyd Dryden Middle School was originally established January 1, 1980. Based on exceedances throughout the 1980s, Juneau was designated non-attainment for PM_{10} in November 1991. The State of Alaska, and the City and Borough of Juneau developed a control strategy with an aggressive road paving program and a program to ban wood burning during periods of predicted temperature inversions. Data collected over the last decade indicate that the coarse particulate part of the problem was solved. In December 2008, the State of Alaska proposed to the EPA to place Juneau under a Limited Maintenance Plan for PM_{10}. Although never designated as non-attainment for $PM_{2.5}$, increases in fuel costs for residential heating and revision of the NAAQS in 2006 lowering the 24-hour standard to 35 $\mu g/m^3$ is reason for concern. Monitoring values observed in the Mendenhall Valley during wintertime inversions are often close to exceeding the new limit. The City and Borough of Juneau are aggressively enforcing the burn ban and issuing citations with fines for noncompliant residents. Monitoring is ongoing with recent updates to instrumentation.

The Municipality of Anchorage began monitoring for $PM_{2.5}$ in November 1998 and is currently monitoring at three sites in the network. The Municipality continues to be in compliance with the $PM_{2.5}$ NAAQS.

In the 1990s and up to 2008 the population of the central Matanuska-Susitna Valley grew very rapidly. Every year, DEC receives occasional public complaints related to smoke from land clearing operations. To help local leaders address air quality issues and to better protect public health, DEC installed a $PM_{2.5}$ continuous sampler in the downtown area of each community.

As part of a shift in the National Monitoring Strategy, Alaska began adding continuous $PM_{2.5}$ analyzers to Federal Reference Method (FRM) monitoring sites. The national long range plan was to convert all manual samplers to continuous analyzers to provide a more comprehensive monitoring database. The strategy required a collocation of continuous samplers with FRM monitors to determine if a bias existed in the collected data. This was considered an important step as agencies in the lower 48 states were noticing that the newer technology analyzers were producing significant data disparities. While analyzers have improved, and many have been designated as federal equivalent methods (FEM), operating them collocated with an FRM sampler is still preferred by DEC to validate their performance as significant discrepancies exist. The collocation is important, as good quality, continuous particulate data play a critical role in calculating daily Air Quality Indices (AQI). The AQI is used to help develop air quality advisories and protect public health. Alaska continues to study the accuracy of these samplers. Continuous $PM_{2.5}$ analyzers are now in place at three monitoring sites in the Anchorage network, five sites in the Fairbanks North Star Borough, three sites in the Mat-Su Valley, one site in Soldotna, and one site in Juneau. Correlation data were calculated for the Juneau $PM_{2.5}$ FRM and FEM monitors. Results from the linear regression analysis were well within EPA requirements and, as a result, operation of the $PM_{2.5}$ FRM manual sampler was discontinued.

Through an intergovernmental agreement with the Municipality of Anchorage and the State of Washington, real-time $PM_{2.5}$ data from the continuous monitors in Anchorage, Mat-Su, Fairbanks, and Juneau are now available to the public through the Alaska Air Monitoring Network website at https://fortress.wa.gov/ecy/aaqm/Default.htm.

1.2.2 Coarse Particulates-PM_{10}

The State of Alaska has been monitoring for dust in Anchorage, Juneau, the Mat-Su Valley, and Fairbanks for over twenty years. The Municipality of Anchorage and Juneau both violated the PM_{10} standards for several years. Juneau was designated as non-attainment for PM_{10} in 1991.

Eagle River, a community of about 30,000 located approximately 10 miles north of downtown Anchorage and within the municipal boundaries, was never officially designated as non-attainment for PM_{10}. The Municipality of Anchorage, as a whole, skirted non-attainment status by development of the Eagle River PM_{10} attainment plan and entered into a Memorandum of Understanding with the EPA. The Memorandum of Understanding committed the Municipality and the State to develop and implement strategies to control the sources creating the violations, which had occurred between 1985 and 1987. The PM_{10} control plan was developed to address the PM_{10} problem in Eagle River. Because most of the PM_{10} in Eagle River was emitted from unpaved roads, the plan focused on paving or surfacing gravel roads in the area. This strategy has been successful. No violations have been measured since October 1987. A "Limited Maintenance Plan" for Eagle River was submitted to EPA and is awaiting approval.

The Anchorage bowl is currently considered in attainment for PM_{10}. However, Anchorage has experienced exceedances of the NAAQS related to natural events such as volcanic eruptions and wind storms. Experience has shown that the effects of a volcanic eruption can linger for years following the event. Following the eruption of the Mt. Spurr volcano in August 1992, the NAAQS for PM_{10} was exceeded 18 times between 1993 and 1995. Intense wind storms in March 2001 and March 2003 created blowing dust conditions that contributed to a number of exceedances of the NAAQS. Because these exceedances were largely the result of natural events, EPA has not considered them when evaluating Anchorage attainment status with respect to PM_{10}.

Although natural events have contributed to some exceedances, most PM_{10} in Anchorage is believed to have man-made origins. PM_{10} can be generated from vehicle traffic on un-swept roads loaded with winter traction sand or from unpaved roads and parking lots. Anchorage sometimes nearly exceeds the NAAQS during spring break-up, especially near heavily traveled roads where traffic stirs up a winter's worth of accumulated road sand, pulverized road surface, and sediment.

The Municipality of Anchorage and the State of Alaska have modified road maintenance practices in an effort to reduce PM_{10} emissions from roadways. In 1996, they began using a coarser, cleaner traction sand to reduce the amount of fines (silt particles less than 75 microns in diameter) being applied to the roadway network. In recent years, the Municipality of Anchorage has used magnesium chloride brine, a chemical dust suppressant to reduce PM_{10} emissions during the spring break-up when PM_{10} concentrations tend to be highest.

As discussed above, Juneau was designated non-attainment for PM_{10} in 1991. However, data collected over the last 13 years have shown effective control of road dust. The DEC and City and Borough of Juneau have submitted a PM_{10} Limited Maintenance Plan to Region 10 EPA. Monitoring is ongoing at the Floyd Dryden Middle School site.

The southern Matanuska-Susitna Valley, located 40 miles northeast of Anchorage, is transitioning from a rural-agricultural to an urban-suburban character. The cities of Wasilla and Palmer are the fastest growing communities in the state. Dust monitoring is currently performed at three sites: downtown Palmer, Wasilla, and in the Butte, a small community southeast of Palmer. Monitoring data typically show several exceedances of the PM_{10} NAAQS every year. Increased road paving has significantly reduced the road dust levels across the valley. However, all of the exceedances are related to exceptional events, which involve high winds off the Matanuska River and Knik River drainages which entrain glacial silt, raising dust levels into the unhealthy range. These exceptional events occur during the spring, summer, and into the fall until snow cover occurs.

In January 2011, DEC, in coordination with the city officials, the Alaska Native Tribal Health Consortium (ANTHC) and the Qutekcak Native Tribe (QNT), established a PM_{10} monitoring program in Seward. The monitoring program was prompted by citizen complaints of high levels of wind-blown dust. Samples are being collected at three sites within the City limits. The special purpose monitoring program was expected to collect PM_{10} data for a period of at least one year.

A continuous PM_{10}, $PM_{2.5}$, and PM_{Coarse} monitoring site is located near the Kenai Peninsula Borough Building in Soldotna.

1.2.3 Carbon Monoxide-CO

Strong wintertime temperature inversions and complex terrain resulted in non-attainment status for CO in Alaska's two largest population centers, Anchorage and Fairbanks. Both communities were designated as *Moderate Non-attainment* for CO in the late 1970s and re-designated as *Serious Non-attainment* in 1998. However, with implementation of air quality control strategies and improvement to automobile emission controls, both communities have not had a violation of the NAAQS for over ten years. Both communities requested re-designation to attainment. The EPA concurred and re-designated Anchorage and Fairbanks as maintenance areas in 2004.

The Anchorage CO monitoring network is currently comprised of four monitoring sites: one in east Anchorage, one in downtown Anchorage, one in west Anchorage near the airport, and one in Eagle River, a suburb of Anchorage ten miles to the northeast. The Municipality of Anchorage network has not recorded an exceedance of the CO NAAQS since December 1996.

The Fairbanks North Star Borough CO monitoring network originally consisted of three monitoring sites. Fairbanks has not exceeded the CO NAAQS since 1999. Because of continued compliance with the standard and the need to refocus on $PM_{2.5}$ non-attainment, the Fairbanks monitoring program requested and EPA approved a reduction in the number of CO monitoring sites within the borough. Fairbanks currently operates two CO monitoring sites.

1.2.4 Lead Monitoring-Pb

To comply with the November 2008 and the December 2009 revisions to the NAAQS for lead (Pb), DEC established a source oriented monitoring site near the Red Dog Mine in the Northwest Arctic Borough. The Red Dog Mine extracts zinc and lead ore from an open-pit mine and concentrates the ore for export. The EPA NAAQS regulations for lead require source-oriented monitoring for all facilities that have potential annual emissions equal to, or greater than, 0.5 tons of lead. The Red Dog Mine is the only emission source in the State of Alaska that meets this criterion. The area around the mine is extremely remote, rugged terrain with no road access and is essentially uninhabited. The monitoring location selected was the Native Village of Noatak, the closest village to the Red Dog Mine. EPA sanctioned the change in the monitoring strategy from source-oriented to population-oriented because of Alaska's rural character. The monitoring site was established in January 2010 and consists of collocated samplers which collected samples for total suspend particulate (TSP). The samples were collected and returned to Anchorage for laboratory analysis at the DEC Environmental Health (EH) laboratory. Unfortunately, because of problems with maintaining trained, year round operators within the Village, sampling has been suspended. Under 40 CFR 58, Appendix D, section 4.5 (ii) DEC has submitted a modeling protocol as part of a waiver request to avoid the monitoring requirement. DEC is currently in negotiations with the EPA for approval of the modeling protocol. DEC is planning to conduct summer time sampling programs in either Noatak and/or the nearby Village of Kivalina.

Because some piston-engine aircraft still use a leaded formulation of gasoline, EPA has recently instituted a special lead monitoring study at selected regional airports around the U.S. The Merrill Field Airport in Anchorage, Alaska was selected by the EPA to participate in the study based on the potential for planes using this airfield to collectively emit as much as 0.5 tons of lead annually. The Municipality of Anchorage instituted a TSP-lead sampling program at Merrill Field during the early winter of 2011. Sampling is conducted on a 1-in-6 schedule and will conclude in December 2012. The DEC EH lab in Anchorage is analyzing the samples for lead content. The Municipality expects to issue a final report by April 2013.

1.2.5 Ozone Monitoring-O_3

The March 27, 2008 revision of the ozone (O_3) NAAQS required the State of Alaska to establish an ozone monitoring program by April 1, 2010. The regulation requires at least one State and Local Air Monitoring Station (SLAMS) ozone site in a core based statistical area (CBSA) with a population greater than 350,000. The Anchorage/Mat-Su Valley population forms the only combined MSA in the State of Alaska which meets the criteria. The Municipality of Anchorage monitoring program established two monitoring sites in April 2010. For the 2011 Alaska ozone season (April-October), one ozone monitor was relocated from the Parkgate site in Eagle River to the Wasilla site in the Mat-Su Valley to be operated by DEC. These two ozone monitors are designated as special purpose monitors until sufficient data can be collected and analyzed to determine the appropriate SLAMS site location. Year-round ozone monitoring is conducted in Fairbanks as part of the multi- pollutant sampling suite at the NCORE site. The US National Park Service operates a Clean Air Status and Trends Network (CASTNET) ozone monitoring site at the Denali National Park and Preserve, which is under consideration to be used as the wilderness site for Alaska to fulfill the latest ozone monitoring requirements.

1.2.6 Sulfur Dioxide Monitoring – SO_2

In 2010, EPA finalized revisions to the NAAQS for sulfur dioxide ($SO_{2)}$ (75 FR 35520, June 22, 2010). The revisions were to address the public health studies showing a direct correlation of short-term high concentrations of this pollutant with health effects for sensitive populations, i.e. children, the elderly, and people with underlying health conditions. The revisions also contained associated changes to ambient monitoring and data reporting requirements. To comply with the revised NAAQS requirements, DEC has installed a sulfur dioxide monitor at the NCORE multi-pollutant monitoring site located in Fairbanks. The sulfur dioxide concentration will be monitored at trace levels with hourly averages reported in parts per billion (ppb) to one decimal. In addition, the sulfur dioxide NAAQS revision requires that data averages be recorded in 5-minute blocks and that the maximum 5-minute block for the hour and the hourly average be reported .

1.2.7 Rural Community and Tribal Village Monitoring

The State provides support to Alaska's rural communities to make baseline assessments of local air quality. Because a majority of the citizens in these communities are Alaskan Native, much of the monitoring is supported by EPA's Indian Environmental General Assistance Program (IGAP) or EPA's Tribal Air Grant process. The IGAP program provides limited funding for equipment and training for monitoring to be used for baseline assessments but not for regulatory purposes.

Dust Monitoring

The State believes the high dust levels reported in the rural communities of Ambler, Bethel, Buckland, Kiana, Kotzebue, Noatak, Noorvik, and St Mary's represent the conditions that would be found in other rural communities across the state if they performed PM_{10} monitoring. This conclusion has been supported by numerous tribal studies conducted during the past decade. Most of the tribal monitoring has been done in the Northwest Arctic Borough but sampling in other villages throughout the state supports the same conclusion.

This year, DEC, the State of Alaska Department of Transportation & Public Facilities (DOT), and UAF are working together to identify and test potential dust control strategies for use in rural Alaska. The DEC is involved in the DOT project with UAF to assess the effectiveness of the chemical palliatives applied for dust control. The eight villages (named above)\ have had dust problems in the past (i.e. values exceeding the PM_{10} NAAQS) and have been chosen for a DOT demonstration project. DEC will monitor the effectiveness of the selected dust palliatives in four villages during the summer of 2012: Noorvik, Ambler, Noatak, and Buckland. Two of those villages, Noatak and Buckland, have not yet applied the dust palliatives provided for this study, and are planning to apply them summer. DEC is planning to use FRM high-volume samplers in all four villages. DEC is also considering the possibility of adding continuous EBAM monitors at some of these sites to increase the amount of sampling data for the short summer season.

DEC is not planning to seek a PM_{10} non-attainment designation for rural communities at this time, but may in the future if the easier solutions for dust control are not found to be effective.

Wood Smoke Monitoring

Portions of rural Alaska may also have a $PM_{2.5}$ wood smoke problem. Strong winter inversions in interior Alaska coupled with weak economies, higher home heating bills, and easy access to wood have seen Alaskan's woodstove use on the rise. The impact on these small communities is unknown at this time, but cannot be overlooked in terms of protecting public health. However, at this time, DEC is not planning any monitoring to assess the $PM_{2.5}$ concentrations in rural Alaska.

1.2.8 Wildland Fire Monitoring

During the summer months when wildland fires spread thick, grey smoke over interior Alaska, Fairbanks and many other communities are often inundated with very high $PM_{2.5}$ levels. During the summers of 2004, 2005, and 2009, the community suffered through days of $PM_{2.5}$ levels that were more than 10 times the old standard of 65 $\mu g/m^3$. At times, smoke from these fires covered most of interior Alaska from the Bering Sea eastward to the Canadian border. In 2010, DEC placed continuous $PM_{2.5}$ monitors at Fort Yukon and Galena to study smoke impacts from summer wildland fire events in the State's interior. This program is ongoing.

1.2.9 Other Monitoring Issues

DEC has a number of other monitoring projects that the AMQA staff plan to bring to completion.

Alaska Air Monitoring Network

The Alaska Air Monitoring Network is a web-based data collection and reporting system that is intended to provide real-time data from continuous particulate samplers and pollutant gas monitors for near real time public access and so DEC can issue more timely air quality advisories. The information from each site is published to a web site which is accessed through a map-based GPS interface. Data from each site are used to calculate an Air Quality Index (AQI) which is presented on the site . The Alaska Air Monitoring Network was established by the Municipality of Anchorage in 2005 with funding derived through the Alaska Congressional delegation. DEC has expanded the system to include several sites throughout central Alaska. In 2012, the network includes:

Municipality of Anchorage	Fairbanks North Star Borough	Matanuska-Susitna Valley Borough	City and Borough of Juneau
Garden site (Airport Heights)	NCORE Site Multi-pollutant site (Downtown)	Palmer (South Gulkana in the City Park)	Juneau (Floyd Dryden Middle School)
DHHS Building (Downtown)	Fairbanks State Office Building (Downtown)	Wasilla (100 W Swanson near Fire Station #61)	
Tudor Road (East Anchorage)	North Pole Elementary (North Pole)	Butte (Harrison Court)	
Parkgate (Eagle River)	North Pole Fire Station #3 (North Pole)		

DEC is planning to include the Kenai/Soldotna area PM site during the summer of 2012. (https://fortress.wa.gov/ecy/aaqm/Default.htm).

1.3. Network Modifications

DEC annually reviews and modifies the State's air monitoring network based on the needs of the State, available funding, and EPA guidance. Budget cuts and staff shortages have a significant impact on the DEC's ability to conduct planned monitoring activities. Only a few changes to the statewide Air Monitoring Network are planned for the 2012-2013 monitoring year.

With the concurrence of EPA Region 10 and the DEC Air Monitoring Program manager, the Municipality of Anchorage (MOA), as of January 31,12, discontinued operation of FRM PM_{10} samplers at their Tudor Road site (02-020-0044) in Anchorage and at their Parkgate site (02-020-1004) in Eagle River. MOA continues to operate FEM PM_{10} monitors at both sites. MOA also continues to operate an FRM PM_{10} sampler collocated with a Coarse-BAM pair ($PM_{2.5}$and PM_{10}), at their Garden site (02-020-0018) in Anchorage. DEC, the Primary Quality Assurance Organization for the Municipality of Anchorage, continues to operate both primary and collocated PM_{10} FRM samples at their air monitoring site in Juneau (02-110-0004).

The particulate monitoring system at the Butte site in the Mat-Su Valley was modified in late 2011 by installing a new Coarse-BAM pair of MetOne BAM 1020X monitors to measure PM_{10} and $PM_{2.5}$. As of January 1, 2012, the new BAM $PM_{2.5}$ monitor now serve as the primary monitors for EPA's Air Quality System (AQS) database for this SLAMS site. The site retained two Partisol samplers to collect $PM_{2.5}$ and PM_{10} FRM data for correlation purposes.

The Fairbanks North Star Borough will discontinue monitoring activities at the TAC (Peger Road) site for the winter of 2012-2013. Moving the monitoring equipment to another location is under consideration.

After collecting data for more than a year, the Seward PM_{10} monitoring program will conclude at the end of May 2012. The data are to be finalized and a report issued this summer.

The Municipality of Anchorage anticipates concluding the year of monitoring for TSP-Lead at the Merrill Field Airport in December 2012. The data will be finalized and a report issued by April 2013.

MOA is considering discontinuing ozone monitoring at the Garden Site after the 2012 ozone sampling season and will prepare a waiver request document in cooperation with the DEC.