APPENDIX Q:

LOCAL SITE AND SOURCE INFORMATION

Appendix Q: Local Site And Source Information

Local site and source information was solicited for each of the sites via a questionnaire form and general requests for information. The questionnaire form asked for comments on the preliminary source identifications that were available at that time. The comments were based on Table Q-1. The form also asked for any local sources that were not identified in Table Q-1. This appendix contains the responses that were received.

Note that as a result of the feedback obtained from these questionnaires, there were some changes made in the preliminary source identifications. Tables 6.1, 6.2, and 6.3 reflect the preliminary source identification after reviewing the comments in this appendix.

SITE NAME: Acadia National Park
Name of the person filling out the form: Bob Breen, Bill Gawley
Agency/Organization: National Park Service
Tel: 207-288-5463 Fax: 207-288-5507 e-mail: bob_breen@nps.gov
Date: 12/7/01

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[1]

Type	Direction from site	Approximate distance
1. Jackson Laboratory (medical research)	E	8km
2. Electric susbstation (8mw, fuel oil, part time)	W	2km
3. General aviation airport	N	12km
4.		

Local Roadways[2]

Type	Direction from site	Approximate distance
1. Rt 223 (est. volume 6500/day/peak season)	S	0.5km
2. Rt 3 (est. volume 10,000/day/peak season)	NE	5km
3. Rt 102/198 (est volume 6500/day/peak season)	W	
4.		
5.		

Terrain and Local Land Use[3]

Type	Direction from site	Approximate distance
1. Mixed forests/National Park	All	0-15km
2. Residential (low density)	All	0-15+ km
3. 12= Mountains (to 1500 feet)	SW-S-SE	3-15km
4. Lakes (150-800 acres)	SW-S-SE	2-10km
5. Ocean	All	4-15km

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

The monitoring site is located near the center of Mount Desert Island, at 600 feet elevation on the southern slope of McFarland Hill (724 feet). The park comprises approximately 1/3 of the island. There are 4 small towns on MDI, the largest, Bar Harbor, has a year round population of about 5,000, summertime population on MDI is about 30,000. Park visitation is 3 million people/year, with more than 2/3 in June-Sept. There is no major industrial activity or significant farming/livestock operations. There are several small to medium sized boat building companies within 15 kilometers of the site. More than 50 large cruise ships visit Bar Harbor in summer and fall and number of cruise ships is increasing. There is a small general aviation airport north of the site that has limited traffic fall-spring, but moderate use during the summer.

[1] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[2] Please list as many as needed. Indicate type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[3] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Yes, with the exception of source 1 (not identified) and source 9 (smeared signature) the probable sources identified for Acadia NP all seem reasonable for this site.

If not, please indicate which are not reasonable.

We cannot evaluate sources 1 and 9, but given the relatively small fine mass volumes these do not appear to be significant sources.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

No, we cannot think of any other local sources (within 10 miles) that would be significant for this site. There are a number of large paper mills, a large electrical power plant, and a cement plant within 200 kilometers of the site that we can provide information on if desired.

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.

This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."

skayin@marama.org

Phone: (410) 467-0170 ❖ Fax: (410) 467-173

This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."

SITE NAME: ACADIA NATIONAL PARK IMPROVE SITE

Name of the person filling out the form: TOM DOWNS
Agency/Organization: MAINE DEP-BAQ
Tel: 207-287-7026 Fax: 207-287-7641 e-mail: tom.downs@state.me.us
Date: 12/31/01

INSTRUCTIONS for SITE DESCRIPTION:

This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[4]

Type	Direction from site	Approximate distance
1. Bangor Hydro (small electric generating station 84MMBTU/hr)	WNW (290°)	1-mile
2. The Jackson Laboratory (**controlled** incinerators and fossil fuel burning)	ESE	3-miles
3. Town of Bar Harbor (hospital and residential)	E	1-3 miles
4. All other sources are relatively small		
5.		

Local Roadways[5]

Type	Direction from site	Approximate distance
1. Park loop (1 and 2 lanes)	surrounds the site	0-10 miles
2. Rte 230 (main part entrance and exit route (2-lanes)	NW	0-10 miles
3. (during the summer tourist season there is heavy traffic on the road systems surrounding the site)		
4.		
5.		

Terrain and Local Land Use[6]

Type	Direction from site	Approximate distance
1. Complex terrain from sea level to 1500' AMSL	surrounds the site	0-10 miles
2. Ocean and islands	surrounds the site	2-10 miles
3. forest (pine and deciduous trees)	surrounds the site	0-10 miles
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

Emissions from mobile sources should dwarf emissions from local point and area sources during the summer tourist season.

[4] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[5] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[6] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Types of sources in MAINE affecting the site should be sea salt, mobile sources (local, I-95 and RTE 1 corridors), residential heating (wood and oil), Paper Mills (W, NW, N, and NE), and other sources (industry, utilities, etc.) located along the more populated SW coast of Maine from Kittery to Rockland and from the Bangor area to the NW.

Types of sources outside of Maine mainly affecting the site would be the following: Mobile sources (I-95 corridor), Major Utilities and Industries (mainly SW) and major population centers (residential heating and industrial sources).

It makes sense that the largest probable sources identifies in Table 6.1 are organic carbon from mobile sources and secondary sulfates.

If not, please indicate which are not reasonable.

PMF solution #7 could be placed in the wood smoke category instead of the vegetative burning category in the Winter season because of snow covering the vegetation during that time. Vegetative burning would be more reasonable during the Fall and Early Spring seasons.

The probable source solution (incinerator) for PMF solution #8 is questionable because there are no large uncontrolled incinerators in the area. Could this be a mixture of mobile source and residential heating emissions?

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

YES

If so, what are they?

There is a Portland Cement Plant located in Thomaston, ME.

Please fax or preferably e-mail this form to MARAMA asap.
This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."
skayin@marama.org
Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: __ Arendtsville, PA _____

Name of the person filling out the form: _Jeffrey Miller_____
Agency/Organization: _PA DEP - Air Quality, Quality Assurance Section; Division of Air Information Management_____
Tel: _(717) 787 9479__ Fax: _(717) 772 2303__ e-mail: _jeffremill@state.pa.us__
Date: _____

INSTRUCTIONS for SITE DESCRIPTION:

This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[7]

Type	Direction from site	Approximate distance
1. There are no large population centers in the vicinity of the site, which is approximately 175 km west of Philadelphia, 90 km northwest of Baltimore, 110 km north-northwest of Washington, D.C., and 50 km south-southwest of Harrisburg. No major point source of SO2 or NOx is within 40 km of the site, and no secondary road is within 200 m of the site.		
2.		
3.		
4.		
5.		

Local Roadways[8]

Type	Direction from site	Approximate distance
1.		
2.		
3.		

Terrain and Local Land Use[9]

Type	Direction from site	Approximate distance
1. Active agricultural area including small number of cows. Expect effects due to tilling and fertilizing.		
2. Site is located immediately adjacent to experimental peach tree farm, so effects due to oil spraying of fruit buds (pesticide/fungicide protection) and possible burning smudge pots to keep fruit buds from freezing.		
3. Terrain surround site: rolling.		
4. Monitoring equipment occupies a 50 meter by 50 meter clearing atop a knoll with good meteorological fetch in all directions. Tall grass is the dominant vegetation to the south through north, and peach trees (<5 meters tall) are the dominant vegetation from the north to south. Other than the equipment shelter and associated sampling towers, there are structures or obstacles to wind flow within 100 m of the site.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

[7] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[8] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[9] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

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Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.

This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."

skayin@marama.org

Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: Bondville, IL

Name of the person filling out the form: Clyde Sweet
Agency/Organization: Illinois State Water Survey
Tel: 217-333-7191 Fax: 217-333-6540 e-mail: csweet@sws.uluc.edu
Date: _____

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[10]

Type	Direction from site	Approximate distance
1. Gravel Rd. *	N	200 m
2. Paved Rd.,	E	400 m
3. I-57 interstate	E	5km
4. I-72 interstate	N	6km
5. Champaign, IL Urban area (pop 70,000)	NE	10-15km

Local Roadways[11]

Type	Direction from site	Approximate distance
1. see above		
2.		
3.		
4.		
5.		

Terrain and Local Land Use[12]

Type	Direction from site	Approximate distance
1. agricultural (corn and soybeans)	all	approx. 5 km + to the nearest residential neighborhoods in any direction
2.		
3.		
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

*** gravel road to the N was improved in 1999. Gets light traffic mostly in spring and fall related to field work. Local sources are largely agriculture-related—dust generated by field equipment and ag. Burning. Some wind blown dust during dry periods.**

[10] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[11] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[12] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

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For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Secondary sulfate is very important because of the many coal combustion sources in the region. Secondary OC is also likely given the large urban areas in the region (St. Louis 200 km SW, Chicago 200 km NE)

If not, please indicate which are not reasonable.

I doubt incinerator emissions are very important. No large incinerators in Champaign, the nearest urban area.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

No—crustal, secondary SO_4, secondary OC, veg burning should be the main sources at Bondville.

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.

This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."

skayin@marama.org

Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: Fernberg (Boundary Waters Canoe Area)_____
Name of the person filling out the form: _Trent Wickman_____
Agency/Organization: _USDA Forest Service/Superior NF_____
Tel: _218-626-4372__ Fax: _218-626-4398__ e-mail: _twickma@fs.fed.us__
Date: 5/28/02____

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[13]

Type	Direction from site	Approximate distance
1. small personal generators at resorts	N,W,E	3+ mi
2. wood burning stoves at resorts	N,W,E	3+ mi
3.		
4.		
5.		

Local Roadways[14]

Type	Direction from site	Approximate distance
1. local unpaved, 2-lane	all	to the site and also within 1mi.
2. local paved, 2 lane	N,W,E	1+ mi
3.		
4.		
5.		

Terrain and Local Land Use[15]

Type	Direction from site	Approximate distance
1. Forest	all	all
2.		
3.		
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

While not within 10 mi., the site is near some very large industrial sources: Minnesota Power - Taconite Harbor (40 mi. to the SE), Minnesota Power – Hoyt Lakes (45 mi. to the SW), Northshore Mining (45 mi. to the S), Potlatch – Cook OSB (60 mi. to the W), Inland Steel Mining (70 mi. to the SW), USS Minntac (70 mi. to the SW).

[13] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[14] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[15] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

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Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Yes, except for the Cu mining – I am unaware of any Cu mining within 120+ mi. I assume personal burn barrels would be classified as incinerators since there are no incinerators in the area.

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

There are pulp mills 100 mi. to the NW and 100 mi. to the SW.

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.

This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."

skayin@marama.org

Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: Edwin B. Forsythe National Wildlife Refuge *[Brigantine]*

Name of the person filling out the form: Steve Atzert
Agency/Organization: U.S. Fish and Wildlife Service
Tel: 609-652-1665 Fax: 609-652-1474 e-mail: steve_atzert@fws.gov
Date: 1-9-02

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[16]

Type	Direction from site	Approximate distance
1. B.E. England Power Plant	SW	16 miles
2. Atlantic City International Airport	W	8 miles
3. Atlantic City, NJ (38,361 pop)	S	8 miles
4. Galloway Twp, NJ (27,146 pop)	W	1 mile
5. Pleasantville, NJ (16,591 pop)	SW	6 miles

Local Roadways[17]

Type	Direction from site	Approximate distance
1. Garden State Parkway	W	5 miles
2. U.S. Route 9	W	1 mile
3. U.S. Route 30	SW	5 miles
4. Atlantic City Expressway	SW	6 miles
5. U.S. Route 40	SW	7 miles

Terrain and Local Land Use[18]

Type	Direction from site	Approximate distance
1. tidal salt marsh	E, SE, NE	0.2 miles
2. oak/pine forest	N	0.2 miles
3.		
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

The Service currently can not use the internet. When we again have access we can send you an electronic habitat type map of the area and an electronic topographic map with roads of the area.

[16] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[17] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[18] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

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Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

I can't respond regarding Secondary OC (Mobile), because I don't know that is.

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

The refuges 8 mile long auto tour route posses within 0.2 miles of the IMPROVE monitoring site. The tour route is an earthen roadway.

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.

This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."

skayin@marama.org

Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: Connecticut Hill, NY
Name of the person filling out the form: Tom Butler
Agency/Organization: Institute of Ecosystem Studies
Tel: 607-255-3580 Fax: 607-255-0238 e-mail: tjb2@cornell.edu
Date: 12/14/01

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[19]

Type	Direction from site	Approximate distance
1. 250 mw coal-fired electric generating plant	NNE	23km
2. Cornell University heating plant	ENE	16km
3.		(both of these are in a
4.		quadrant (NE upwind
		of the site <6% of the
5.		time)

Local Roadways[20]

Type	Direction from site	Approximate distance
1. Secondary asphalt—very little traffic	E	50m
2.		
3.		
4.		
5.		

Terrain and Local Land Use[21]

Type	Direction from site	Approximate distance
1. Nearest house small residential	N (mainly deciduous)	250-300m away
2. Site is surrounded by woods directions extending 300m (at least) in all		
3. Beyond woods are some single family (low density) homes, pasture, and old fields.		
4.	See enclosed map. (Topography is rolling	
5.	hills)	

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

See enclosed map.

[19] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[20] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[21] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

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For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

No. This is a quite rural area that has changed very little in the last 25 years. The nearest town is Ithaca, NY. 8-10 km to the NE (pop. about 40,000)

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

No

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.
This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."
skayin@marama.org
Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: Dolly Sods Wilderness

Name of the person filling out the form: Frederica Wood
Agency/Organization: USDA Forest Service
Tel: 304-478-2000, x128 Fax: 304-478-8692 e-mail: fwood@fs.fed.us
Date: 12-5-2001

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[22]

Type	Direction from site	Approximate distance
1. power plant	NE	11 mi
2. quarry	NW	8.5 mi
3. power plant	N	12 mi
4. quarry	WNW	7.5 mi
5. charcoal plant	WSW	15.5 mi

Local Roadways[23]

Type	Direction from site	Approximate distance
1. local unpaved, 2-lane	SW	0.10 mi
2. local paved, 2-lane	SW	0.25 mi
3. US highway, 2-lane	SW	0.50 mi
4. state park	W	4 mi
5. state park	S	6.5 mi

Terrain and Local Land Use[24]

Type	Direction from site	Approximate distance
1. forest/mountainous	all	several miles
2. high-elevation wetlands	NE & E	0.75 mi
3. river	E	1 mi
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

several homes within 0.5 mi which have wood-burning heat sources during winter months

[22] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[23] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[24] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

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Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Yes for all but 1

If not, please indicate which are not reasonable.

Source 6 probably not sea salt

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

No

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.
This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."
skayin@marama.org
Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: Great Smoky Mountain National Park-Look Rock
Name of the person filling out the form: Jim Renfro
Agency/Organization: National Park Service
Tel: 865-436-1708 Fax: 865-430-4753 e-mail: jim_renfro@nps.gov
Date: 12/19/01

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[25]

Type	Direction from site	Approximate distance
1. Maryville	N	10 miles
2. Alcoa-aluminum plant	N	10 miles
3. Maryville/Alcoa residential areas	N	10 miles
4. Airport (Knoxville, NcGhee-Tyson)	N	10 miles
5. Small campground	ESE	¼ mile

Local Roadways[26]

Type	Direction from site	Approximate distance
1. 2-lane parkway	SW and NE	¼ mile
2. Several rural 2-lane rds.	NW	2-10 miles
3. Couple of 4-lane rds.	NW	5-10 miles
4. Cades Cove loop rd.	E	7 miles
5.		

Terrain and Local Land Use[27]

Type	Direction from site	Approximate distance
1. Forest	all directions	
2. Tennessee Valley	NW	2-3 miles
3. National Park	ESE	1 mile
4. Some agriculture in TN Valley	NW	~5-10 miles
5. Chilhowie Lake	SSW	8 miles

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

[25] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[26] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[27] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

I agree that sulfate is the major contributor to haze not only during worst days, but year-round.

If not, please indicate which are not reasonable.

Sea salt? Not sure? From Gulf of Mexico?

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

Biogenic organics

If so, what are they?

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skayin@marama.org
Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: __James River Face Wilderness Area_____
Name of the person filling out the form: _Dan Salkovitz_____
Agency/Organization: _Virginia Department of Environmental Quality_____
Tel: 804 698-4404___Fax: 804 698-4510_____e-mail: _ddsalkovit@deq.state.va.us
Date: _November 28, 2001_____

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[28]

Type	Direction from site	Approximate distance
1. Lumber company	southeast	10 miles
2. Carpet and yarn manufacturer	east	4 miles
3. Sawmill	east-southeast	1 mile
4. Lumber company	northeast	10 miles
5. Stone crusher	east	4 miles
6. Concrete/crushed stone	north-northeast	10 miles
7. HVAC assembly plant	east-southeast	2 miles
8. HVAC assembly plant	northeast	10 miles

Local Roadways[29]

Type		Direction from site	Approximate distance
1. State Route 130	(2 lane)	south	< 2/10th mile
2. U.S Route 11	(2 lane)	northwest	2 miles
3. Interstate 81	(4 lanes)	northwest	3 miles
4. Driveway		east	< 2/10th mile

Terrain and Local Land Use[30]

Type	Direction from site	Approximate distance
1. Forest	All	1/10th mile
2. Mountain ridges	northeast-southwest/west	2/10th mile
3. River	south-southeast	1 mile

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

Ozone monitoring conducted at this site by the Virginia Department of Environmental Quality. Acid rain collector on-site.

[28] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[29] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[30] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Yes.

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

Possibly.

If so, what are they?

Poultry operations in region.

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SITE NAME: __Livonia, Indiana_____
Name of the person filling out the form: _Donna Kenski_____
Agency/Organization: ___LADCO_____
Tel: _(847) 296-2182__ Fax: _____ e-mail: _**kenski@ladco.org**__
Date: _____

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[31]

Type	Direction from site	Approximate distance
1.		
2.		
3.		
4.		
5.		

Local Roadways[32]

Type	Direction from site	Approximate distance
1.		
2.		
3.		
4.		
5.		

Terrain and Local Land Use[33]

Type	Direction from site	Approximate distance
1.		
2.		
3.		
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

A remote agricultural area. The only point sources (and they aren't big ones) within two counties around are wood furniture manufacturers.

[31] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[32] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[33] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

If so, what are they?

Please fax or preferably e-mail this form to MARAMA asap.

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skayin@marama.org

Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: __Lye Brook Wilderness Area____
Name of the person filling out the form: __Nancy Burt__
Agency/Organization: __U.S. Forest Service____
Tel: _802-747-6742___ Fax: _802-747-6766___ e-mail: _nburt@fs.fed.us__
Date: _12/20/2001____

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[34]

Type	Direction from site	Approximate distance
1. Vehicle Traffic - this is a high use tourist areas	N, E and S	2-10 miles
2. Home heating	N, E and S	2-10 miles

Local Roadways[35]

Type	Direction from site	Approximate distance
1. Rt 7a - 2-lane highway with many small shops, motels, and other tourist attractions along the road	E and S	2-10 miles
2. Rt. 313 and 30- 2-lane highways with many homes and a few small businesses	Rt. 313 -SW Rt. 30 -NE	Rt.313 - 5 miles Rt. 30 - 8 miles
3. Rt. 7 - 2-lane, limited access highway; no homes or businesses	E and S	3-10 miles
4. Residential streets in Manchester and Arlington, lines with homes and a few businesses and schools; 1 or 2 lanes	Manchester - E Arlington - S	Manchester - 4 miles Arlington - 6 miles
5. Approximately 12 1-2 lane paved or gravel country roads with scattered homes	N, E, S	2-10 miles

Terrain and Local Land Use[36]

Type	Direction from site	Approximate distance
1. Mountainous, forested area with little to no development	W, NW	0-10 miles
2. Low, rolling hills with intermingled homesites, pastures, and small forest areas	N, S, E	2-10 miles
3. Developed lands - residential, small businesses	SE, S	2-10 miles

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

Most development and "Local Sources" are along Route 7a, and in the towns of Manchester and Arlington. No industrial sources of pollution in the vicinity. This is a tourist area.

[34] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[35] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[36] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Secondary sulfate is the #1 source and largest contributor to light extinction. Smelter and Incinerator particles could be coming from industrial sources in eastern N.Y, 50-100 miles away, especially the Albany, N.Y. area. They do not originate within 30 miles of the Lye Brook Wilderness site. Crustal and incinerator sources seem probable.

If not, please indicate which are not reasonable.

It is unlikely that vegetation burning is a probable source originating in a 75-mile area. Vegetation burning is rarely observed.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

Motor vehicle emissions and burning of fossil fuels and wood for home heating are probably the largest local contributors (in fact, within a 50 miles area) to particulate matter.

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skayin@marama.org
Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: _Mammoth Cave National Park_____
Name of the person filling out the form: ____Bob Carson_____
Agency/Organization: __National Park Service/Mammoth Cave National Park_____
Tel: _270-749-2508_____Fax: _270-749-2916_____e-mail: __bob_carson@nps.gov___
Date: ___December 7, 2001__

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[37]

Type	Direction from site	Approximate distance
1. General Motors Corvette Plant	SW	15.0 miles
2. Dart Container (Styrofoam cups)	ENE	12.6 miles
3. Southern States Coop. (Fertilizer)	ESE	7.2 miles
4. Small oil and gas field	WNW	6.0 miles
5. Rock and gravel quarry	SE	3.6 miles

Local Roadways[38]

Type	Direction from site	Approximate distance
1. Interstate 65 (4 lane)	S	6.0 miles
2. US 31W (2 lane)	S	2.4 miles
3. State Route 259 (2 lane)	SSW	0.4 miles

Terrain and Local Land Use[39]

Type	Direction from site	Approximate distance
1. Forest	NW, N, and NE	0.3 miles
2. Agriculture (hay, corn, cattle, tobacco)	S, SE, and SW	0.3 miles
3. Rural residential areas	SE, S and SW	0.3 miles

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

The Mammoth Cave IMPROVE station is located on the south boundary of the park. Immediately adjacent to the station (to the south) are primarily hay fields that are cut and baled 2 to 3 times per year. Some of the farms within 10 miles of the station have small hog operations with the closest one being 0.4 miles SSE providing some local sources of ammonia. There are also two commercial chicken barns within 0.5 miles of the station which may provide another source of ammonia. Nearly all of the former gravel roads in the area are, at a minimum, chip-sealed with asphalt. The terrain is on a level ridge-top area adjacent to forested valley/ridge terrain in the park and agriculture of various types.

[37] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[38] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[39] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Yes, I believe these types of sources could be affecting the site. The mix seems to be appropriately broken out by season in that sulfate dominates our summer visibility problems and we are nearly surrounded by coal-fired generating facilities with the closest being 45 miles W. Mobile source emissions from Bowling Green, KY (17 miles SW), Nashville, TN (90 miles SSW), Louisville, KY (90 miles NNE), and Interstate 65 affect the site.

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

Yes

If so, what are they?

Wood smoke in the winter and early spring months could be a source as most houses burn wood as an additional heat source.

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Phone: (410) 467-0170 ❖ Fax: (410) 467-173

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[MK Goddard - place holder]
Page 1 of 2

[MK Goddard - place holder]

SITE NAME: Quaker City, OH
Name of the person filling out the form: James A. Teainek
Agency/Organization: Site Operator ESE
Tel: 740-679-2605 Fax: _____e-mail: _____
Date: 12-06-01

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[40]

Type	Direction from site	Approximate distance
1. Area lands used	North-South	3 to 4 miles
2. For light farming	East-West	
3. Hay-cattle-grazing		
4.		
5.		

Local Roadways[41]

Type	Direction from site	Approximate distance
1. County Rd. 34-gravel	South	¼ mile
2. Yoker Valley Rd.-paved	East	1 mile
3. State Rt. 265-paved	East	3 miles
4. State Rt. 513-paved	East	5 miles
5. Interstate 70-paved	East-West	10 miles

Terrain and Local Land Use[42]

Type	Direction from site	Approximate distance
1. Rolling-hilly land	East-West	¼ mile
2. Land used for cattle grazing and hay		
3.		
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

[40] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[41] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[42] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

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For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

No

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

No

If so, what are they?

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skayin@marama.org
Phone: (410) 467-0170 ❖ Fax: (410) 467-173

SITE NAME: ____Shenandoah National Park _____
Name of the person filling out the form: _Dan Salkovitz_____
Agency/Organization: _Virginia Department of Environmental Quality _____
Tel: _804 698-4404__ Fax: _804 698-4510__ e-mail: _ddsalkovit@deq.state.va.us___
Date: _November 28, 2001____

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[43]

Type	Direction from site	Approximate distance
1. Poultry processing	northwest	8 miles (in valley below)
2. Wooden door manufacturer	northwest	5 miles (in valley below)
3. Oil bulk plant	north	10 miles (in valley below)

Local Roadways[44]

Type	Direction from site	Approximate distance
1. Skyline Drive – 2 lanes	east	1 mile
2. U.S. Highway 340 – 2 lanes	northwest	6 miles
3. Visitor's Center parking lot	south	1 mile

Terrain and Local Land Use[45]

Type	Direction from site	Approximate distance
1. Forest	All	0
2. Mountain (site located on Blue Ridge Mtns.)	(ridge runs northeast-southwest)	0

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

This site is located close to Skyline Drive, along the ridge of the Blue Ridge Mountains in the Shenandoah National Park. Elevation is approximately 3,000 ft., well above the valley below where most local pollutant sources are located. This rural site is subject to long range transport of pollutants. This site is generally above the valley-based inversion layer at night and early morning. Extensive air pollutant monitoring and research is conducted at this site.

[43] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[44] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[45] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

We are also interested in your comments on the draft report's initial identification of sources affecting the site. (See attached Chapter 6.)

For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

No.

If not, please indicate which are not reasonable.

Sea salt is not a likely significant contributor.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

Possibly.

If so, what are they?

Possible nitrogen and ammonia emissions from agriculture and poultry operations in the region.

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Phone: (410) 467-0170 ❖ Fax: (410) 467-173

This form is available at http://www.marama.org/visibility/ under projects. Please download "Comment Form."

SITE NAME: Washington, DC
Name of the person filling out the form: Doug Curtis
Agency/Organization: National Park Service
Tel: 202-342-1443 x228 Fax: 202-282-6031 e-mail: Doug_Curtis@nps.gov
Date: 12/18/01

INSTRUCTIONS for SITE DESCRIPTION:
This is the primary documentation for the site. Please indicate major roads, residential areas, industrial applications and any local sources **within 10 miles** of the monitoring location. Some indication of the land use (e.g., forest, corn fields, etc.) and terrain elements (e.g., mountain, lake, river) will be useful as well.

Local Sources[46]

Type	Direction from site	Approximate distance
1. Power Plant	NE	2 miles
2. National Park	S	1 mile
3.		
4.		
5.		

Local Roadways[47]

Type	Direction from site	Approximate distance
1. City Streets	Surround	0
2. Interstate	Surround	2 miles
3. Beltway 495	Surround	5 miles
4.		
5.		

Terrain and Local Land Use[48]

Type	Direction from site	Approximate distance
1. Coastal Plain/Urban	Surround	20 mile radius
2.		
3.		
4.		
5.		

Comments: Anything you notice about the site that may be of help in explaining measurements and source identifications associated with that site.

Heavy urban traffic

[46] Please list as many as needed. Only indicate names and types (no need to include emission fluxes).
[47] Please list as many as needed. Indicate of type of traffic, e.g., local road, number of lanes, school parking lot, mall, etc.
[48] Please list as many as needed. Indicate type of land use (e.g., forest, corn field, etc.) and terrain elements (e.g., mountain, lake, river).

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INSTRUCTIONS for SOURCE IDENTIFICATION COMMENTS:

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For example, in Table 6.1, Preliminary Source Identifications for the PMF Solutions, at Acadia National Park, source 2 is identified as emissions from an oil/diesel source, and source 3 is identified as sea salt, etc. Since Acadia is next to the Ocean and is affected by traffic, both of those source identifications seem reasonable.

Given your knowledge of the site and surrounding sources, do you believe the types of sources identified are likely to be affecting the site?

Yes

If not, please indicate which are not reasonable.

Are there sources likely to be affecting the site that are missing from the list of preliminary source identifications?

National Airport

If so, what are they?

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skayin@marama.org
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Table Q-1. Initial Source Identifications for the Sources Detected with PMF

Site	Source No.	Discrete Events	High season if seasonal	Increasing/ Decreasing (during the apportioned period)	Fine mass ng/m^3	Probable Source	Major contributor to b_{ext} during the worst 20%
Acadia National Park	1		Spring	Increasing	63	Not identified	
Acadia National Park	2		Winter	Decreasing	10	Oil/diesel	
Acadia National Park	3		Winter	Increasing	393	Sea salt	
Acadia National Park	4	VLE	Spring	Increasing	73	Crustal	
Acadia National Park	5		Summer	Decreasing	2,263	Secondary sulfate	x
Acadia National Park	6		Summer	Decreasing	3,936	Secondary OC (mobile)	
Acadia National Park	7		Winter		341	Vegetative burning	
Acadia National Park	8		Winter	Decreasing	399	Incinerator	
Acadia National Park	9			Decreasing	38	Smeared signature	
Arendtsville	1		Summer	Decreasing	13,940	Not identified	
Arendtsville	2		Fall		58	Smudge pots	
Arendtsville	3		Summer	Decreasing	41	Road salt/dust	
Arendtsville	4		Spring		111	Crustal	
Arendtsville	5		Winter		13	Not identified	
Arendtsville	6		Winter	Decreasing	60	Vegetative Burning	
Arendtsville	7		Fall	Decreasing	37	Oil/diesel	
Arendtsville	8		Summer		6,216	Secondary sulfate	x
Arendtsville	9		Summer		2,019	Secondary OC (mobile)	2
Boundary Waters Canoe Area	1				184	Vegetative burning	
Boundary Waters Canoe Area	2	VLE	Spring	Increasing	54	Crustal	
Boundary Waters Canoe Area	3		Winter	Decreasing	10	Cu mining	
Boundary Waters Canoe Area	4		Summer		2,188	Secondary OC (mobile)	2
Boundary Waters Canoe Area	5				200	Fe mining	
Boundary Waters Canoe Area	6		Spring	Increasing	53	Road salt	
Boundary Waters Canoe Area	7		Spring	Decreasing	2,354	Secondary sulfate	x
Boundary Waters Canoe Area	8		Winter		231	Incinerator	
Boundary Waters Canoe Area	9			Increasing	149	Crustal	

Table Q-1. Initial Source Identifications for the Sources Detected with PMF (continued)

Site	Source No.	Discrete Events	High season if seasonal	Increasing/ Decreasing (during the apportioned period)	Fine mass ng/m^3	Probable Source	Major contributor to b_{ext} during the worst 20%
Brigantine National Wildlife Refuge	1	DC	Winter		330	Industrial	
Brigantine National Wildlife Refuge	2		Winter	Decreasing	651	Diesel	
Brigantine National Wildlife Refuge	3		Winter		2,713	Mobile/road dust	
Brigantine National Wildlife Refuge	4		Winter	Decreasing	619	Residual oil combustion	
Brigantine National Wildlife Refuge	5			Increasing	663	Sea salt	
Brigantine National Wildlife Refuge	6		Winter		769	Secondary OC (Mobile)	
Brigantine National Wildlife Refuge	7		Summer	Decreasing	5,704	Secondary sulfate	x
Brigantine National Wildlife Refuge	8		Winter		7	Not identified	
Brigantine National Wildlife Refuge	9		Summer		112	Crustal	
Bondville	1		Fall		829	Vegetative burning	
Bondville	2				6,981	Not identified	
Bondville	3		Summer		5,228	Secondary sulfate	x
Bondville	4		Spring		971	Not identified	
Bondville	5				272	Secondary OC (mobile)	
Bondville	6		Summer		4,077	Not identified	
Bondville	7			Decreasing	134	Secondary sulfate	
Bondville	8	MIE			102	Crustal	
Bondville	9			Decreasing	133	Incinerator	
Connecticut Hill	1		Summer		11,722	Not identified	
Connecticut Hill	2				86	Diesel/other	
Connecticut Hill	3		Summer		1,513	Secondary OC (mobile)	2
Connecticut Hill	4		Winter		10	Not identified	
Connecticut Hill	5		Summer		35	Not identified	
Connecticut Hill	6				4	Not identified	
Connecticut Hill	7		Summer		5,534	Secondary sulfate	x
Connecticut Hill	8		Fall		13	Not identified	
Connecticut Hill	9		Spring		84	Crustal	

Table Q-1. Initial Source Identifications for the Sources Detected with PMF (continued)

Site	Source No.	Discrete Events	High season if seasonal	Increasing/ Decreasing (during the apportioned period)	Fine mass ng/m^3	Probable Source	Major contributor to b_{ext} during the worst 20%
Dolly Sods Wilderness Area	1		Summer	Increasing	638	Crustal	
Dolly Sods Wilderness Area	2		Summer		4,142	Secondary OC (Mobile)	
Dolly Sods Wilderness Area	3				380	Mobile sources? Too much C for incinerator	
Dolly Sods Wilderness Area	4		Summer	Decreasing	5,042	Secondary sulfate	x
Dolly Sods Wilderness Area	5		Spring	Increasing	226	Diesel	
Dolly Sods Wilderness Area	6		Summer	Decreasing	1,163	Maybe sea salt, but too much SO_4	
Dolly Sods Wilderness Area	7		Summer	Decreasing	158	Crustal	
Dolly Sods Wilderness Area	8				729	Vegetative burning	
Dolly Sods Wilderness Area	9		Summer	Increasing	193	Incinerator	
Great Smoky Mountains National Park	1		Summer	Increasing	155	Diesel	
Great Smoky Mountains National Park	2		Summer		74	Not identified	
Great Smoky Mountains National Park	3		Summer		4,416	Secondary sulfate	x
Great Smoky Mountains National Park	4			Decreasing	392	Secondary sulfate	
Great Smoky Mountains National Park	5	DC	Summer		556	Crustal	
Great Smoky Mountains National Park	6		Summer		6,629	Secondary OC (mobile)	
Great Smoky Mountains National Park	7	DC	Summer	Increasing	177	Sea salt	
Great Smoky Mountains National Park	8		Spring		328	Incinerator	
Great Smoky Mountains National Park	9		Spring	Increasing	708	Vegetative burning	

Table Q-1. Initial Source Identifications for the Sources Detected with PMF (continued)

Site	Source No.	Discrete Events	High season if seasonal	Increasing/ Decreasing (during the apportioned period)	Fine mass ng/m^3	Probable Source	Major contributor to b_{ext} during the worst 20%
Jefferson/James River Face Wilderness Area	1			Increasing	287	Secondary sulfate	
Jefferson/James River Face Wilderness Area	2		Summer		6,910	Secondary sulfate	x
Jefferson/James River Face Wilderness Area	3		Winter	Decreasing	405	Diesel	
Jefferson/James River Face Wilderness Area	4		Spring	Decreasing	510	Crustal	
Jefferson/James River Face Wilderness Area	5		Winter		2,164	Wood smoke	
Jefferson/James River Face Wilderness Area	6			Decreasing	267	Incinerator	
Jefferson/James River Face Wilderness Area	7		Winter	Decreasing	474	Pulp mill contribution	
Jefferson/James River Face Wilderness Area	8				3,563	Secondary OC (mobile)	
Jefferson/James River Face Wilderness Area	9	VLE		Decreasing	138	Secondary OC (Mobile)	
Livonia	1		Winter		1,867	Incinerator	
Livonia	2		Winter	Increasing	228	Smelter	
Livonia	3		Summer		6,260	Secondary sulfate	x
Livonia	4				463	Crustal	
Livonia	5		Summer		7,331	Crustal limestone?	3
Livonia	6		Spring	Increasing	29	Crustal	
Livonia	7		Summer		3,777	Secondary OC (mobile)	2
Livonia	8				48	Vegetative Burning	
Livonia	9	MIE		Increasing	142	Secondary OC (mobile)	

Table Q-1. Initial Source Identifications for the Sources Detected with PMF (continued)

Site	Source No.	Discrete Events	High season if seasonal	Increasing/ Decreasing (during the apportioned period)	Fine mass ng/m^3	Probable Source	Major contributor to b_{ext} during the worst 20%
Lye Brook Wilderness Area	1		Winter	Increasing	360	Secondary sulfate	
Lye Brook Wilderness Area	2		Winter	Decreasing	457	Smelter	
Lye Brook Wilderness Area	3		Spring	Increasing	134	Mix of crustal and something else.	
Lye Brook Wilderness Area	4		Winter	Increasing	190	Incinerator	
Lye Brook Wilderness Area	5		Summer	Increasing	2,422	Vegetative burning	
Lye Brook Wilderness Area	6		Summer		3,197	Secondary sulfate	x
Lye Brook Wilderness Area	7	VLE	Spring	Decreasing	367	Crustal	
Lye Brook Wilderness Area	8				376	Secondary OC (mobile)	
Lye Brook Wilderness Area	9		Spring	Increasing	71	Road salt	
Mammoth Cave National Park	1		Summer		525	Crustal	
Mammoth Cave National Park	2		Winter	Decreasing	63	Diesel plus other	
Mammoth Cave National Park	3		Winter		2,998	Vegetative burning	
Mammoth Cave National Park	4		Spring	Increasing	227	Crustal	
Mammoth Cave National Park	5		Summer	Decreasing	4,932	Secondary sulfate	x
Mammoth Cave National Park	6		Spring		331	Road salt & diesel?	
Mammoth Cave National Park	7		Winter	Increasing	142	Industrial	
Mammoth Cave National Park	8		Summer		6,100	Secondary OC (mobile)	
Mammoth Cave National Park	9		Winter	Increasing	686	Residual oil combustion	

Table Q-1. Initial Source Identifications for the Sources Detected with PMF (continued)

Site	Source No.	Discrete Events	High season if seasonal	Increasing/ Decreasing (during the apportioned period)	Fine mass ng/m^3	Probable Source	Major contributor to b_{ext} during the worst 20%
M.K. Goddard	1				7	Not identified	
M.K. Goddard	2		Fall		369	Incinerator	
M.K. Goddard	3				437	Vegetative burning	
M.K. Goddard	4		Summer		5,786	Secondary sulfate	x
M.K. Goddard	5		Winter	Increasing	14	Not identified	
M.K. Goddard	6		Summer	Increasing	4,213	Secondary OC (mobile)	2
M.K. Goddard	7		Summer		8,124	Crustal limestone	
M.K. Goddard	8			Increasing	208	Crustal plus mobile	
M.K. Goddard	9				318	Diesel	
Quaker City	1			Decreasing	55	Not identified	
Quaker City	2				882	Crustal	
Quaker City	3		Summer		7,891	Crustal limestone? power plant?	
Quaker City	4		Summer		1,956	Secondary OC (mobile)	2
Quaker City	5		Winter	Increasing	1,224	Not identified	
Quaker City	6				2,106	Not identified	
Quaker City	7		Winter		25	Vegetative Burning	
Quaker City	8	MIE			36	Crustal	
Quaker City	9		Summer		6,291	Secondary sulfate	x
Shenandoah National Park	1		Summer		177	Crustal	
Shenandoah National Park	2	DC	Summer	Increasing	328	Sea salt	
Shenandoah National Park	3	MIE	Spring	Increasing	64	Not identified	
Shenandoah National Park	4		Summer	Decreasing	4,471	Secondary sulfate	x
Shenandoah National Park	5		Spring	Increasing	614	Vegetative burning	
Shenandoah National Park	6			Increasing	60	Not identified	
Shenandoah National Park	7		Summer	Decreasing	2,866	Vegetative Burning	
Shenandoah National Park	8		Summer	Increasing	2,143	Secondary OC (mobile)	
Shenandoah National Park	9		Spring	Decreasing	1,079	Secondary OC (Mobile)	

Table Q-1. Initial Source Identifications for the Sources Detected with PMF (continued)

Site	Source No.	Discrete Events	High season if seasonal	Increasing/ Decreasing (during the apportioned period)	Fine mass ng/m^3	Probable Source	Major contributor to b_{ext} during the worst 20%
Washington D.C.	1	VLE, MIE	Winter	Decreasing	289	Residual oil combustion	
Washington D.C.	2		Winter	Decreasing	935	Diesel	
Washington D.C.	3	VLE	Summer	Decreasing	278	Vegetative burning	
Washington D.C.	4		Summer	Decreasing	7,543	Secondary sulfate	x
Washington D.C.	5		Fall		588	Diesel	
Washington D.C.	6		Winter	Increasing	311	Sea salt	
Washington D.C.	7		Winter	Decreasing	6,593	Secondary OC (Mobile)	2
Washington D.C.	8		Summer	Decreasing	1,171	Mobile plus road dust	
Washington D.C.	9		Summer		199	Crustal	

VLE = Very large event
MIE = Multiple isolated events
DC = Discrete change

x = the largest contributor to the light extinction
2, 3 = the second and third largest, if apportioned more than 15 percent of the total.