

WRAP WORK PLAN IN SUPPORT OF EPA SUPPLEMENTAL GRANT FUNDING

December 17, 2010

EXECUTIVE SUMMARY

The Western Regional Air Partnership (WRAP) will continue to work during 2011 on behalf of its members across the West to facilitate and assist with the completion of the regional haze implementation plans and prepare for analysis and planning requirements for revised Ozone National Ambient Air Quality Standards (NAAQS). The revised Ozone NAAQS and associated planning guidance is expected to be promulgated in mid-2011. Work on regional technical data collection and analysis supports access to comparable, complete, consistent, and transparent results for regional haze and Ozone planning and implementation.

Introduction

The effort for WRAP staff time and the continuing regional technical projects listed in this 2011 workplan is scaled to the grant resources from EPA and leverages other in-kind and separate funding by states, EPA, and industry. The projects in this 2011 workplan are continuing or new technical support efforts to assist the states, EPA, and other WRAP members with the implementation of foundational regional haze implementation plans and begin the regional analysis and planning effort for the upcoming revisions to the Ozone National Ambient Air Quality Standards (NAAQS) and other air quality indicators.

This workplan summarizes ongoing activities and expenditures of the WRAP, including current projects and those planned for 2011. The total amount of EPA's FFY10 funding for the WRAP's work is \$200,000. This document will be submitted to EPA in support of WGA's grant application.

The \$200,000 in the FFY10 grant award, when combined with existing FFY09 resources, will provide WRAP a limited, but sufficient ability to provide regional technical support for the review, approval, and ongoing implementation of haze plans and begin assistance on Ozone and other air quality issues on behalf of WRAP members.

For this work plan, WGA staff developed the budget for the WRAP organization to provide funding for staff, travel support, and project management through September 2011. The WGA air quality program and project managers will continue outreach to tribes through WRAP Board, Technical Steering Committee (TSC), and technical project E-Mails and conference calls.

In developing this work plan, the WRAP members recognize that the grant funds covered by this work plan will be the funds WGA receives to assist in the transition from completing the development of the individual regional haze plans, through their review and approval by EPA, and for the parallel implementation of regional haze plan commitments. The individual regional haze implementation plans rely upon the WRAP's regional technical work, and the data and decision support systems underpinning the long-term effort to track progress and analysis additional measures to reduce regional haze. These funds will also be used to develop information and data for WRAP members to plan for and address the requirements of revised NAAQS by EPA.

Background

1. Charter and Bylaws

The WRAP Charter sets forth the organization's goals, principles, and operating procedures and is posted on the WRAP website at:

http://www.wrapair2.org/Revised_WRAP_Charter_approved_December_2009.pdf.

2. WRAP Organization

The WRAP organization is currently composed of the membership at large, the Board of Directors, the Technical Steering Committee, several technical projects, and WRAP staff. All these groups include participation from the WRAP membership (states, tribes, local air agencies, federal land managers, and EPA) with outreach to interested stakeholders (industry, environmental groups, academia, et cetera). The WRAP membership, Board, TSC, and technical project members provide an essential conduit to other groups and individuals through their communications outside the WRAP process. These mechanisms may involve working through trade groups, state and tribal organizations such as the Western States Air Resource Council (WESTAR Council), the National Tribal Environmental Council (NTEC), and other intra- and inter-agency forums.

3. Project Management

The Board and TSC direct the activities of the WRAP. Contractors hired with EPA grant funds are relied upon to expand the resources of the WRAP. The Board and TSC direct the work of WRAP staff and contractors. Staff support services to the WRAP come from the Western Governors' Association (WGA).

WGA staff provides overall project management for the WRAP, including preparing and managing grant applications, funds, requests for proposals (RFPs), contracts, travel reimbursements, meetings, conference calls, public and media inquiries, press releases, web sites, requests to participate in the WRAP, and report publications. WGA staff routinely attends the meetings of the various committees and forums. WGA performs tasks related to WRAP and serve as primary contact points by responding to media and public inquiries.

Staff positions include the WRAP Director (WGA) who oversee other staff, share general management responsibilities, work with stakeholders to ensure the WRAP's processes are fair and equitable, and serve as the primary points of contact for EPA, the media, and the general public. The service of a State caucus coordinator is provided by WESTAR. WGA also employs an air quality program manager and contracts for an air quality project manager to support the work of the organization.

4. Contract Management

WRAP staff at WGA will continue to manage WRAP contracts for the Board, TSC, and technical projects. WGA, as the recipient of EPA grants, is responsible for executing and administering contracts and ensuring that work products are completed. These responsibilities are met with input from WRAP groups' members. WRAP members may be asked to serve as reviewers of project proposals and provide project oversight through balanced subgroups for purposes of contract management. All contracts are to be developed in accordance with the work plans approved by the WRAP and submitted to EPA. Once

the scope of work has been properly developed, it is transmitted to WGA who are responsible for developing an RFP or sole source justification. All RFPs are sent to known contractors, posted on the WRAP web site, and published in the Federal Business Opportunities publication as appropriate. Bidders are provided 30 days to respond.

5. WRAP Financial Status and Proposed Budget

Table 1 below reports the status of the current EPA grant award (30209) and the proposed budget for the EPA 11-006 Supplemental grant. Contracted projects are numbered and described in the following Technical Project Summaries section.

Table 1. WRAP Budget for EPA Grant

	Current Budget	Expenses to Date	11-006 Supplemental	New Budget
Personnel	138,672	114,550	76,700	215,372
Fringe Benefits	51,175	46,247	28,000	79,175
Travel Reimbursements	50,000	24,368	0	50,000
Conference Calls and Meetings	32,583	12,564	0	32,583
Other Direct Expenses	9,000	3,742	0	9,000
Indirect	95,570	98,548	65,300	160,870
Contracts	737,844	619,591	30,000	767,844
Total	\$1,114,844	919,610	\$200,000	\$1,314,844
Project Contracts	Contracts	Expenses to Date	Pending Contract Modifications	Total Budget
1. ARS website support	25,000	6,089	10,000	35,000
2. Lee Gribovicz coordination of oil and gas emissions projects	76,180	59,505	10,000	86,180
3. VIEWS - TSS 2010 operations	125,000	121,100	0	125,000
4. SharePoint - Internal Collaboration Site	6,491	2,726	0	6,491
5. Ozone Conceptual Model	0	0	55,000	55,000
6. FETS project (<i>additional \$40,000 from separate EPA contract not shown here, SoW in for that task is shown in Appendix A</i>)	75,000	74,999	30,000	105,000
7. §309 Milestone Reports	43,650	43,650	completed	43,650
8. Analysis of Modeling Results and TSS Support	24,818	24,818	completed	24,818
9. EDMS Hosting / Operation	342,467	342,467	completed	342,467
10. TSS Support for IWG / 2010 Website Support	79,106	79,106	completed	79,106
11. VIEWS 2009 operations	149,960	149,960	completed	149,960
12. WESTAR regional haze SIP support	10,000	10,000	completed	10,000
13. UC Riverside – Regional Modeling Center	84,145	84,145	completed	84,145
<i>Adjustment for contract expenses paid out of previous grant</i>	-378,973	-378,973		-378,973
Contracts Total	662,844	619,591	105,000	767,844

Technical Project Summaries

The projects described next are those listed in Table 1, above. They are divided into 2011 projects with budget and work remaining (1 through 6) and completed projects, with no remaining budget or work products (7 through 13).

2011 Project Summaries

1. [WRAP Website Activities](#) – (including archive of [former WRAP website](#))

The WRAP's websites are one of its primary communications tools, as well as a primary source of data and information for regional haze planning and implementation. The former WRAP website was archived at the end of 2009 and maintained in a static state for continued access to all materials posted. Limited development, operation, and hosting for the new WRAP public website was accomplished in 2010. **Using \$10,000 of the existing grant resources, maintenance and operations of the former WRAP website and the new WRAP public website will be provided through September 2011,** to address the changes needed under the revised WRAP Charter, and the related changes to organizational structure and activities. This work will be done by Air Resource Specialists under the existing web system support contract.

2. WRAP contract staff (Lee Gribovicz) – support for Oil and Gas emissions projects

Lee Gribovicz will provide part-time contracted staff support services in the amount of \$10,000 using existing grant resources for the WRAP for the following Oil and Gas Emissions projects – all the these projects will receive ongoing review and oversight by the WRAP O&G Workgroup.

[Phase III O&G Inventory Reporting by Basin](#)

In Fall 2007, the Independent Petroleum Association of Mountain States (IPAMS) initiated the concept of funding a Phase III regional oil and gas emission inventory project for the Intermountain West, in conjunction with the WRAP, to build on, improve, and address inventory issues in the WRAP Phase I and Phase II projects. The result from Phase III will include all criteria pollutant emissions for all point and area sources associated with the exploration, production, and gathering operations of oil and gas in the major basins throughout the six-state (CO, MT, NM, ND, UT, and WY) study region for year 2006 as well as future projection years. IPAMS and WRAP will coordinate the data collection and analysis, review and discussion, and inventory data file preparation for each major basin. WRAP staff are providing coordination and project oversight services, with review and discussion of the draft and final documents on each O&G Basin as they are prepared, with the WRAP [O&G Workgroup](#) on periodic conference calls. The State of Wyoming and IPAMS have recently provided funds to complete work on Wyoming basins during 2011. WRAP support to the project will consist of coordination and oversight services.

Other O&G Emissions Projects

Building on Phase III project work, IPAMS and the State of Wyoming have begun a [Phase IV O&G Emissions project](#) in late 2010 to survey producers across the Intermountain West for 2009 activity data and calculate emissions. This work involves processing and analysis of permit data from Wyoming and EPA Region 8. The Phase IV work accounts for the dynamic level of exploration and production activity

by collecting 2009 activity and emissions data to begin to establish an emissions trend, continuing from the start year of 2006 in Phase III. It is expected that additional basins outside of Wyoming will be funded for Phase IV 2009 inventories by IPAMs or others, during 2011. Also in 2010, EPA Region 8 funded a [Piceance Basin Pilot Project \(P3\) for mobile source emissions](#) using a similar activity data survey and emissions estimation approach as has been used in Phases III and IV for point and area sources. This project will provide the first-ever estimates of the on-road and off-road mobile sources' emissions directly associated with O&G exploration and production. For both the Phase IV and P3 projects, WRAP support to the project will consist of coordination and oversight services.

3. Operations of the [Technical Support System \(TSS\)](#) and [Visibility Information Exchange Web System \(VIEWS\)](#)

The TSS is the decision support system for regional haze planning and implementation across the WRAP region. It is leveraged on and fully integrated with the VIEWS data support system and partially integrated with the EDMS and FETS data support systems, and presents monitoring, emissions, source apportionment, and air quality modeling data and results from WRAP regional analysis projects like the RMC. The VIEWS/TSS systems have been moved into hibernation status with full access to all posted data and reports, due to limited resources and re-prioritizing of projects under the revised WRAP charter. The VIEWS/TSS systems continue to be leveraged with extramural projects funded by NASA and EPA OAQPS. Until 2011, the TSS portion of these systems was formerly supported by limited scope external contractor efforts to assist haze implementation planners at the states and EPA with analysis and interpretation of the regional emissions and modeling results, due to the large number of Class I areas and diverse mix of sources and transport affecting these areas.

The national VIEWS data system for all Class I areas was developed and historically funded by the 5 Regional Planning Organizations (RPOs). From the EPA FFY08 grant cycle, WRAP and the other four RPOs each contributed \$30,000 for VIEWS operations in 2009 (Project #11 in Table 1, above). WRAP staff managed that work on behalf of the other RPOs. With no FFY09 EPA grant funds available from the other four RPOs for VIEWS operations in 2010, WRAP covered joint VIEWS/TSS operations through 2010 using \$125,000 of the resources from the FFY09 WRAP grant (Project #3 in Table 1, above). There is a small amount of remaining work to be completed in early 2011, a task to update IMPROVE regional haze monitoring data through 2009 when it is delivered to VIEWS/TSS and to calculate and report the 2005-09 average Worst and Best Visibility Days' values for all Class I areas with sufficient data, a required value under the Regional Haze Rule. **After that task is complete, no additional or existing grant resources will be used for VIEWS/TSS, as those websites will be in hibernation.**

4. [SharePoint - Internal Collaboration Site](#)

Although this website for internal collaboration work between WRAP members has been set up, but with the delay in the Ozone NAAQS, this project is on hold. The Share Point site is ready and will be used by WRAP members for air quality planning and collaboration. **No additional existing grant resources are allocated for this project, at this time.**

5. [Development of an Ozone Conceptual Model for the West](#)

At the suggestion of WRAP members, a project will be initiated and completed during 2011 to develop an Ozone Conceptual Model for the West. This report will help prepare WRAP members for the analysis

and planning effort needed under more stringent Ozone NAAQS. Guidance documents from EPA suggest preparation of such a report when Ozone nonattainment has not previously existed, as will likely be the case across the West, particularly in remote Class I areas as well as for a number of urban areas. The report will address themes such as:

- Source sectors,
- Topographical influences,
- Temporal variation;
- International, state-to-state, and other inter-jurisdiction transport of Ozone and precursors,
- Contribution of natural versus anthropogenic sources,
- Federal Clean Air Act, state, and local air agencies' planning requirements, and
- Scientific and technical findings that assist in explaining the nature and causes of Western Ozone.

The contract scope of work for this project will be developed in early 2011 and the project will be managed and completed by the TSC by the end of 2011. **The project will use \$55,000 of existing grant resources.**

6. [Fire Emissions Tracking System \(FETS\) Operations](#)

The FETS for the WRAP region has been on-line since September 2007 and data providers continue to be added. The FETS is designed to be the data support system for tracking fire emissions for regional haze reasonable progress requirements, and will be the primary source of future fire inventories. A contract was issued for FETS in late 2009 to address 2010 operations and emissions inventory work, this contract will be continued for 2011. The EPA OAQPS NEI team funded an addition of \$40,000 for work by the FETS contractor and state-tribal-local air agency staff to review and assess 2008 NEI fire emissions data (Appendix A, starts following page). Significant work on that project was done in 2010, to be completed in early 2011. **WRAP is covering FETS operations at reduced level of effort through 2011, compared to past years, using \$30,000 of the funds to be awarded in this 11-006 supplemental grant award.**

Completed Projects

Projects 7 through 13 listed in Table 1 have been completed during 2010. Those projects include §309 Milestone Reports, Analysis of Modeling Results and TSS Support, EDMS Hosting / Operation, TSS Support for IWG / 2010 Website Support, VIEWS 2009 operations, WESTAR regional haze SIP support, and UC Riverside – Regional Modeling Center. These completed projects provided technical assistance to WRAP members, in support of the states' development of foundational regional haze plans and implementation of these haze plans. These projects have been described in previous WRAP work plans. **The data and results from these projects are available through the [former WRAP website](#), the [TSS](#), [VIEWS](#), or the [Emissions Data Management System \(EDMS\)](#). No additional grant resources will be used for projects 7 through 13.**

Appendix A – Scope of Work for EPA OAQPS NEI team-funded addition of \$40,000 for work by the FETS contractor and state-tribal-local air agency staff to review/assess 2008 NEI fire emissions data



Date: March 19, 2010

To: Tom Moore, WRAP Air Quality Program Manager

From: Matt Mavko and Dave Randall, Air Sciences Inc.

Subject: FETS support for 2008 NEI Fire Emissions Sector reporting

The purpose of this document is to describe the work necessary to apply Fire Emissions Tracking System (“FETS”) data and tools to:

- Utilize FETS for quality-assurance of SMARTFIRE-BlueSky preliminary estimates of 2008 fire activity (including fire type) and associated emissions.
- Analyze the reporting of managed fire by FETS data providers compared to the 2008 National Emission Inventory (“NEI”).
- Improve and adjust fire sector emissions inventory data for the final 2008 NEI for the state, local, and tribal Smoke Management and Air Quality programs providing data to FETS.

Background

The Environmental Protection Agency's (EPA's) triennial National Emission Inventory (NEI) for 2008 introduces a new source category to handle fire sector emissions, the “Event” source ([2008 NEI/EIS Implementation Plan, 2/6/2009](#)). In previous versions of the NEI, fires have been variously housed under “Area” sources (aggregated by County), and, most recently, as “Point” sources (which accommodated daily emissions, but only at a single latitude/longitude location). Because fires often migrate, occur over large areas, and burn over many days, the Event format allows for fires to be characterized in three dimensions: polygon sources that can change size and location each day.

The EPA also introduced a new file structure to submit data to the NEI, the CERS XML format. To aid state, local, and tribal agencies (S/L/Ts) with the transition to this new data format, EPA created the EIS Bridge Tool that converts data loaded into a Microsoft Access database (structured according to NIF 3.0 format, EPA’s previous prescribed format for NEI data submittals) into the CERS XML format. Fire data characterized as Point sources may be converted to Event sources using the EIS Bridge Tool., However, this conversion will not capture all of the attributes of the new Event format (e.g. storing polygon shapefiles for each day of a burn).

At least partially due to fire events' unique spatial and temporal characteristics, fires have been notoriously difficult to fully inventory. In an apparent effort to develop a more robust fire inventory for 2008, EPA created a preliminary 2008 fire sector emissions inventory of their own using SMARTFIRE to build a daily activity inventory and BlueSky to calculate emissions from the activity (D. Sullivan and

others, 2009). To classify burns as wildfire, prescribed fires, and agricultural burns, SMARTFIRE attempts to reconcile fire activity data derived from satellite imagery (“fire detects”) with ground-based reports. The system has the capability to accept reports from any number of sources for ground-truthing, but was initially only connected to the Federal ICS-209 wildfire reporting system. Therefore, a majority of fire detects remained “unclassified”. It is reasonable to expect that many of these unclassified fire detects are small prescribed fires, small wildfires, and agricultural and rangeland burns.

Included in [Chapter 11 of the Implementation Plan for the 2008 NEI](#) was a proposal to use the [Fire Emissions Tracking System \(FETS\)](#) as an additional source of ground-based reports. No specific proposal for EPA action to implement the FETS as a data source has been completed to date. EPA has tentatively released¹ a preliminary 2008 fire sector emissions inventory for the NEI using SMARTFIRE-BlueSky results as a starting point. The preliminary 2008 fire sector emissions inventory for the NEI ***does not include*** any S/L/T-reported data from the FETS or any other source of fire activity or fire emissions data.

Options for Reporting to the NEI

Do Nothing. If S/L/Ts do nothing, the preliminary fire emissions inventory estimated by SMARTFIRE-BlueSky for EPA will be used as the final inventory. This approach will finalize into the 2008 NEI the fire activity data, the associated emissions estimates, and the fire type classifications from SMARTFIRE-BlueSky results.

Supplement, edit, or Replace the Preliminary Fire Emissions Inventory. If S/L/Ts wish to modify or add fire emissions data to the NEI, they may download the preliminary data (once it is available), edit it, and re-submit it. S/L/T’s may submit supplemental data or they may replace all or part of the preliminary data set with their own data.

Air Sciences offers the following points for S/L/T’s to consider based on our review of the preliminary NEI development methodology (see Appendix A for further detail):

- Agricultural burning was classified for the 2008 NEI by overlaying detects on the 1-km FCCS map for the Conterminous United States. Detects falling within FCCS Code 0 (barren - urban - agricultural) were automatically classified Agricultural' and processed separately from the remainder of the dataset.
- Fires not classified as Wildfire or Agricultural remain “unclassified”. Almost without exception, these remaining fires are individual detects and were assigned acreage values based on the FCCS fuel type and the satellite platform which detected the burn. Ultimately, the size of all of these small fires is largely (but not entirely) based on the minimum detection limit of the satellite that detected it: 81% of “unclassified” burns in the preliminary NEI have the same size, 100 acres. By contrast, the average sizes of Agricultural, Prescribed, and Rangeland burns reported to the FETS in 2008 were 64, 34, and 38 acres, respectively.
- For “unclassified” fires in the preliminary inventory, it is impossible to discriminate between pile and broadcast burning so emissions are calculated in BlueSky assuming a broadcast burn. Emission factors for pile burns are typically lower than for broadcast burns so this method may result in over-prediction of prescribed fire emissions.

¹ The preliminary 2008 fire sector emissions inventory it is not yet available on EPA’s [Technology Transfer Network](#). The official release is scheduled in March 2010.

- For all burns other than wildfire, it is highly recommended that S/L/Ts either choose to use data in the preliminary inventory or submit replacement data. The effort to manually reconcile the preliminary dataset with ground-based reports is likely to be prohibitively difficult and time consuming. This is further discussed in Appendix A.

Reporting FETS Data to the NEI

The FETS developers (WRAP, Air Sciences, FETS Task Team, FETS Project Team) have always planned for the FETS to support S/L/Ts who wish to submit their own activity and emissions data to the NEI. Tasks 2 and 3 of the FETS 2010 workplan include commitments to support these efforts. Because data from the FETS were not included in the preliminary inventory, data must be submitted as a supplement or replacement to data in the preliminary inventory. Previously, FETS developers had considered creating a reporting option in the FETS that would export FETS data in the CERS XML format for submittal to the NEI. FETS development has since shifted focus to support the use of the EIS Bridge Tool as this can be accomplished more quickly and with fewer resources. Therefore, in support of the NEI submittal process, the developers of the FETS will augment the FETS to provide the following tools to S/L/Ts:

- A new end-of-year Quality Control (QC) report for data in the FETS will be created that identifies gaps in reporting (by date), agencies reporting data, and summaries of activity by source type, agency, etc. This is intended to help users determine if they are to rely on the preliminary inventory to fill in a portion of the FETS dataset.
- A new QC environment will be added to the FETS website. This will give S/L/Ts the ability to efficiently view, edit, and otherwise interact with their data stored in the FETS. Data entered or edited by S/L/Ts will be flagged in the database as “manually QC’d”. The QC environment will also accommodate metadata, as appropriate, to document efforts to prepare FETS data for the NEI.
- The ability to summarize preliminary NEI data to facilitate reconciliation with FETS data and other QC tasks. This will include several qualitative and quantitative comparative summaries, such as spatial comparisons, acreage and event totals by County/Tribe/State or by source type on various time scales. This will be dependent on obtaining a copy of the preliminary NEI inventory for use inside the FETS.
- Report(s) from the FETS formatted to facilitate loading into the EIS Bridge Tool. This process may include downloading several tables to populate all of the staging tables required by the EIS Bridge Tool.
- Written instructions explaining the process of submitting FETS data to the NEI, including auditing/resubmitting data to the FETS, available FETS reports, and using the EIS Bridge Tool. The development team will also conduct a webinar demonstrating the steps that will be outlined in the SOP.

Process

The tasks outlined above are primarily meant to support WRAP S/L/Ts with data already in the FETS. However, some S/L/Ts have only partial reporting in 2008, or began reporting in 2009 or beyond. Therefore, there will be a nominal effort to allow S/L/Ts to gap-fill burn reports to January 2008. The FETS will also solicit reports from S/L/Ts not currently reporting to the FETS but have the ability to do so using the batch file template provided on the FETS website. A more substantial effort that includes

data from non-WRAP members is also possible (and welcome) but would be considered supplemental to the core support tasks.

The QC environment will necessarily have two components: a web-based environment where users may access, map, and audit burns stored in the FETS, and a method to compare FETS data with the preliminary NEI dataset. The web-based environment will be an extension of the data entry and edit capabilities currently available on the FETS website. The NEI comparison tool may involve a Google Map – based environment to compare data spatially, as well emissions and acreage data ‘boiled-up’ by County and, if possible, by Tribal area.

Expected Outcomes

Written instructions will be provided and a webinar conducted to assist users with making the QC process effective and efficient. The products produced by S/L/Ts as a result of the QC processes described above may be among the following:

1. The EPA-provided preliminary data set is determined to be an acceptable inventory with no changes. The “product” in this case is simply the QC tools enabling an informed decision.
2. Supplemental data to the EPA-provided preliminary dataset is required (and determined to not be redundant with the preliminary data set). In this case, a S/L/T may download data from the FETS “formatted and ready” for import into the EIS Bridge Tool to go into the NEI in addition to the preliminary data.
3. The EPA-provided preliminary inventory is deemed inadequate and is replaced in its entirety by data from the FETS. A S/L/T may download data from the FETS “formatted and ready” for import into the EIS Bridge Tool as a replacement of the preliminary data.

In options 2 and 3 above, S/L/Ts will convert their data into the CERS XML format required by the EIS gateway

Schedule

The entire process is expected to take three months. The tasks may begin immediately. Development of the QC tools and soliciting/gap-filling 2008 burn reports can happen simultaneously. The FETS database augmentations will be done first as they are necessary to create the QC environment (the QC environment will take the longest to develop). The months during which the work will take place may shift depending on availability of funding and contract approval. Based on the schedule outlined in Appendix B, it is expected that the tools will be available for use before ‘Review and Comment on the Draft NEI’ period ends on November 1, 2010.

References

Environmental Protection Agency, 2009. *2008 National Emissions Inventory Emissions Inventory System Implementation Plan, Chapter 11*. Available at http://www.epa.gov/ttn/chief/net/neip/section_11.pdf

Sullivan, D., Y. Du, S. Raffuse, 2 October 2009. “SMARTFIRE- and BlueSky-enabled Methodology for Developing Wildland Fire Emission Inventories for 2006-2008.” STI-905517-3714.

Western Regional Air Partnership, 2007-2010. Fire Emissions Tracking System (website). <http://www.wrapfets.org>.

BUDGET – NEI SUPPORT TASKS

Table 1 describes additional work not currently funded in the FETS 2010 workplan to support the efforts of data providers to the FETS (state, tribal, and local Smoke Management and Air Quality Programs) with quality assurance, data analysis and augmentation, and finalization of fire sector emissions inventory data for the 2008 NEI.

Table 1

FETS NEI Support Tasks

Budget and 2010 Schedule

Task 0	Gap-fill 2008 fire activity data for WRAP members (including non-participatory members)	\$10,000	
Task 1	Develop End-of-Year QC Reports	\$3,000	Apr
Task 2	Develop a QC environment for the FETS website.	\$8,000	Apr-May
	Augment database schema to explicitly handle manually QC'd data by S/L/Ts.	\$3,000	Apr
	Develop a side-by-side comparison tool with preliminary NEI data and FETS burn reports.	\$6,000	Apr-Jun
Task 3	Develop reports formatted for insertion into the EIS Bridge staging tables	\$6,000	May
Task 4	Develop written instructions explaining the QC and NEI preparation processes.	\$2,500	May-Jun
	Prepare and conduct a webinar, explaining the QC and NEI preparation processes.	\$1,500	May-Jun
<i>WRAP region Total Base Budget</i>		\$40,000	
<i>Optional addition of 2008 fire activity data for non-WRAP region States, per State^a</i>		\$1,500 - \$10,000	

^aCost per State will be dependent on the complexity, availability, and format of the activity data in each case

Appendix A – OAQPS NEI

The following summarizes a basic analysis of some of the differences between data reported to the FETS in 2008 and the draft-preliminary 2008 NEI data set that was made available to some S/L/Ts in Microsoft Access format. The draft-preliminary data set does not include polygon data for large fires and may change when made officially available on EPA’s Technology Transfer Network. The summary is intended not merely to point out shortcomings in either dataset, but to illustrate the difficulties inherent in reconciling or comparing the two.

FETS Burn Classifications and Coverage Summary

Table A1. Summary of Natural and Anthropogenic Burns across the WRAP region in 2008 Reported to the FETS.

		Acres by State, 2008														
Source Type		AK	AZ	CA	CO	ID	MT	ND	NM	NV	OR	SD	UT	WA	WY	Totals
<i>Natural</i>	AG															
	NFR															460
	RX	700				10,544	2,793		2,100		26,678			58,304		101,119
	WF	94,843	94,149	1,875,412	106,910	110,218	145,793	21,037	374,590	69,195	169,316	1,458	23,464	120,178	41,797	3,248,360
	WFU	58,133	13,011	5,701	1,856	62,253	3,203		1,058	521	2,497		1,430	820	53,840	228,854
<i>Anthro.</i>	AG															116,031
	NFR															
	RX															126,841
	WF															
	WFU	12,751			26	294			11	9,972			1,480			24,542

Table A1 was compiled from a raw data dump from the FETS and illustrates the distribution of acres burned, classified as either Natural or Anthropogenic, by source type across all WRAP States in 2008. There are evident gaps in reporting, such as the lack of prescribed fire in five states, and agricultural burn reporting for only two States. Beyond the obvious, however, there are other, subtler characteristics of the data that indicate errors or completeness issues in the dataset:

- Wildfire and WFU
 - Wildfire and WFU acres are from ICS-209 reports, which have a size cut-off of 100 acres in timber and 300 acres in grasslands.
 - WFU is no longer officially tracked, yet some States (New Mexico, e.g.) are required by regulation to use WFU classification.
- Prescribed burns

- Washington State reports are from the Department of Natural Resources only, which includes prescribed burns over 100 tons. Burns tracked by Washington DOE are not included.
- Reporting by Oregon does not include burning on private lands, which is a frequent occurrence in some parts of the State.
- Reports from Montana and Idaho are from the MT/ID Airshed Group, to which membership is voluntary. Some private burning (by timber companies, e.g.) is not included.
- Prescribed burning in Idaho also includes data from the Nez Perce Tribe, which are reported separately and not tracked by the State of Idaho.
- Reporting for New Mexico did not begin until July 2008.
- Agricultural burns
 - Reporting from Idaho DEQ began in mid-2008 and therefore does not capture the spring burn season. Agricultural burning in Idaho also includes data from the Nez Perce Tribe, which are reported separately and not tracked by the State of Idaho.
 - Reports from Oregon only include burns tracked by the Oregon Department of Agriculture, and are exclusively in the Willamette Valley in northwest Oregon.
- Rangeland burns
 - Burns reported in Oregon are from the Oregon Department of Forestry, and reflect burning on State or Federal land (BLM, e.g.) that is classified as ‘Rangeland’. There is a significant amount of rangeland burning that occurs in eastern Oregon that is not tracked.
 - Burns reported in New Mexico include private burns by ranchers as well as burning on State and Federal lands. Reporting did not begin until July 2008.

Figure A1. Unclassified Preliminary NEI derived fire locations and FETS Prescribed, Agricultural, and Rangeland reported fire locations in 2008.

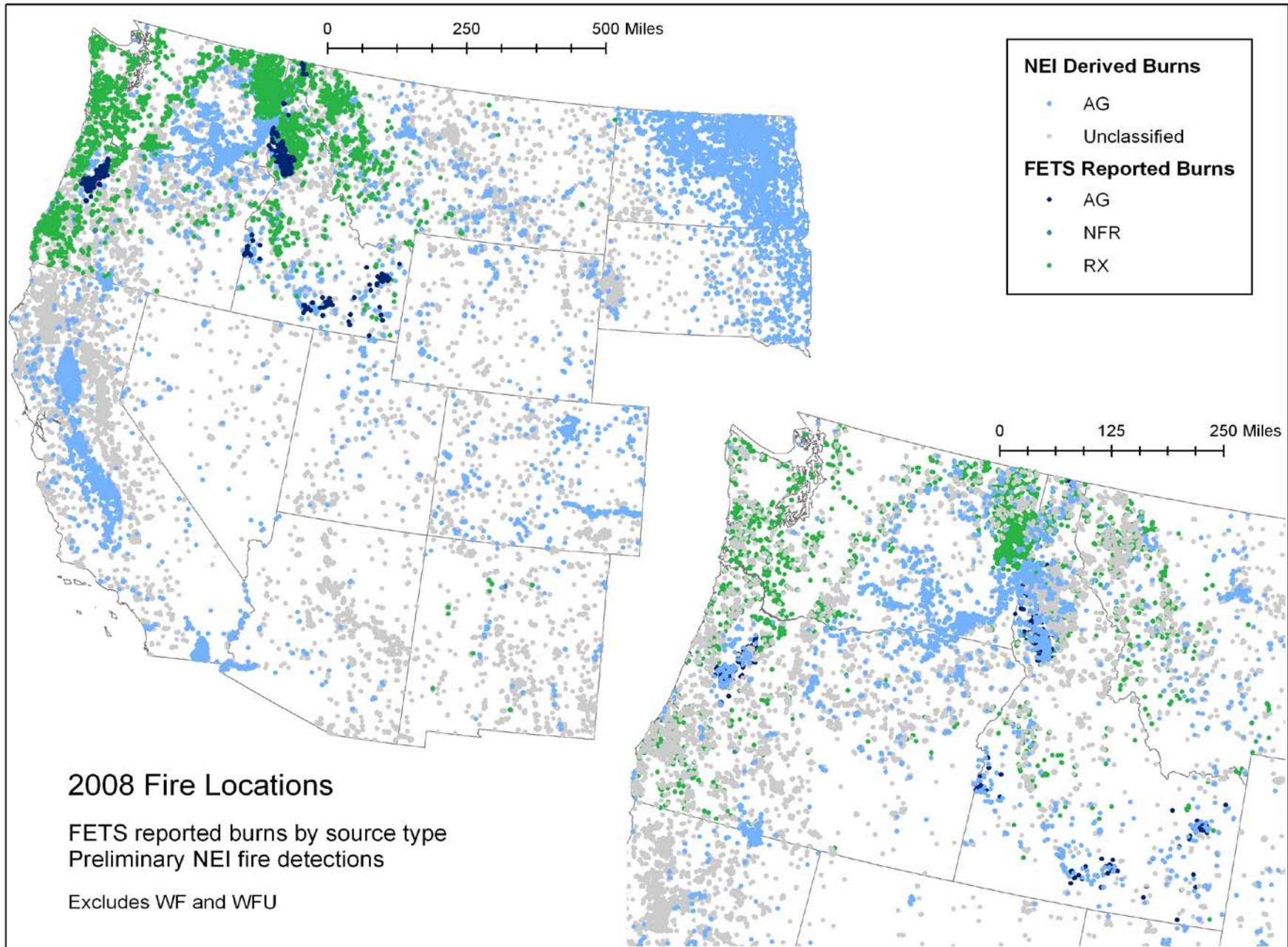


Figure A1 provides a geographic summary and comparison of Preliminary NEI data and FETS reported burns. It is important to note that locations in the figures do not reflect actual acres; the markers merely indicate point locations in decimal degrees. The inset in the lower right-hand corner of the map switches the order of the FETS and NEI layers; this helps point out differences in coverage in areas that are well-reported by the FETS. In the inset map, visible FETS locations imply reported burns not detected by satellites and therefore absent from the NEI data set. Coverage by the satellites is generally good from this perspective, with the exception of a large patch in eastern Washington.

Table A2 provides a summary of acres burned in Oregon in 2008, a State with good reporting to the FETS. The preliminary NEI data set obtained for this analysis did not include acres estimates for Agricultural burning. It is clear, in terms of the number of burns, that the preliminary NEI data set is far more comprehensive than the FETS. However, as Table A2 points out, the vast majority of those burns remain “unclassified.” In Oregon in particular, the unclassified burns are likely a mixture of Prescribed and Rangeland burning. In addition, 32% of the prescribed burns reported to the FETS by Oregon are piled burns; it is unclear how well the acreage estimates made by the NEI translate these types of burns.

Table A2. FETS Reported Acres and Preliminary NEI Derived Acres in Oregon, 2008.

	<i>Source Type</i>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
FETS	Agriculture							14,936	11,634	11,485	353			38,408
	Rangeland							66	204	87		93		450
	Prescribed	210	997	793	1,306	2,605	541			58	4,658	18,085	2,429	31,682
NEI	Unclassified	6,060	3,557	2,243	8,440	13,533	5,712	12,610	19,891	37,790	72,298	141,276	55,739	379,149

Appendix B

The following table is excerpted from Section 11 of the 2008 National Emissions Inventory EIS Implementation Plan (*see references on Page 5*), showing key dates for fire reporting. Note the date for release of the preliminary inventory has moved from October 1, 2009 to March 31, 2010.

Key Dates for 2008 Fire Reporting	
S/L/Ts are encouraged to provide access to their data on fire occurrences in their jurisdiction, (e.g., "accomplished" 2008 prescribed fire data, wildfires not in the ICS-209 reports) in an electronic format such as the Fire Emissions Tracking System (FETS) for EPA's use in development of its preliminary National Fire Inventory.	<i>January 1 - July 1, 2009</i>
EPA develops a preliminary national fire emissions inventory for the 2008 NEI using SMARTFIRE's satellite- and ground-based reports and the BlueSky framework.	<i>July 1 - October 1, 2009</i>
EPA's preliminary national fire emissions inventory is available on the EIS Gateway for review.	<i>October 1, 2009</i> <i>Now March 31, 2010</i>
S/L/Ts may submit fire emissions inventory data to the EIS as early as July 1. However, S/L/Ts are encouraged to make their fire occurrence data available then and wait until the preliminary national fire emissions inventory is available in October.	<i>July 1, 2009 - June 1, 2010</i>
EPA selects its draft fire NEI from the preliminary fire EI and the S/L/T submittals.	<i>June 4 - July 16, 2010</i>
Review and comment on draft NEI.	<i>July 19 - October 30, 2010</i>
General Public Release of the NEI.	<i>December 31, 2010</i>