2018 WESTERN STATES PLANNING READINESS SURVEY FOR REGIONAL HAZE STATE IMPLEMENTATION PLANS FOR THE SECOND IMPLEMENTATION PERIOD
SURVEY RESULTS AND DISCUSSION

INTRODUCTION

The United States Environmental Protection Agency's (USEPA) Regional Haze (RH) Program works to enforce certain parts of the Clean Air Act to gradually improve and protect visual air quality over the next several decades in designated national parks and other wilderness areas by reducing emissions of visibility-impairing pollutants. Developed to help achieve this goal, the Regional Haze Rule (RHR) requires that states create RH State Implementation Plans (SIPs) in which they assemble various elements related to RH such as monitoring data, emissions inventories, and control measures analyses. In January 2017, revisions to the RHR were finalized. This update to the rule established a timeline for new SIPs for the second implementation period (featuring a 2028 milestone), which are to be submitted by July 31, 2021. The Western Regional Air Partnership's (WRAP) Regional Haze Planning Work Group (RHPWG) supports western states in their SIP preparations by offering guidance and training and initiating communication over what the states need to include in their SIPs. Figure 1 presents the WRAP member states and their associated federal Class I Areas.

To support this process for the second implementation period, WRAP, assisted by Ramboll US Corporation (Ramboll), administered the *2018 Western States Planning Readiness Survey for Regional Haze State Implementation Plans for the Second Implementation Period* ("2018 Planning Readiness Survey" or "Survey") to gauge each state's readiness to and progress toward developing the required elements of the RH SIPs due in 2021. The 2018 Planning Readiness Survey questions were developed based on review of key reference documents (summarized in Attachment 1) and address some of the key SIP requirements laid out in the RHR, exploring the following topics: monitoring data and tracking metrics, emissions inventory development, identifying sources for control analysis and conducting four-factor analyses, developing and implementing control measures and regulations, and consultation and outreach. The RH planning requirements overlap with National Ambient Air Quality Standards' (NAAQS) planning work by individual states. See Figure 2 for currently designated nonattainment areas for various NAAQSs. The Survey was distributed via email to RH contacts at the local agencies of each of the WRAP member states and the City of Albuquerque (a group of entities henceforth referred to as "respondents") on September 28, 2018. The respondents took the next few weeks to review their previous planning documents and internally discuss the Survey. By October 30, all 16 respondents participating in the Survey had provided their responses to the questions.

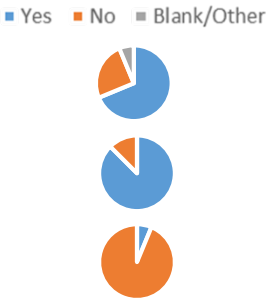
The purpose of conducting the Survey was to allow respondents to consider key elements of the RH SIPs they will be preparing while evaluating their own progress/readiness to complete them. Additionally, the information collected by WRAP through these responses will be useful in assessing and providing the types of assistance each respondent may need in order to stay on track and complete their RH SIPs by the 2021 due date. WRAP collected the responses submitted by each respondent and prepared this report to provide and discuss the results and findings of the Survey. The following sections organize the Survey findings into different categories based on the type of information the Survey was aiming to collect. Each question was assigned one or more of the following categories and is discussed in the respective section:

- Progress Status;
- Need for External Resources;
- Timeline Issues;
- Regional Consistency;
- Availability of Internal Resources; and
- General Information Sharing/Other.

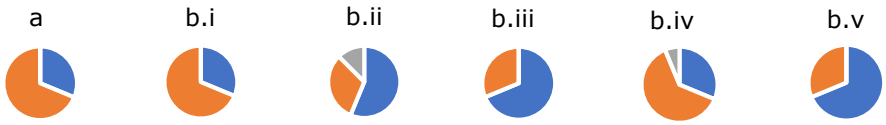
SURVEY RESULTS AND THEMES

Progress Status

The 2018 Planning Readiness Survey included a set of questions designed to assess the progress made by respondents towards completing certain preliminary tasks that will be necessary for preparation of the 2021 SIPs. These consist of the following Survey questions (see Attachment 2 for complete list of questions):



- Q1: Has your staff evaluated IMPROVE monitoring data for Class I areas in your state using the "most impaired days" tracking metric?
- Q3c: Can your state begin RH planning (i.e., using emissions-based screening methods) before the tracking metric is finalized?
- Q6: Has your state started projecting future-year emissions?
- Q11: (a) Has your state begun planning for public outreach? For consultation with other western states (b.i), local air regulatory agencies (b.ii), FLMs (b.iii), Tribes (b.iv), and/or EPA (b.v)?

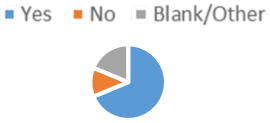


Regarding monitoring data and tracking, the majority of respondents have begun making progress, with **12/16** indicating they have used the "most impaired days" tracking metric to evaluate IMPROVE monitoring data (Q1) and **14/16** indicating that they can begin RH planning before the tracking metric is finalized (Q3c). The two respondents that indicated that they would prefer or require a finalized tracking metric before proceeding are Wyoming and Nevada. The complete list of each respondent's full responses to the questions is provided in Attachment 3.

As it is still relatively early in the RH planning process, most respondents indicated they have not started projecting future year emissions, with only California stating they have (Q6). Several respondents indicated they plan to rely on WRAP/WESTAR for this task (Hawaii, Idaho, New Mexico, and Washington). However, many respondents have begun planning for public outreach and consultation. **11/16** have begun consultation with other western states (Q11b.i), **9/16** with local air regulatory agencies (Q11b.ii), **11/16** with FLMs (Q11b.iii), **5/16** with tribes (Q11b.iv), and **11/16** with EPA (Q11b.v). Nevada, North Dakota, and the City of Albuquerque indicated that consultation with some of these entities has occurred exclusively through WRAP. Finally, **5/11** respondents indicated they have begun planning for public outreach, with a few more indicating plans to start this in 2019 (Q11a).

Need for External Resources

States are not expected to develop their RH SIPs and all the elements that comprise them without utilizing external resources. These resources may include work by regional contractors, EPA, and WRAP subcommittees. The Survey included certain questions designed to gather data on what outside bodies the states plan to rely on or consult with and for what information. These consist of the following Survey questions:



- Q2: Would your state use work by a regional contractor to evaluate the monitoring trends and implications of the "most impaired days" and related tracking metrics on the glidepath for Class I areas in your states?

- Q12b: Do you envision consultation with tribes, FLMs, and EPA to be done through WRAP, state resources, or a combination of the two?

- Q16b: What information would your state want or need from EPA in terms of the Roadmap deliverables, to augment your SIP preparation?

In general, the respondents are open to utilizing external resources in their RH planning. **11/16** indicated they would use work by regional contractors for evaluating monitoring trends and tracking metrics for Class I Areas, while **2/16** would not (Hawaii and Montana). **2/16** were categorized as "possibly", indicating that they might use work by a contractor or simply perform the work in-house (Nevada and New Mexico.) Nevada indicated eschewing contractor assistance in favor of a potential plan to evaluate Class I Areas themselves using the TSSv2, while New Mexico cited funding concerns. Finally, **1/16** (Alaska) considered the question non-applicable (Q2).

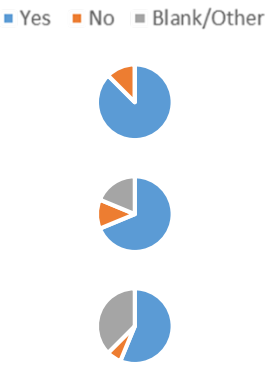
As far as consultation in general with entities like the EPA, FLMs, and tribes, the majority of respondents (**14/16**) indicated they envision it to occur through a combination of both WRAP and their own state resources. North Dakota indicated that they envision consultation to occur only through WRAP and Alaska indicated it would be through state resources only (Q12b). As for consultation that has already occurred, most respondents indicated they had contact with either FLMs (**9/16**), Tribes (**4/16**), or EPA (**6/16**), with much of the consultation occurring during the first round of RH planning (Q12a).

Several respondents (**13/16**) indicated they would want or need certain Roadmap deliverables from EPA as part of their SIP preparation (Q16b). The most common requests mentioned in Survey responses included assistance with modeling, the release of updated natural conditions estimates, and the expeditious release of a final, clear guidance. Other than this, many respondents have individual requests which include assistance with marine emissions strategies (Alaska), an approach for addressing Uniform Rate of Progress (URP) adjustments for prescribed fires and international emissions (Arizona), an update for the 2028 visibility modeling platform and recommendations for selecting the 20% most impaired days (Colorado), additional in-kind work and funding (New Mexico), information regarding how EPA plans to address impacts from oil and gas sources on federal land (North Dakota), and clarification on how states can meet the draft Guidance description of a screening process for sources that account for 80% of visibility impacts (Albuquerque).

Timeline Issues

In order for states to complete their RH SIPs by the due date in 2021, it is important that they adhere to a timeline of milestones to continually make progress. Identifying potential issues with the timeline of certain RH planning tasks early on is crucial to finishing the SIPs on time. Thus, the Survey included certain questions designed for respondents to identify their specific concerns with the timeline as they look ahead. These questions include:

- Q3: When does your state expect to evaluate sources for reasonable progress?
- Q3c: Can your state begin RH planning (i.e., using emissions-based screening methods) before the tracking metric is finalized?
- Q10: Does your state intend for WRAP to include state-specific emissions control measures in the 2028 WRAP regional air quality modeling that will inform reasonable progress goals for 2028?
- Q10a: Does your state understand the WRAP 2019 timeline for 2028 modeling?



Regarding when respondents expect to evaluate sources for reasonable progress, **15/16** have specific timelines in mind. **7/16** indicated they have already begun evaluating sources while **9/16** indicated they plan to start in 2019, with 4 respondents specifying they will start in early 2019 (Q3). Regarding RH planning in general, **14/16** respondents indicated that they can begin before the tracking metric is finalized (Q3c). The two respondents that require the finalized tracking metric before they can proceed are Wyoming and Nevada.

Many respondents (**11/16**) indicated they intend for WRAP to include their state-specific emissions control measures in the 2028 WRAP regional air quality modeling that they can use in setting reasonable progress goals for 2028 in their SIPs (Q10). **2/16** respondents indicated they do not intend to take part in this (Alaska and South Dakota). Hawaii indicated this question was not applicable and Colorado did not provide a response. Finally, Wyoming indicated uncertainty as their control measures are still being evaluated. For those respondents indicating their intent for WRAP to incorporate their state-specific control measures in the 2028 modeling, **9/11** said their state does indeed understand the WRAP 2019 timeline for the modeling (Q10a). Of the two remaining respondents, Oregon indicated they do not understand the timeline while North Dakota indicated they were uncertain because they believe WRAP to be behind schedule, citing that the 2014 baseline modeling should have been completed or nearly completed by now in order to finish 2028 modeling by April 2019.

Regional Consistency

While each state is ultimately responsible for writing its own SIP and has the authority in certain areas to conduct regional haze planning as they see fit, having consistency across the western region is desirable. To assess the decisions states are making as they begin regional planning and sharing their information with other states in the region, the Survey included the following questions:

- Q2a: How would you communicate your state-specific analyses for monitoring trends and tracking metrics to neighboring states?

- Q3b: How will you align your plan for evaluating sources for reasonable progress with approaches by other states?
- Q4: Does your state have concerns with a commonly derived "most impaired days" tracking metric across all Class I Areas for your state?

- Q4a: Please provide your perspective on the pros/cons of a commonly derived "most impaired days" tracking metric across all Class I Areas for your state.
- Q5: Will your state's approach to selecting sources for reasonable progress analyses for the second round of regional haze planning be different if IMPROVE monitoring data indicates that visibility at a Class I is meeting Uniform Rate of Progress versus not meeting Uniform Rate of Progress?

- Q6b: Do you plan to use recommendations from the RHPWG Emission Inventory & Modeling Protocol Subcommittee for any of your future-year emissions projections?

- Q7: Does your state plan to incorporate visibility as a factor in the control measures analysis?

Regarding how respondents plan to communicate their own analyses for monitoring trends and tracking metrics to neighboring states, **6/16** provided responses which included utilizing the TSS to share data electronically or having discussions facilitated by the WRAP Consultation & Coordination Subcommittee or by the local state agency (Q2a). Similarly, many respondents indicated that they plan to work with WRAP to stay in the loop with neighboring states when evaluating sources for reasonable progress, while following any WRAP subcommittee protocols or guidances (Q3b). Also, when evaluating sources for reasonable progress, **7/16** of the respondents indicated their approach to selecting sources for analysis would be different depending on if IMPROVE monitoring data suggests that visibility is meeting URP versus not meeting URP, while **9/16** indicated this would not likely affect their approach (Q5).

One question in the Survey mentioned that WRAP intends to recommend that the EPA method to define "most impaired days" be used as a common tracking metric that applies to all WRAP Class I areas, asked if the states have a concern with this, and asked them to provide their perspective on the pros and cons of this idea. **14/16** of the respondents indicated they do not have concerns with this idea, while **2/16** (Hawaii and Nevada) do have concerns (Q4). Nevada's concern was that there needs to be a provision in this recommendation that allows for states to use alternative assumptions while also providing rationale or criteria for those assumptions in case a state that contributes emissions to another state's Class I Area may not agree if the host state makes alternative assumptions. When discussing the pros and cons of the common metric proposal, most respondents agreed that it would be ideal for handling monitoring data analysis and modeling, as long as it appropriately accounted for sources like wildfires, volcanoes (Hawaii's concern), and international emissions.

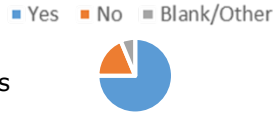
When asked if respondents plan to use recommendations from WRAP's Emission Inventory & Modeling Protocol Subcommittee for their future-year emissions projections, **8/16** respondents indicated they would, **1/16** indicated they would not (Idaho) and the remaining 7 were either undecided or not planning to do their own future-year projections (i.e., they would rely on WRAP for it) (Q6b). Finally, when asked if the respondents plan to incorporate visibility as a factor in their control measures

analysis, only **3/16** indicated they are planning to (Montana, Nevada, and Oregon), while **2/16** are not planning to (Albuquerque and South Dakota) and **11/16** are undecided at this time (Q7).

Availability of Internal Resources

While states will have the ability to interact with outside bodies like the EPA and WRAP throughout the SIP writing process, they will need to rely on their own local agencies for many SIP-related tasks. Additionally, states will be encouraged to engage with WRAP by providing in-kind work and technical expertise in the various WRAP subcommittees. To assess the availability of each state's internal resources to handle these responsibilities, the Survey asked the following questions:

- Q12b: Do you envision consultation with tribes, FLMs, and EPA to be done through WRAP, state resources, or a combination of the two?
- Q13: Will your state contribute in-kind work (e.g., IMPROVE monitoring data analysis, emissions inventories/forecasting, or regional modeling) toward this Round 2 Regional Haze planning effort?



- Q13a: List in-kind work provided on previous and current RH efforts, if any.
- Q13b: List subcommittee participation and technical skills that the state is considering for potential in-kind efforts.
- Q14: Provide the links to state webpage(s), if any, where you are publicly posting documents related to regional haze rulemaking/planning.

Regarding consultation with tribes, FLMs, and EPA, the majority of the respondents (**14/16**) recognize that this will occur through a combination of efforts by WRAP as well as their own local agencies (Q12b). Alaska envisions this type of consultation occurring through its own state resources only, while North Dakota will utilize WRAP exclusively for this. For general information on the regional haze programs in each state, the Survey included a question asking respondents to provide links to their websites where they post documents related to RH planning and rulemaking. **12/16** respondents provided links to their individual sites, while **4/16** indicated they do not currently have specific pages set up for RH planning at this time.

In terms of contributions of in-kind work and WRAP subcommittee participation, most of the respondents are planning to be engaged. **12/16** respondents plan to contribute in-kind work, including emissions inventories, control measures protocols, IMPROVE data analysis and modeling, while **4/16** did not indicate plans to do this (Q13 and Q13a). **14/16** respondents indicated plans to be involved in the WRAP subcommittees, with many respondents looking to contribute to all subcommittees in some way (Q13b). The most frequently cited technical skills the respondents plan to contribute are emissions inventory development, control measures development, and modeling. Certain specific skills which some respondents plan to contribute are oil and gas source expertise (Alaska and California), SIP writing and Microsoft Excel-based techniques (Albuquerque and New Mexico), and PMF modeling (Hawaii).

General Information Sharing/Other

The remainder of the Survey questions can be categorized as generally for collecting information regarding actions the states have already taking related to RH, or simply as "other".

- Q1a: What techniques/methods are you using for evaluating IMPROVE monitoring data for Class I areas in your state using the "most impaired days" tracking metric?
- Q1b: What problems/issues/solutions, if any, have you identified?
- Q3a What methodology/plan do you have to begin evaluating sources for reasonable progress?
- Q6a: Describe your state's progress and methods for projecting future year emissions, including the sectors and years for which you are estimating emissions.
- Q8: What regulatory mechanisms does your state have to require controls on regulated point sources, area sources, and/or mobile sources?
- Q9: List any regulations and/or control programs that could affect regional haze that your state has enacted in the last 5 years or since the last progress report. Please provide citations or links, if any.
- Q16: What comments does your state have on the Sept. 11, 2018 Regional Haze Reform Roadmap released by EPA?
- Q16a: Would release of guidance and/or data from EPA according to the schedule outlined in the Roadmap affect your state's participation in the WESTAR-WRAP regional analysis process?

Regarding evaluating IMPROVE monitoring data, respondents cited using the TSSv2 database, the FLM database, work products from the Monitoring Data and Glide Slope Subcommittee, the Excel spreadsheet created by Ryan Templeton of the Arizona Department of Environmental Quality (or a similar spreadsheet), or their own in-house methods (Q1a). While **6/16** respondents did not identify any issues with their methods of choice, the other respondents encountered problems with the relocation of monitors, errors in data, and how "routine natural" conditions are determined, among others (Q1b). The complete list of each respondent's full responses is provided in Attachment 3.

Regarding source evaluation for reasonable progress, **16/16** respondents indicated some sort of plan or methodology, including utilizing modeling, back trajectories, WRAP subcommittee work products (such as the Reasonable Progress Source Identification and Analysis Protocol), Q/d method, and four-factor analysis. (Q3a). While only **1/16** respondents have begun projecting future-year emissions (California), two more respondents indicated making some progress towards starting on it: Alaska indicated they have begun identifying which facilities/sectors will likely have changes in their future year emissions, while North Dakota indicated they will need to work closely with the facilities to estimate future emissions (Q6a).

Most respondents have regulations in place to require controls on point sources (**16/16**) and area sources (**15/16**), while only **8/16** reported some type of authority over mobile sources (Q8). For point sources, the respondents cited authority to impose controls and reduction strategies, require air permits, adopt rules, and enforce compliance. For area sources, respondents commonly mentioned authority to impose controls and reduction strategies, require air permits, adopt rules, and run source registration programs. Authority to control mobile sources varied from state to state, with some respondents running their own vehicle inspection/maintenance programs or participating in a regional metropolitan planning organization, and others enforcing fuel standards or regulations specific to non-automobile sources, such as boats and aircraft. **13/16** respondents indicated they had regulations or

control programs affecting regional haze that were enacted within the last 5 years (Q9). Included among these are controls on $PM_{2.5}$ emissions, RH and PM SIPs, BART requirements, and regulations specific to oil and gas operations.

Finally, when the respondents were asked about EPA's Regional Haze Reform Roadmap, many indicated concerns. Frequent comments included that the roadmap was too general, was released too late, has a timeline that might be difficult to adhere to or does not align with WRAP's timeline, and that the modeling used might not be compatible with WRAP's modeling efforts (Q16). If EPA sticks to the roadmap and releases a guidance or data adhering to it, **12/16** respondents indicated this would not affect their participation in the WRAP regional analysis process (Q16a). In comparison, **2/16** respondents (Washington and South Dakota) indicated that it would, and **2/16** indicated that it might, depending on if WRAP is meeting the planning process deadlines (Arizona) or if it has an impact on the regional work that WRAP is doing (Idaho).

SUMMARY STATUS AND NEXT STEPS

The responses received from each state for the Survey have highlighted some key concerns by WRAP member states that should be addressed in a timely manner so that states may complete their SIPs by the 2021 deadline. Figure 3 suggests a readiness score for activities already underway or relatively complete at this time, while Figure 4 suggests a readiness score at this point in time for analysis and planning activities to occur over the next 2-3 years. The following items summarize the concerns indicated by one or more states in their Survey responses:

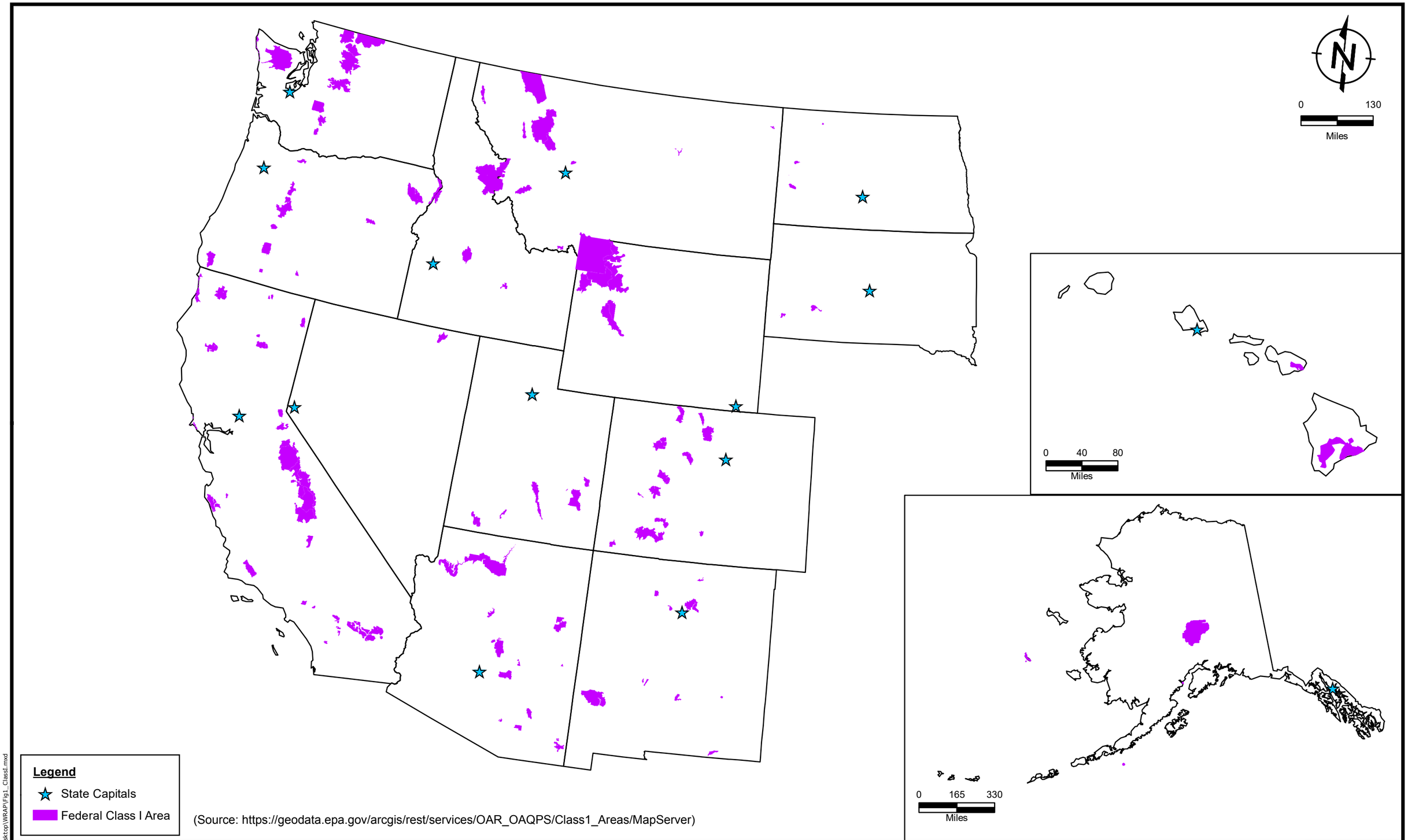
- Regarding the "most impaired days" tracking metric, the discussion over which method is best is not helpful for states and takes away from the objective (improving visibility and air quality).
- WRAP may be behind schedule for the 2028 modeling, as 2014 baseline modeling should be done by now (or at least well underway). Additionally, 2028 modeling should be completed by April 2019 and this may present an issue since the necessary four-factor analysis data from the states may not be received in time.
- WRAP should address what threshold for Q/d analyses should be used as some states have received differing guidance compared to what their FLMs say to use.
- Due to state-specific laws on the timeline for creating new legislation, some states might need to start certain planning and technical activities before the other states in order to accommodate their state-specific procedures surrounding new rules and plans. This could lead to timeline issues if those states plan to rely on WRAP work products.
- Access to updates on when WRAP subcommittee work will be finished and the final products themselves could be made more readily available. Some states have concern with completing their SIPs on time when they will be relying on WRAP work products.
- The roadmap released in September 2018 by EPA might conflict with the timeline set out in WRAP's own roadmap.
- WRAP should analyze and provide options for states to consider when addressing modeling inconsistencies between EPA and WRAP, to get ahead of potential stakeholder concerns.
- Details of EPA's source screening process Guidance might be inconsistent with the Control Measures Subcommittee's modeling approach.

Additionally, several areas where states plan to rely on WRAP and the various subcommittees for key items include:

- A finalized WRAP-recommended tracking metric for the Most Impaired Days
- Full functionality of the TSSv2
- Guidance on analysis techniques for evaluating monitoring trends
- Funding for work by regional contractors, if necessary
- Facilitation of communication among WRAP member states
- Facilitation of communication and consultation between states and FLMs, EPA, tribes, and local air regulatory agencies
- The Control Measures Subcommittee Reasonable Progress Source Identification and Analysis Protocol
- 2028 modeling
- Projecting of future-year emissions OR recommendations from the Emission Inventory & Modeling subcommittee to do so
- A recommendation on whether to incorporate visibility as a factor in the control measures analysis or not
- An updated and more detailed workplan that incorporates WRAP's work over the past year
- General technical aspects of SIP development

Many of the concerns highlighted in the Survey results relate to the expected responsibilities and work products of WRAP. Given that, it is important to remember that the western states are not only members of the WRAP organization, but that they are the WRAP. As the results of the Survey demonstrate, many of the states' planning efforts are inextricably connected to WRAP's work. However, it is ultimately the responsibility of each individual state to maintain ownership of its RH planning efforts throughout preparation and the SIP-writing process. Now is the time for all states to allocate their available resources towards pushing forward RH planning efforts not only for their own SIPs, but also towards the communal efforts of WRAP so that all member states can move forward together.

FIGURES



RAMBOLL

DRAFTED BY: RC | DATE: 12/18/2018

Federal Class I Areas in WRAP Member States

Western Regional Air Partnership

2018 Regional Haze Planning Readiness Survey

FIGURE

1

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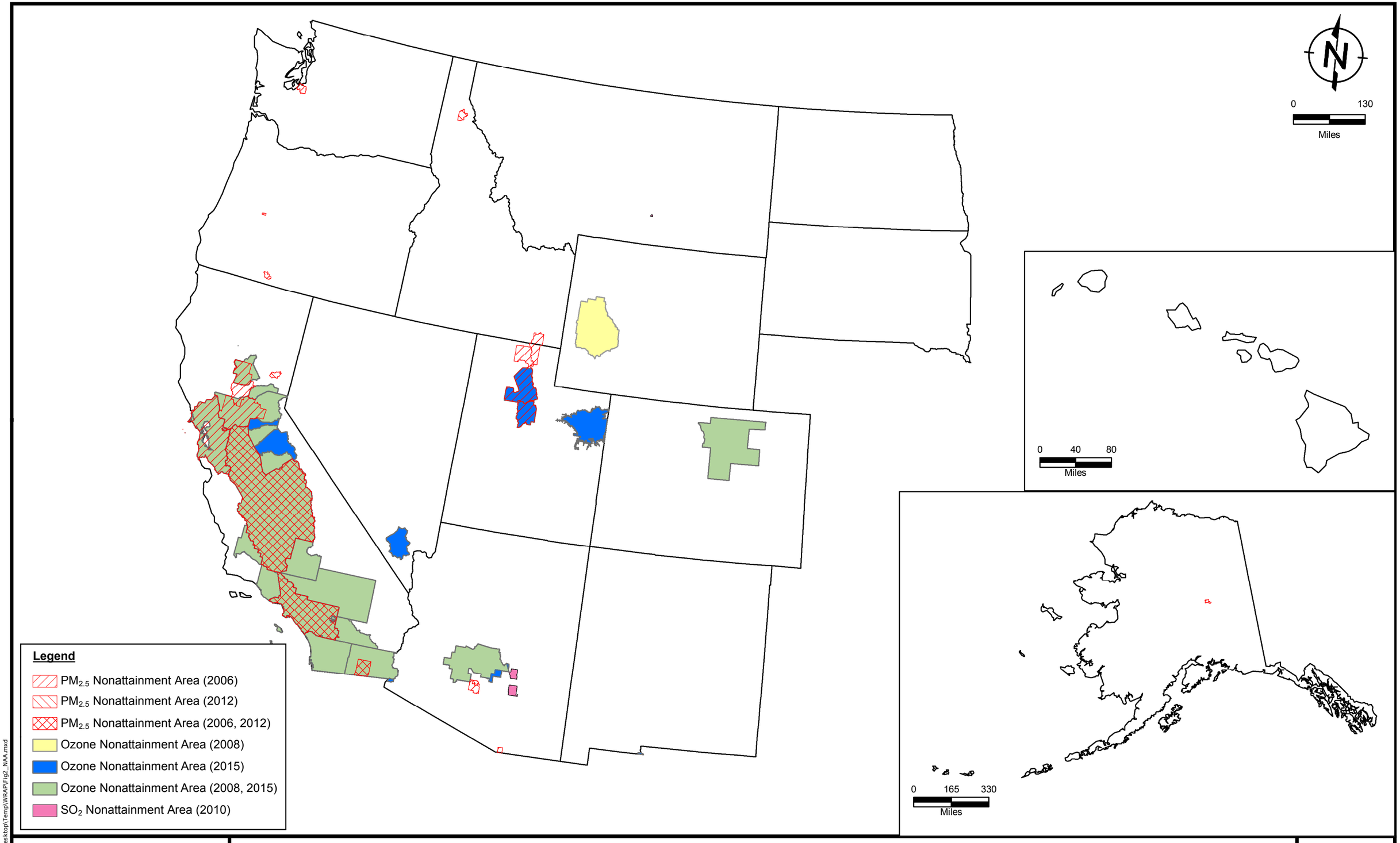

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Nonattainment Areas in WRAP Member States

Western Regional Air Partnership

2018 Regional Haze Planning Readiness Survey

FIGURE **2**

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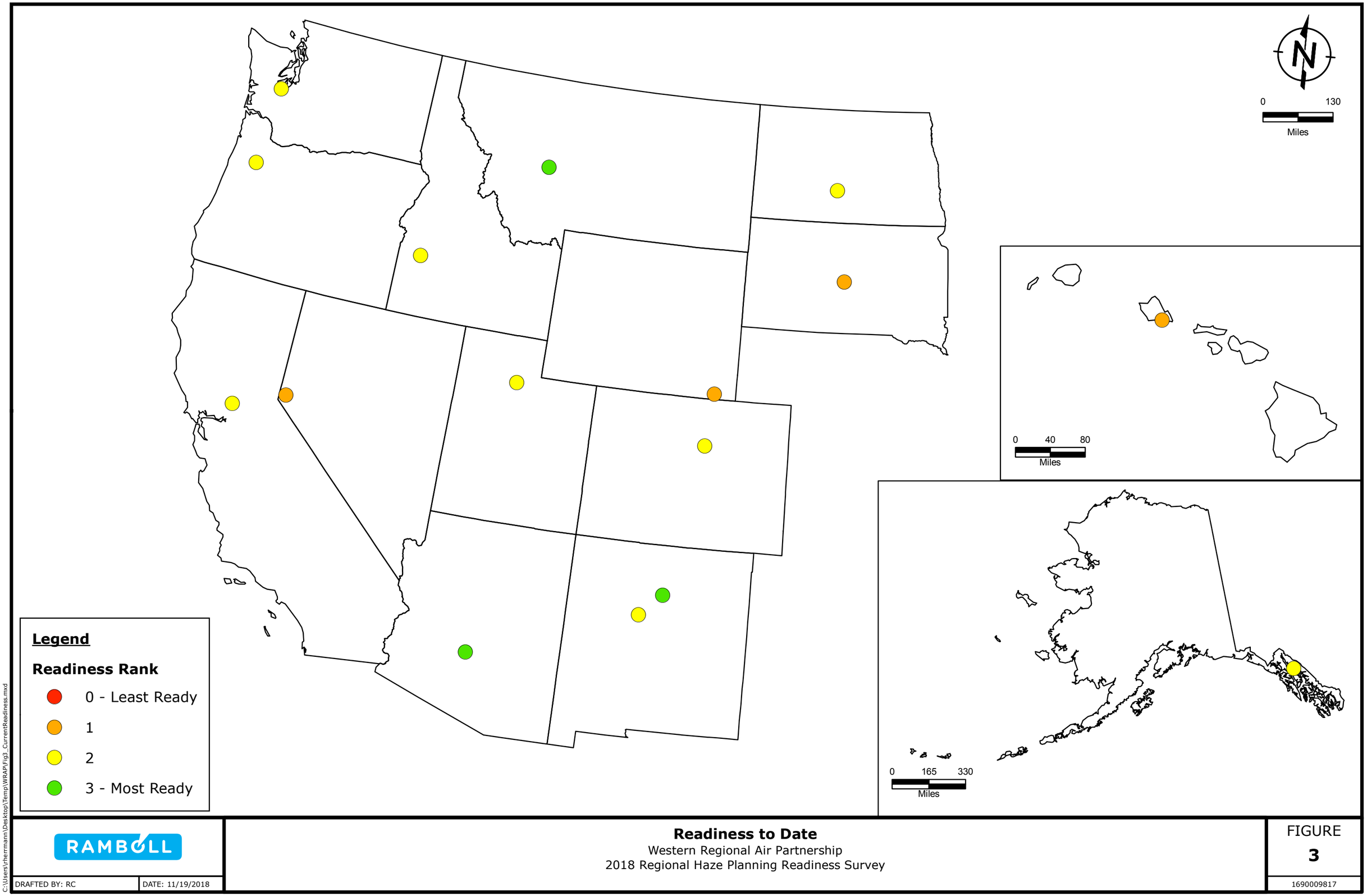

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Readiness to Date
Western Regional Air Partnership
2018 Regional Haze Planning Readiness Survey

FIGURE
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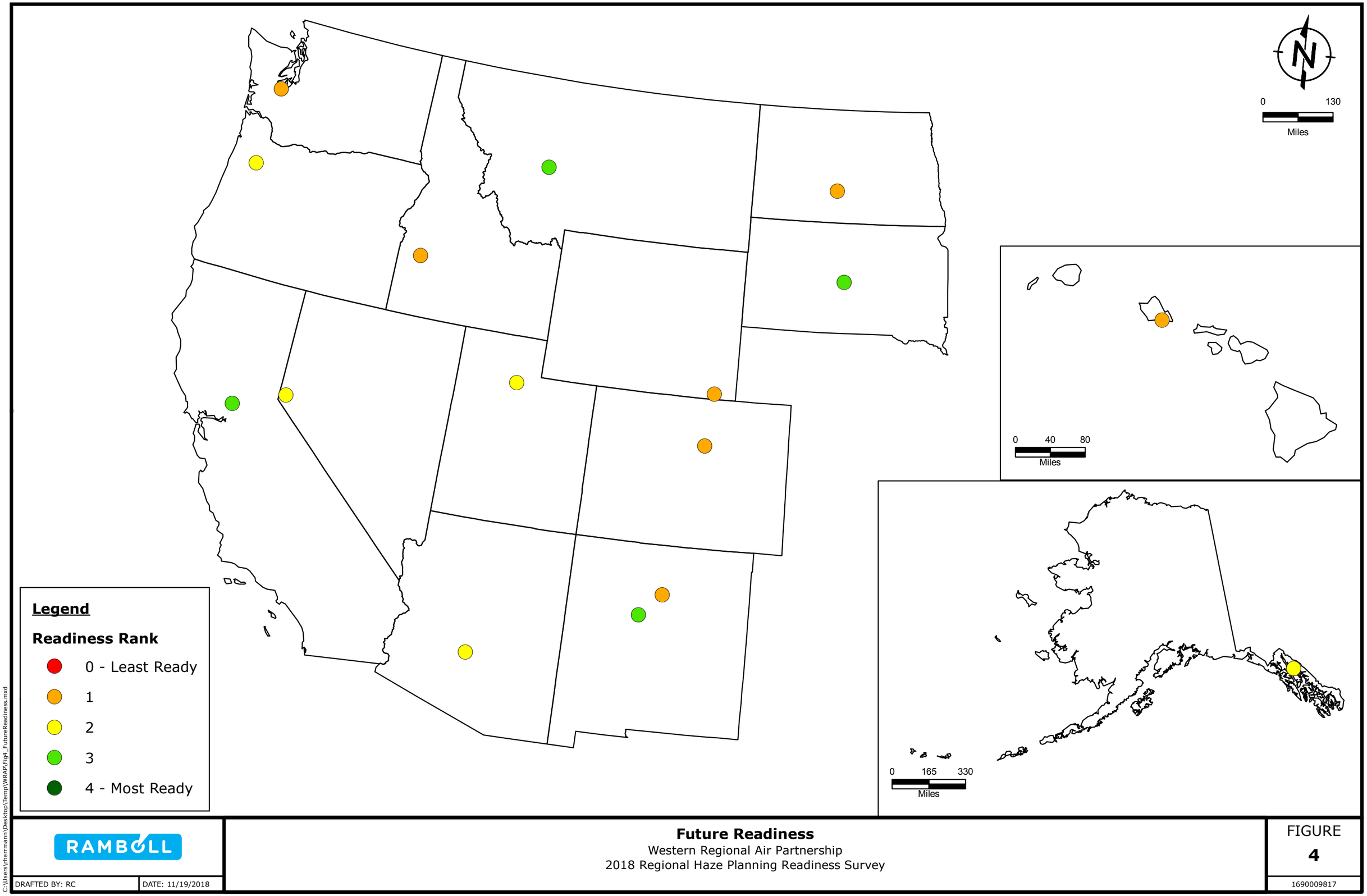

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Future Readiness
Western Regional Air Partnership
2018 Regional Haze Planning Readiness Survey

FIGURE
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ATTACHMENT 1
Summary of Recent Regional Haze Guidance and Planning Documents

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

12/20/2018	USEPA	Guidance	Technical Guidance on Tracking Visibility Progress for the Second Implementation Period of the Regional Haze Program
			
			https://www.epa.gov/sites/production/files/2018-12/documents/technical_guidance_tracking_visibility_progress.pdf
				• Guidance issued by the USEPA detailing recommendations for techniques for tracking visibility progress for the second implementation period (2018-2021).
				• Specifically, guidance is provided for developing the following technical aspects of RH SIPs:
				  • Visibility tracking metrics and methodology (for baseline, current, and natural visibility conditions)
				  • Estimating international anthropogenic impacts
				  • Optional adjustments to the URP glidepath based on international anthropogenic sourced contributions
				• Appendix A provides a table of values for the historical and currently recommended approaches for the 20% most impaired days estimate and extreme episodic events threshold, organized by site.
				• Appendix B presents data organized into various plots for selected sites. The data represents the total extinction budget for days classified as the 20 percent most impaired (2015), the time series of the annual average total extinction budget for days classified as the 20 percent most impaired (2000-2016), and the visibility conditions on the 20 percent most impaired days (2000-2016).

11/29/2018	USEPA	Guidance	Modeling Guidance for Demonstrating Air Quality Goals for Ozone, $PM_{2.5}$, and Regional Haze https://www3.epa.gov/ttn/scram/guidance/guide/O3-PM-RH-Modeling_Guidance-2018.pdf	• Final Guidance issued by the USEPA detailing recommendations for how air agencies should conduct air quality modeling and analyses to satisfy model attainment demonstration requirements for ozone and $PM_{2.5}$ NAAQS, as well as RH progress analyses. • Update to draft guidance released in December 2014 after public comment period. Changes made include responding to public comments and making updates to reflect requirements in the most recent versions of the RH and NAAQS implementation rules. • The first part of the guidance describes how to setup and apply a photochemical modeling platform. • The second part of the guidance describes how to use the results of the modeling. Section 5, specifically, describes the modeling analysis required to assess future visibility improvement relative to the uniform rate of progress or "glidepath" as part of a reasonable progress analysis.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description
9/11/2018	USEPA - OAR	Announcement	EPA Releases Regional Haze Reform Roadmap https://www.epa.gov/visibility/epa-releases-regional-haze-reform-roadmap	• Announcement of release of the Regional Haze Reform Roadmap. • Acting Administrator Andrew Wheeler signed the announcement, which outlines how USEPA staff should take action to provide adequate support for states in implementing their RH programs in a timely and efficient manner. • The OAR will continue to release implementation tools and guidance documents over the next year to help focus states' efforts in RH planning. • EPA will also conduct notice-and-comment rulemaking to potentially update certain aspects of the RH Rule.

8/31/2018 (Last Updated)	WRAP	Web Page	Regional Haze Planning Work Group
			
			https://www.wrapair2.org/RHPWG.aspx
				• Home page of the Regional Haze Planning Work Group offering brief background on the group and links to relevant pages
				• Page contains links to the following subcommittees:
				  • Monitoring Data and Glide Path
				  • Emissions Inventory and Modeling Protocol
				  • Control Measures
				  • Shared Database
				  • Consultation and Coordination
				• Page summarizes recent activities such as meetings and workshops, providing links to meeting minutes, call notes, recordings, presentation slides, etc.
				• Page provides links to relevant reference materials and guidance regarding RH.

9/13/2018 (Last Updated)	WRAP	Web Page	RHPWG - Shared Database Subcommittee
			
			http://www.wrapair2.org/RHP_SharedDB.aspx
				• Main web page for the Shared Database Subcommittee of the RHPWG
				• Describes the purpose for the subcommittee and lists out its main responsibilities which include:
				  • Advising technical contractors for the TSS shared database
				  • Reviewing and recommending database capabilities useful for planning
				  • Coordinating with other subcommittees to transition from TSS v.1 to v.2
				  • Providing training for TSS users
				• Provides links to meeting notes from May 2018 to the present.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

8/30/2018 (Last Updated)	WRAP	Web Page	RHPWG – Emissions Inventories and Modeling Protocol Subcommittee
			
			http://www.wrapair2.org/RHP_InvMod.aspx
				• Main web page for the Emissions Inventories and Modeling Protocol Subcommittee of the RHPWG
				• Describes the purpose and main responsibilities of the subcommittee which include:
				  • Helping to assemble Base Year emissions inventories
				  • Coordinating the Regional Inventory
				  • Forecasting 2028 emissions
				  • Working with modelers on source apportionment modeling and setting RPGs for Most Impaired Days
				• Provides links to meeting notes from June 2018 to the present.

8/23/2018 (Last Updated)	WRAP	Web Page	RHPWG – Monitoring Data and Glide Path Subcommittee
			
			http://www.wrapair2.org/RHP_DataGlide.aspx
				• Main web page for the Monitoring Data and Glide Path Subcommittee of the RHPWG
				• Describes the purpose and main responsibilities of the subcommittee which include:
				  • Determining a method for identifying Most Impaired Days
				  • Reconstructing the glide path using historical data
				  • Adjusting the natural conditions target for 2064
				• Provides links to meeting notes from April 2018 to the present.

8/22/2018 (Last Updated)	WRAP	Web Page	RHPWG – Control Measures Subcommittee
			
			http://www.wrapair2.org/RHP_Control.aspx
				• Main web page for the Control Measures Subcommittee of the RHPWG
				• Describes the purpose and main responsibilities of the subcommittee which include:
				  • Developing a protocol for four-factor analysis
				  • Assembling a control measure clearinghouse
				• Provides links to meeting notes from May 2018 to the present.

8/14/2018 (Last Updated)	WRAP	Web Page	RHPWG – Consultation and Coordination Subcommittee
			
			http://www.wrapair2.org/RHP_ConsCo.aspx
				• Main web page for the Consultation and Coordination Subcommittee of the RHPWG
				• Describes the purpose and main responsibilities of the subcommittee which include:
				  • Developing protocols for consulting with FLMs, other states, and tribes
				  • Providing ongoing consultation and coordination among WRAP member agencies
				  • Coordinating regional consultation efforts
				  • Maintaining the Haze Key Contacts List.
				• Provides links to meeting notes from May 2018 to the present.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description
5/2018	WRAP	Data (2018 Glide Path Work Group Survey Responses) (Excel)	May 2018 Glide Path Work Group Survey Results	• Summary of responses received from WESTAR member states for survey related to monitoring data and the Glide Slope. • Lists all survey questions and responses from CO, MT, WA, NM, ND, CA, HI, and AZ. • Most states indicated they have performed little analysis on evaluating monitoring data and tracking metrics. • All but 2 states indicated they would like tools or training for monitoring data evaluation. • Most states indicated that they haven't determined their threshold for classifying extreme episodic events (E3).
4/4/2018	WRAP	Workplan	2018-2019 WRAP Workplan https://www.wrapair2.org/pdf/2018-2019%20WRAP%20Workplan%20-%20Board%20approved%20April_4_2018.pdf	• Report providing summary of WRAP's goals through 2019 across all work groups, including those of the RH work group. • Overall goal regarding RH is to support technical and planning analyses for RH state and tribal implementation plans. • The RH work group will focus on identifying and prioritizing SIP preparation requirements and provide a schedule/framework to support regional planning. • A schedule of planned check-ins and critical milestones is included for 8 Tasks for RH Planning • A budget of $125,000 per year is set for the RH work group for 2018 and 2019, specifically to staff the development of TSS v.2 at CIRA.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

1/17/2018	USEPA	Announcement	EPA's Decision to Revisit Aspects of the 2017 Regional Haze Rule Revisions
			
			https://www.epa.gov/visibility/epas-decision-revisit-aspects-2017-regional-haze-rule-revisions
				• Announcement that USEPA has decided to revisit certain aspects of the 2017 revisions to the RH Rule.
				• A response to petitions for reconsideration of the Rule from:
				  • Southwestern Public Service Company, Entergy Services, Inc., and Cleco Power LLC
				  • Utility Air Regulatory Group
				  • State of Alaska
				• EPA will conduct notice-and-comment rulemaking to address portions of the Rule which may include:
				  • RAVI provisions
				  • FLM consultation provisions
				  • Any other elements which USEPA believes should be considered.
				• EPA plans to release a guidance document(s) specific to the SIPs/SIP revisions due in 2021.
				• Prior to finalizing any new revisions to the RH Rule, USEPA will prepare a notice of proposed rulemaking and provide the opportunity for public comment.

2018	WRAP	Workplan	Key Tasks for WRAP 2018-2019 Workplan	• Plan that lists critical milestones for RH technical support and their due dates, including:
				  • Evaluation of RH Rule revisions
				  • Monitoring data evaluation
				  • Base, planning, and future year emissions data
				  • Base year model platform and MPE
				  • Future year scenarios
				  • Source apportionment and sensitivity analysis
				  • Upload of data products to TSS v.2
				  • RPGs obtained from final modeling
				• Milestone "due dates" are planned so that states can complete their initial efforts by early 2020, in time to conduct a review process before the SIP due date in 2021.
				• Each main milestone contains subtasks and the report provides detailed instructions for how to complete them.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

12/2017	WESTAR	Report	Regional Haze 2021 SIP Plan Update
			
			https://www.wrapair2.org/pdf/WESTAR%202021%20Regional%20Haze%20SIP%20Planning%20Update%20(RHPWG%20v2)%20draft%20ofDec2017.pdf
				• Report prepared by WRAP to provide guidance to member states in preparing their RH SIPs for the 2nd IP (due July 2021).
				• Report identifies required elements of the SIPs and the estimated time to complete them.
				• Advises that states first review the USEPA RH Rule and Guidance and then prepare a Regional Workplan before drafting the RH SIP and going through a public review process.
				• Key items to be included in the SIPs are:
				  • IMPROVE Monitoring Data Analysis
				  • Emissions Inventories
				  • Visibility Improvement Strategies
				  • Reasonable Progress Goals
				  • Met/Emissions Modeling
				• Includes breakdown of USEPA Regional Haze Rule with simple text summary of each subpart.

7/2017	USEPA	Guidance	Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations https://www.epa.gov/sites/production/files/2017-07/documents/ei_guidance_may_2017_final_rev.pdf	• Guidance issued by the USEPA on how to develop emission inventories to meet the requirements of the ozone and $PM_{2.5}$ NAAQS and the RH regulations. • The guidance reviews the existing requirements related to emission inventories for the 1st RH IP, as well as subsequent RH IPs. • Table 6 in the guidance (page 17) outlines the main components of RH SIP emission inventories, the statutory basis for those components, and the relevant sections in the guidance document. • Table 8 in the guidance (page 35) discusses the proper timing for emission inventory components. • May 2018 training by USEPA[1]

[1] Presentation slideshow from this training is available online at: https://www.epa.gov/sites/production/files/2018-07/emissions_inventory_guidance_training_final.pptx

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

1/10/2017	USEPA	Federal Register	Protection of Visibility: Amendments to Requirements for State Plans
			
			https://www.gpo.gov/fdsys/pkg/FR-2017-01-10/pdf/2017-00268.pdf
				• Federal Register for USEPA Final Rule for revisions to CAA requirements for visibility protection in Class 1 areas.
				• Revisions include updates to:
				  • The relationship between LTS and RPGs in state plans and the LTS obligations of all states.
				  • Requirements for periodic comprehensive revisions of SIPs.
				  • The set of days used to track progress towards natural visibility conditions.
				  • Flexibility in addressing visibility impacts from prescribed fires and anthropogenic sources from outside the U.S.
				  • Administrative requirements for progress reports.
				  • Provisions for RAVI (including the revoking of most existing RAVI FIPs).
				• The due date for SIP revisions changed from July 31, 2018 to July 31, 2021.

2017	WRAP	Data (2017 Regional Haze Survey Responses)	Responses to Survey Questions for Regional Haze https://www.wrapair2.org/pdf/WRAP%20Regional%20Haze%20Survey%20Reponses.pdf	• Summary of responses received from WESTAR member states for the 2017 Regional Haze Survey. • The purpose was to identify concerns/needs for each state ahead of writing their new RH SIPs. • In the document, questions are recreated from the survey and the responses are provided on a state by state basis for open ended questions (e.g., "Please briefly describe…") and as percentages or number of responses for multiple choice questions. • All WESTAR states responded except OR. • Each state provided names of their FLMs and contacts at their local agencies who are familiar with the RH process. • The items almost every state (≥ 80%) identified as needing assistance with were Setting RPGs, Projecting Future IMPROVE Data (2028), Photochemical Grid Monitoring, Determining International Contributions, and Assessing In-Country but Out-of-State Contributions. • All state but South Dakota have SMPs. • 80% of states indicated Training, External Funding, and Facilitated Meetings with Interest Groups or Stakeholders as actions that should be taken to facilitate RH SIP preparation.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

8/22/2016	WESTAR	Comment Letter	WESTAR Comments on Regional Haze Guidance
			
			http://www.westar.org/RHSIP/WESTAR%20RH%20guidance%20comment%20letter082016.pdf
			
			http://www.westar.org/RHSIP/WESTAR%20RH%20guidance%20comments%20Attachment.pdf (attachment)
				• Letter developed by WESTAR staff, reviewed by Committees, approved by WESTAR Council, and signed by Terry O'Clair, former WESTAR President.
				• Letter contains the following key comments by WESTAR regarding the USEPA's *Draft Guidance on Progress Tracking Metrics, Long-term Strategies, Reasonable Progress Goals and Other Requirements for Regional Haze State Implementation Plans for the Second Implementation Period:*
				  ◦ RH in Class 1 areas in the West is mostly caused by non-anthropogenic sources.
				  ◦ For anthropogenic sources, WESTAR maintains that that RH programs must focus on those sources within state control.
				  ◦ The approach proposed by USEPA for separating natural vs. anthropogenic impacts on RH should be investigated to confirm it is robust and accurate. (The attachment provides detailed comments on the USEPA data analysis guidance).
				  ◦ States should have the authority to determine the appropriate metrics for tracking progress for their state.
				  ◦ The process for demonstrating effects of control strategies on visibility improvements should be less burdensome.
				  ◦ Additional federal funding should be provided for the modeling efforts that will be required in the 2nd RH SIP planning period.

8/10/2016	WRAP	Comment Letter	Proposed Rule for Protection of Visibility: Amendments to Requirements for State Plans – western air quality planning needs for regional haze and other air quality indicators
			
			https://www.wrapair2.org/pdf/WRAP_letter_RHR_westernAQplanning_needsAugust10_2016final.pdf
				• Letter prepared by WRAP staff and signed by Co-Chairs Gordon E. Pierce and Randy Ashley.
				• Letter contains comments on the USEPA proposed rule for Protection of Visibility: Amendments to Requirements for State Plans, with the following key points:
				  ◦ EPA should actively engage with WRAP and provide funding for developing visibility improvement strategies specific to the West.
				  ◦ EPA should fully support WRAP's regional planning efforts while addressing western air agencies' comments, as WRAP has the expertise necessary for making progress towards national visibility goals.
				  ◦ Funding should be provided to WRAP specifically for western regional multi-pollutant analysis and planning as the causes of visibility impairment are increasing attributable to uncontrollable or international air pollution sources.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

8/10/2016	WESTAR	Comment Letter	WESTAR Comments on Regional Haze NPRM
			
			http://www.westar.org/RHSIP/WESTAR%20RHR%20cover%20letter081016.pdf
			
			http://www.westar.org/RHSIP/WESTAR%20RHR%20comments%20attachment.pdf (attachment)
				• Letter developed by WESTAR staff, reviewed by Committees, approved by WESTAR Council, and signed by Terry O'Clair, former WESTAR President.
				• Letter contains the following key comments by WESTAR regarding the USEPA's *Protection of Visibility: Amendments to Requirements for State Plans*:
				  • The RAVI provisions can be eliminated because the program is largely unworkable and has been supplanted by the remaining provisions of the RH program.
				  • Terms such as haze, impairment, and visibility need to be clear as to whether they refer to both natural and anthropogenic sources.
				  • The types of landscape fires and the smoke emitted should be addressed consistently through Sections 300-309.
				  • There needs to be support for allowing technical and practical adjustments to visibility calculations and an acknowledgement that the URP can change.
				  • Recalculating the Glide Path/URP using the Baseline Period creates an unnecessary burden with no benefit to past or future planning.
				  • Demonstrating continued reductions in haze precursor emissions from anthropogenic sources, as a rate of progress, should be an available option.
				  • The 2025 progress report is unnecessary.
				  • In addition to the points above, this letter raises many of the same ideals presented in the written testimony of Mary Uhl, dated 6/1/2016.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

7/2016	USEPA	Guidance	Draft Guidance on Process Tracking Metrics, Long-term Strategies, Reasonable Progress Goals and Other Requirements for Regional Haze SIPs for the Second Implementation Period
			
			https://www.epa.gov/sites/production/files/2016-07/documents/draft_regional_haze_guidance_july_2016.pdf
				• Draft guidance issued by the USEPA advising states on how to develop and submit RH SIPs for the second implementation period (2018-2021).
				• In addition to providing useful background information and guidance, the document addresses the following key issues:
				  • Whether and how a state can consider visibility impacts and benefits along with the four statutory factors when developing its LTS.
				  • Explains the relationship between a state's RPGs and LTS.
				  • Includes a definition of the URP line and how comparison to the RPG affects a state's planning obligations.
				  • Describes how a state should evaluate small stationary sources and area sources.
				  • Describes how states need to consider measures necessary for making reasonable progress at areas in other states.
				  • Includes clarifications regarding consultation requirements.
				  • Describes how a state can address highly variable natural sources and sources outside the U.S.
				  • Describes how a state can address the expected increase in frequency of wildfires.
				• Appendix A outlines the key steps involved in developing an RH SIP, the statutory basis for those steps, and the relevant sections in the guidance document.
				• Appendix B presents USEPA's actions on RH SIPs for the 1st IP.
				• Appendix C presents court decisions on RH SIPs and FIPs for the 1st IP.
				• Appendix D identifies the provisions of the BART Guidelines (40 CFR Part 51 Appendix Y) that are applicable as USEPA recommendations for the 2nd IP.
				• Appendix E identifies the provisions of the previous guidance documents on Natural Conditions and Progress Tracking that are applicable as USEPA recommendations for the 2nd IP.
				• Appendix F identifies the answers from the 9/27/06 Q&A document that are applicable as USEPA recommendations for the 2nd IP.
				• Appendix G identifies the relevant provisions of the RH Rule as revised in 2016.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description
7/2016	USEPA	Guidance	Technical Support Document (TSD) - Revised Recommendations for Visibility Progress Tracking Metrics for the Regional Haze Program https://www.epa.gov/sites/production/files/2016-07/documents/technical_support_document_for_draft_guidance_on_regional_haze.pdf	• This document is intended to support Section 5 of the *Draft Guidance on Process Tracking Metrics, Long-term Strategies, Reasonable Progress Goals and Other Requirements for Regional Haze SIPs for the Second Implementation Period*, which discusses how to evaluate ambient data. • In response to concerns from western states that the 20% haziest days can be heavily influenced by uncontrollable wildfires or wind-blown dust events, this document presents a revised tracking metric, along with the data, analyses, and rationale used to support it. The new metric is designed to focus on days with the highest anthropogenic impairment.

6/1/2016	WESTAR	Written Testimony	WESTAR Public Hearing Testimony - Proposed Amendments to the Regional Haze Rule
			
			http://www.westar.org/RHSIP/WESTAR%20Public%20Hearing%20Testimony_final.pdf
				• Written testimony by Mary Uhl, WESTAR Executive Director.
				• Testimony expresses the following key ideals:
				  • Federal financial support will be essential for the upcoming SIP revisions.
				  • Due to international pollution and natural sources of haze, the 1999 RH Rule goal of attaining "natural conditions" is not achievable unless some revisions are made.
				  • Reducing anthropogenic visibility impairment should be the focus of the RH rule.
				  • WESTAR supports extending the deadline for the next round of SIPs and for reducing the administrative burden for future progress reports.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description

11/16/2015	WESTAR	Comment Letter	WESTAR Comments on Regional Haze Rule Revision Recommendations
			
			http://www.westar.org/RHSIP/WESTAR%20RH%20cover%20letter%2011-15-signed.pdf
			
			http://www.westar.org/RHSIP/WESTAR%20RH%20attach%2011-15.pdf (attachment)
				• Letter developed by WESTAR staff, reviewed by Committees, approved by WESTAR Council, and signed by Bryce Bird, former WESTAR President.
				• Letter contains the following recommendations expressed by WESTAR:
				  • Visibility tracking metric guidance must allow states flexibility in adjusting and ranking monitored visibility data using site-specific and species-specific data.
				  • Revisions to what constitutes natural conditions are needed to account for extreme, episodic natural events and contributions from international emission sources and should be site-specific.
				  • States cannot control all anthropogenic sources, but need to focus on controllable sources under their jurisdiction that have demonstrated contributions to visibility impairment.
				  • RPGs must be achievable and based on realistic natural conditions or some appropriate alternative measure of visibility improvement.
				  • Western RH planning requires modeling support, including adequate funding.

3/26/2015	WESTAR	Comment Letter	WESTAR Letter to EPA with Regional Haze Rule Recommendations
			
			http://www.westar.org/RHSIP/WESTAR_RH_RTPfollowup-signed.pdf
				• Letter developed by WESTAR staff, reviewed by Committees, approved by WESTAR Council, and signed by Dan Johnson, former WESTAR Executive Director, as a follow-up to participating in the USEPA-hosted March 2015 Regional Haze meeting at Research Triangle Park.
				• Letter contains the following opinions/concerns expressed by western states:
				  • Support changing the deadline for the next round of RH SIPs from 2018 to 2021.
				  • Support no longer requiring progress reports to be in the form of SIP revisions.
				  • Propose possibly removing the progress report requirement altogether.
				  • Propose creating an RH compliance path specific to western states.
				  • Natural conditions goal is flawed
				  • Perhaps need a new goal/metric
				• There are unique questions/challenges that arise as states approach their visibility goals.

Attachment 1. Summary of Recent Regional Haze Guidance and Planning Documents

Date	Author	Document Type	Document Title	Brief Description
12/3/2014	USEPA	Memorandum	Draft Modeling Guidance for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze https://www3.epa.gov/scram001/guidance/guide/Draft_O3-PM-RH_Modeling_Guidance-2014.pdf	• Memorandum presents draft USEPA guidance for conducting air quality modeling and related technical analyses for ozone and $PM_{2.5}$ attainment demonstrations and for RH reasonable progress analyses. • The first part of the guidance describes how to setup and apply a photochemical modeling platform. • The second part of the guidance describes how to use the results of the modeling. Section 4.8, specifically, describes the modeling analysis required to assess future visibility improvement relative to the uniform rate of progress or "glidepath" as part of a reasonable progress analysis.

Abbreviations:

BART – best available retrofit technology
CAA – Clean Air Act
CFR – Code of Federal Regulations
CIRA – Cooperative Institute for Research in the Atmosphere
FIP – federal implementation plan
FLM – Federal Land Manager
IMPROVE – Interagency Monitoring of Protected Visual Environments
IP – implementation period
LTS – long-term strategy
MPE – model performance evaluation
NAAQS – National Ambient Air Quality Standard
NPRM – notice of proposed rulemaking
OAR – Office of Air and Radiation
$PM_{2.5}$ – particulate matter less than 2.5 microns in diameter
RAVI – reasonably attributable visibility impairment
RHPWG – Regional Haze Planning Work Group
RPG – reasonable progress goal
SMP – smoke management plan
RH – regional haze
SIP – state implementation plan
TSD – technical support document
TSS – Technical Support System
USEPA – United States Environmental Protection Agency
URP – uniform rate of progress
WESTAR – Western States Air Resources Council
WRAP – Western Regional Air Partnership

ATTACHMENT 2
2018 Planning Readiness Survey Questions

2018 WESTERN STATES PLANNING READINESS SURVEY FOR REGIONAL HAZE STATE IMPLEMENTATION PLANS FOR THE SECOND IMPLEMENTATION PERIOD

SURVEY QUESTIONS

1. Has your staff evaluated IMPROVE monitoring data for Class I areas in your state using the "most impaired days" tracking metric? (**YES/NO**) If YES,
    a. What techniques/methods are you using? [ANSWER]
    b. What problems/issues/solutions, if any, have you identified? [ANSWER]
2. Would your state use work by a regional contractor to evaluate the monitoring trends and implications of the "most impaired days" and related tracking metrics on the glidepath for Class I areas in your states? (**YES/NO**) If NO,
    a. How would you communicate your state-specific analyses to neighboring states? [ANSWER]
3. When does your state expect to evaluate sources for reasonable progress? [ANSWER]
    a. What methodology/plan do you have to begin this? [ANSWER]
    b. How will you align your plan with approaches by other states? [ANSWER]
    c. Can your state begin RH planning (i.e., using emissions-based screening methods) before the tracking metric is finalized? (**YES/NO**)
4. The WRAP Monitoring and Glidepath Subcommittee intends to recommend to the WRAP Regional Haze Planning Workgroup (RHPWG) that the EPA method to define "most impaired days" be used as a commonly derived tracking metric that applies to all WRAP Class I areas. The Subcommittee will further recommend that individual states may wish to review and apply alternative assumptions as well for specific Class I areas in the state. Does your state have concerns with this recommendation? (**YES/NO**)
    a. Please provide your perspective on the pros/cons of a commonly derived metric for your state. [ANSWER]
5. Will your state's approach to selecting sources for reasonable progress analyses for the second round of regional haze planning be different if IMPROVE monitoring data indicates that visibility at a Class I is meeting Uniform Rate of Progress versus not meeting Uniform Rate of Progress? (**YES/NO**) If YES,
    a. How will your state's approach differ? [ANSWER]
6. Has your state started projecting future-year emissions? (**YES/NO**) If YES,
    a. Describe your state's progress and methods, including the sectors and years for which you are estimating emissions. [ANSWER]
    b. Do you plan to use recommendations from the RHPWG Emission Inventory & Modeling Protocol Subcommittee for any of your projections? (**YES/NO**)
7. Does your state plan to incorporate visibility as a factor in the control measures analysis? (**YES/NO**)
8. What regulatory mechanisms does your state have to require controls on:
    a. Regulated point sources? [ANSWER]
    b. Area sources? [ANSWER]
    c. Mobile sources? [ANSWER]
9. List any regulations and/or control programs that could affect regional haze that your state has enacted in the last 5 years or since the last progress report. Please provide citations or links, if any. [ANSWER]

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10. Does your state intend for WRAP to include state-specific emissions control measures in the 2028 WRAP regional air quality modeling that will inform reasonable progress goals for 2028? (**YES/NO**) If YES,
    a. Does your state understand the WRAP 2019 timeline for 2028 modeling? (**YES/NO**)
11. Has your state begun planning:
    a. For public outreach? (**YES/NO**)
    b. For consultation with:
        i. Other western states? (**YES/NO**)
        ii. Local air regulatory agencies? (**YES/NO**)
        iii. Federal Land Managers (FLMs)? (**YES/NO**)
        iv. Tribes? (**YES/NO**)
        v. EPA? (**YES/NO**)
12. Related to consultation with Tribes, FLMs, and EPA:
    a. Briefly describe previous RH consultation efforts, including dates and relevant entities. [ANSWER]
    b. Do you envision this to be done through WRAP, state resources, or a combination of the two? [ANSWER]
13. Will your state contribute in-kind work (e.g., IMPROVE monitoring data analysis, emissions inventories/forecasting, or regional modeling) toward this Round 2 Regional Haze planning effort? (**YES/NO**)
    a. List in-kind work provided on previous and current RH efforts, if any. [ANSWER]
    b. List subcommittee participation and technical skills that the state is considering for potential in-kind efforts. [ANSWER]
14. Provide the links to state webpage(s), if any, where you are publically posting documents related to regional haze rulemaking/planning. [ANSWER]
15. Please list any special regional haze planning issues/concerns for your specific state. As an example, if you are a §51.309 state, list any additional challenges in transitioning to the §51.308 approach. [ANSWER]
16. What comments does your state have on the Sept. 11, 2018 Regional Haze Reform Roadmap[1] released by EPA? [ANSWER]
    a. Would release of guidance and/or data from EPA according to the schedule outlined in the Roadmap affect your state's participation in the WESTAR-WRAP regional analysis process? (**YES/NO**)
    b. What information would your state want or need from EPA in terms of the Roadmap deliverables, to augment your SIP preparation? [ANSWER]

[1] Available at: https://www.epa.gov/sites/production/files/2018-09/documents/regional_haze_reform_roadmap_memo_09-11-2018.pdf

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ATTACHMENT 3
Responses to 2018 Planning Readiness Survey

Attachment 3. Responses to 2018 Regional Haze Planning Readiness Survey
Western Regional Air Partnership

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
1) Has your staff evaluated IMPROVE monitoring data using the "most impaired days" tracking metric?	• YES: 11 • NO: 4 • Partially: 1 (CA)	--	NO	YES	YES	Partially	NO	YES	YES
If **YES**, 1a) What techniques/methods are you using?	States cited using the following techniques: • In-house methods • Monitoring Data and Glide Slope Committee products and other data • Spreadsheet created by Ryan Templeton (or similar) • TSSv2/FLM database	• Multiple states (ABQ, AZ, UT, MT) have used or are planning to use tools created by WRAP subcommittees. • Some states (WA) are waiting for TSSv2 to have full functionality.	Albuquerque and Bernalillo County (Abq-BC) have no Class 1 Areas (C1As). NMED will be primarily responsible for evaluation of IMPROVE monitor data for C1As in New Mexico using the WRAP-recommended method for calculating the "most impaired days" tracking metric. EHD's understanding is that the WRAP-recommended tracking metric will be based on the one recommended in EPA's draft 2016 Guidance. Staff from the City of Albuquerque Environmental Health Department (EHD) will consult as appropriate with NMED during their analysis of the IMPROVE monitor data.	We developed our own spreadsheet very similar to Ryan Templeton and included a metric to remove sulfate from high sulfate days at all four Alaska sites for preliminary sulfate discussions using HYSPLIT and correlation ratios developed by Bob Kochenruther at EPA.	ADEQ will likely use the proposed MID approach. Each site will need to be evaluated to make sure this is appropriate but it is unlikely we will change the approach except where absolutely necessary. Please see the Monitoring Data & Glide Slope subcommittee for tasks completed.	i. Comparing highest nitrate+sulfate days with those selected by U.S. EPA draft guidance; ii. Also looking at different thresholds for e3 days.	N/A	We are evaluating the IMPROVE monitoring data and reviewing EPA guidance for developing an approach to split light extinction from sulfates into natural and an anthropogenic fractions. The first approach is to determine if Volcanoes National Park wind data ("Access to Gaseous Pollutant and Meteorological Data; U.S. Department of the Interior National Park Service"; https://ard-request.air-resource.com/data.aspx) can be used with the Volcanoes National Park IMPROVE monitoring data to select visibility days least affected by natural volcanic sulfates. IMPROVE Monitoring data was provided by EPA from 2001 to 2015 from the HACR1 IMPROVE monitor within Haleakala National Park and HAO1 IMPROVE monitor within Volcanoes National at: https://www.epa.gov/visibility/regional-haze-guidance-technical-support-document-and-data-file.	IMPROVE monitor data processing workbook from Ryan Templeton to ID the 20% most impaired days
If **YES**, 1b) What problems/issues/solutions, if any, have you identified?	States cited encountering the following issues: • Initial errors in EPA dataset • Relocation of monitors • Determining how to treat prescribed fire and international emission impacts • Definition of "routine natural" • Accounting for ongoing releases of SO2 from volcanoes • Confirming 20% days aren't overly influenced by wildfires • Handling low-level wildfire smoke • Missing data 6 states did not identify any issues.	• ND indicated that the speculation on what to use for the MID is "not helpful for states and takes away from the objective (improving visibility and air quality)."	None at this time.	Initially, the EPA data had some flaws but since the corrections, everything has worked out fine. We only discovered the data issues early on then downloaded or where given the corrected data site. For the Tuxedni site, the monitor was moved and the data ends on the downloaded data, but EPA provided additional years of data. We are still looking into the change in monitor site and corrections will need to be made based on the correlation of the two sites.	The major issue we see moving forward is determining how to treat the URP for prescribed fire and international emissions impacts.	i. Concerned about how U.S. EPA determines "routine natural" ii. Due to seasonal fluctuations in many key species, maybe monthly average would give different results than annual average in making the routine natural and anthropogenic split for ranking iii. Sites in California are in both urban and remote locations with different climates and ecosystems, which may require different accounting for natural and anthropogenic influences on ranking to determine the 20% most impaired days (MIDs) for the annual average	N/A	We found that EPA's metric to split daily light extinction into natural and anthropogenic fractions does not work for Hawaii. EPA's approach involves the separation of light extinction from only wild fire and dust storm events. A majority of the visibility degradation in Hawaii's two national parks is due to the ongoing release of SO2 from Kilauea volcano forming sulfates which overwhelm sulfates from anthropogenic SO2. We are working with EPA Region 9 to identify candidate approaches and algorithms to separate natural and anthropogenic sulfates to quantify baseline, natural, and current visibility conditions. In addition to examining the correspondence between Volcanoes National Park wind data and sulfate levels, we may use positive matrix factorization (PMF) to select days that are most likely only associated with anthropogenic SO2 sources.	Started ground truthing data to confirm that days identified as most impaired aren't largely influenced by wildfire
2) Would your state use work by a regional contractor to evaluate the monitoring trends and implications of the "most impaired days" and related tracking metrics on the glidepath for Class I areas in your states?	• YES: 11 • NO: 2 (HI, MT) • Possibly: 2 (NV, NM) • N/A: 1 (AK)	• NV plans to use TSSv2 • NM indicated they might have funding issues and require assistance	YES	N/A	YES	YES	YES	NO	YES
If **NO**, 2a) How would you communicate your state-specific analyses to neighboring states?	States mentioned the following modes of communication: • Share electronically and/or through TSS • Have discussions (calls/webinars), as needed • Discussions facilitated by the Consultation & Coordination Subcommittee • Discussions facilitated by local state agency (ABQ) • N/A: 9 • (Blank): 1 (CO)	CA, MT, and NM indicated discussion with neighbors facilitated by WRAP.	EHD would do this in cooperation with NMED.	Alaska does not have neighboring states – no communication needed	We will use contractor tools but those may not be the only tools we use. In the case where our analysis may change from the WRAP recommended approach, we would forward electronic copies of our analysis to surrounding States, a write-up of the analysis and results, and have discussions with these States as needed.	i. Neighboring state staff converse with each other informally through WRAP and WESTAR workgroups, committees, and subcommittees; they read each others draft SIPS; have formal consultation conference calls to discuss results of WRAP source apportionment modeling. See Chapter 8 of the California Regional Haze Plan (2009) for example https://www.arb.ca.gov/planning/reghaze/reghaze.htm ii. California Air Resources Board (CARB) staff would utilize information about monitoring trends prepared by a consultant, for comparative purposes. If a consultant would show species trends in light extinction, independent of MID, for the 5 quintiles that would be informative. Work from 2014 by the IMPROVE Committee showed the quintile analysis by species and by site. It was not widely circulated, but highly informative for understanding progress and species trends over time. Some states may want more documentation to be assured that the suggested U.S. EPA method actually picks out the most impaired days at each IMPROVE monitor.	(Blank)	N/A – No neighboring states.	N/A
3) When does your state expect to evaluate sources for reasonable progress?	• In progress (i.e., late 2018 or before): 7 • Spring/Early 2019: 4 • Throughout 2019: 5	• ABQ, MT and NM indicated timelines tied to the schedule of the Control Measures Subcommittee. • ABQ indicated timeline also tied to when modeling results from WRAP become available.	EHD expects to evaluate sources for reasonable porgress in cooperation with NMED, January through December, 2019. It is EHD's understanding that the first phase of the evaluation will occur in early 2019, following completion of the WRAP Control Measures Subcommittee's Protocol on screening and analysis of sources. We understand that the second phase of evaluation will occur in middle-to-late 2019, when results are available from base year and 2028 modeling by WRAP. We expect the third phase will occur in late 2019, conducting four-factor analysis to identify reasonable control strategies.	2019	We hope to start in October 2018 with source screening and begin the four-factor analysis by January 2019	Ongoing, started in fall of 2017.	Throughout 2019	In 2019.	Started Q/d analysis in October as first step in screening process

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
1) Has your staff evaluated IMPROVE monitoring data using the "most impaired days" tracking metric?	YES	YES	YES	YES	YES	NO	YES	YES	NO
If **YES**, 1a) What techniques/methods are you using?	We have used R (developed in-house by Kristen Martin and Brandon McGuire for the WRAP RHPWG Monitoring and Glideslope Subcommittee) to evaluate different ways of applying the most impaired metric. This code allows analysis of the 95th %-ile and other thresholds at 25 "representative" sites selected by the subcommittee. The code is available here: https://azdeq.sharefile.com/share/view/sc6c4f002be1402ca/fof506b0-efa6-456d-bede-29ee8b50815d (NOTE: this code is constantly being updated and the newest version is available from Montana if needed). The results are available here: https://azdeq.sharefile.com/share/view/sc6c4f002be1402ca/foa6437a-90d6-420d-a73a-9474d27c5e83	We have used the TSSv2 to perform preliminary assessments of the Jarbidge monitor JARB1 (NV) and Bliss monitor BLIS1 (CA) data, and identified percent contribution by species, noting which species require further assessment. Other than the EPA recommended 95th percentile, NV has not evaluated its monitoring data using alternative E3 thresholds.]	We have used the EPA Guidance method. We initially developed our own Excel-based tool but it proved to be cumbersome and labor intensive. The intent was to get an idea of the overall trends for each of our sites and to find out what species were most common on the most impaired days. We have also used the Excel-based tool developed by Arizona to look at a couple of our sites.	We have reviewed the data for the Most Impaired days on the FLM database. We compared plots using both the worst-days' metric and the most impaired days' metric and found the new metric seemed to do a reasonable of excluding impacts from wildfire smoke.	We've reviewed data, but not at the in-depth detail that is needed to complete planning activities. We've participated in data calls and are familiar with what is available, but has not reviewed data at a level necessary to identify sources.	N/A	We are using the tools created by the WRAP Monitoring and Glideslope Subcommittee that compares the EPA's proposed metric with several other tracking metrics.]	Ryan's spreadsheet and waiting for the TSS2.	N/A
If **YES**, 1b) What problems/issues/solutions, if any, have you identified?	Persistent, low-level wildfire smoke impacts are complicated. These impacts are not removed by the 95th %-ile threshold, although we're not sure whether these impacts should be removed as "episodic" events or accounted for in a different way.	None	We have not identified any specific issues, although we have not evaluated all sites using the Excel-based tool developed by Arizona.	Data is missing from the Lostwood Wilderness Area (LOST1) monitor. We suggest THRO1 as a representative O&G site. THRO1 is located in the Bakken shale play. Wells are within 2 km of the monitor and are located in all directions surrounding the monitor. North Dakota will follow WRAP suggestions for most impaired days. Ideally, this would be EPA approved first. All of the speculation on "what to use" for the most impaired days is not helpful for states and takes away from the objective (improving visibility and air quality). North Dakota is looking for technically and economically feasible projects at stationary sources that can be undertaken to reduce the impact on Class I areas.	Not at this time.	N/A	For Utah, the proposed EPA method seems adequate for identifying Most Impaired Days.	None so far.	N/A
2) Would your state use work by a regional contractor to evaluate the monitoring trends and implications of the "most impaired days" and related tracking metrics on the glidepath for Class I areas in your states?	No, we can evaluate monitoring trends in-house.	NO –We plan to perform the Class I Area (CIA) evaluation using the TSSv2. However, if the work was done by a contractor, we would probably use the results.	Possibly, although funding may be an issue. We have the capability to do this in-house, but may need guidance as to analysis techniques.	YES	YES	YES	YES	YES	YES
If **NO**, 2a) How would you communicate your state-specific analyses to neighboring states?	These conversations will be facilitated through the Consultation & Coordination Subcommittee. We plan to communicate with neighboring states as part of the SIP development process anyway, and will certainly do so if Montana diverges from the generally-accepted approach for any site that may affect other states' planning.	We would refer them to the TSS or document in a memo/letter referencing TSS data/output	Because we have staff members on each of the RHPWG subcommittees, we have developed some relationships across a few states – neighboring states included. We would feel comfortable setting up conference calls/webinars with key contacts from neighboring states. At those meetings we would be willing to share draft analyses.	N/A	N/A	N/A	N/A	N/A	N/A
3) When does your state expect to evaluate sources for reasonable progress?	We are participating in the Control Measures subcommittee and have begun the preliminary screening process. We expect to continue the evaluation along the same schedule as the subcommittee, likely early 2019.	Early 2019	[REVISED 12/19/18] We have already begun this process, but we are waiting on the Control Measures Subcommittee's protocol recommendations to finalize the prioritization. Our initial analysis relied on a different (100 miles vs 100 km) distance from the monitors (as opposed to the CIAs).	We have already started with a Q/D analysis and letters to stationary sources.	Spring 2019	Early in 2019	Spring 2019	We are in the process of doing this.	2019

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
3a) What methodology/plan do you have to begin this?	• Geochemical modeling • Back trajectories • WEP modeling/maps • Control Measure Subcommittee approach (i.e., Reasonable Progress Source Identification and Analysis Protocol) • Some combination of the following: Sources with largest emissions by pollutant (or top 80%); facility distance (e.g., within 100-200 miles); Q/d; four-factor analysis	• AZ working on developing methodology with Control Measures Subcommittee • ABQ, CO, MT, NV, OR, SD, and UT plan to use WRAP subcommittee products	See previous answer. Additional information is as follows. In cooperation with NMED, EHD will apply the methodology developed by the WRAP Control Measures subcommittee (Q/d + WEP + modeling later on in process) to screen sources and bring a substantial portion of them forward for four factor analysis (per EPA's draft 2016 Guidance). EHD's understanding is that the WRAP Control Measures subcommittee will not recommend a specific methodology for the four factor analysis itself. Rather, states must develop their own approach to this analysis, on a case by case basis appropriate to the circumstances of each state. To do that analysis, EHD will work in cooperation with NMED to develop and apply a four factor analysis method that will be consistent with EPA guidance. EHD's understanding is that such a method has not yet been developed. Further consultation needs to take place with NMED on this subject.	undecided- has a new opportunity for geo-chemical modeling which we believe will help us to decipher international and marine emissions. Once that is complete (before July 1, 2019) we will have a better idea what sources we should evaluate for reasonable progress. Back trajectories will also be used to identify potential sources or emission sectors for analysis	We are working with the Control Measure subcommittee to develop a regionally consistent approach.	See webinar for November 16 https://www.wrapair2.org/RHPWG.aspx for California's approach to figuring out which "source categories" might be of concern. Additionally, CARB staff has already screened California "facilities" to find the top 80% of emissions inventory based on NOx+PM+SOx+VOC (ROG) TPY emissions. Next step is to look at facilities in California within 100-200 miles of Class 1 Areas to decide whether there are any large facilities or cluster of source categories that might warrant a 4-factor approach.	Colorado anticipates using an approach similar to the draft RP protocol document (Draft WRAP Reasonable Progress Source Identification and Analysis Protocol). The protocol is being developed by the WRAP Control Measures Subcommittee which currently in draft but nearing completion.	We will evaluate statewide emissions using "Q" (emissions in tons) divided by "d" (distance in kilometers) to screen sources including electric plants on Maui and Hawaii Islands where the national parks are located. We plan to use Hawaii's existing Renewable Portfolio Standard (RPS) as a measure to make reasonable progress. The RPS ultimately requires the Hawaiian Electric Company to establish 100% renewable energy sales by 2045 to reduce fossil fuel consumption for mitigating GHGs. Mitigating GHGs will also reduce pollutants that impair visibility as a co-benefit. Hawaiian Electric Companies' Power Supply Improvement Plan (PSIP) provides future plans for the utility and independent power producers to achieve 100% RPS by 2045. The PSIP may be used to establish permit conditions to limit the emissions of pollutants that impair visibility for meeting reasonable progress goals. In accordance with our Hawaii Administrative Rules (HAR), point sources are subject to a GHG emission cap to ensure emissions from stationary sources (both minor and major) return to 1990 GHG levels by 2020. The GHG emissions cap must be at least 16% below the baseline level unless the affected facility demonstrates that a 16% reduction is unattainable.	the four-factor analysis
3b) How will you align your plan with approaches by other states?	• Count on WRAP and subcommittees keeping abreast of state approaches • One-on-one consultation • Hoping other states will follow WRAP protocol (i.e., Reasonable Progress Source Identification and Analysis Protocol) • Follow guidance from the Consultation and Coordination Subcommittee	The majority of the states plan to work with WRAP to stay in the loop with neighboring states and/or use WRAP subcommittee protocols.	EHD will cooperate with NMED to work in consultation with WRAP to develop a plan that aligns with approaches taken by other states.	unknown. We likely won't follow plans by other states since they have a difference modeling platform	ADEQ hopes to have regionally consistency as much as possible.	See answer to question 2 above. California would confirm that Oregon, Nevada, and Arizona have not added any new non-mobile sources since 2007 that might possibly impact California Class 1 Areas on Most Impaired Days. CARB would discuss any Q/d analyses with them. No out-of-state non-mobile anthropogenic sources significantly impacted California Class I Areas on Worst Haze Days, so all states would have to recheck for Most Impaired Days.	We hope other states will take the same or similar approaches to those laid out in the protocol. We expect to use monthly phone calls or the consultation process to resolve any potential issues.	We would align our plan with approaches by other states if it worked for Hawaii. We would need to know what approaches other states are using.	Counting on WRAP and subcommittees to stay informed on other states approaches
3c) Can your state begin RH planning (i.e., using emissions-based screening methods) before the tracking metric is finalized?	• YES: 14 • NO: 2	• WY and NV need the finalized tracking metric before they can proceed/finish. • ABQ needs the source screening protocol from the WRAP Control Measures Subcommittee to begin RH planning.	YES. Once the WRAP Control Measures subcommittee finalizes its Protocol recommending an approach to source screening (based on Q/d + Weighted Emissions Potential), EHD will be in a position to work with NMED to begin Regional Haze planning by beginning the initial phase of source screening.	YES	YES	Yes. CARB can focus on the highest N+S days or use proposed U.S. EPA method to calculate MIDs. It would be useful if consultant identified the prevailing winds on the MIDs for each Class I Area. Once 2018 monitoring data is available (anticipated in October 2019) CARB can prepare the Progress Report comparing the 2018 modeled Reasonable Progress Goals (RPGs) for Worst Haze Days with actual monitoring data. This may provide additional insight on model performance in the first planning period; tracking visibility progress; best days changes, and visual range improvements on average days. Since western states already have very good visual range on non-wildfire, non-dust storm, and non-volcanic days, in the absence of international emissions interference, CARB may want to consider other weights of evidence to show visibility improvement for "tracking progress." These might include decreasing inventory; increasing number of best days compared with the 2000-2004 baseline; increased visual range averaged over all days; increased visual range for the middle quintile using rank by unadjusted dv days; etc.	Yes, using Q/d	YES with NEI and Q/d	YES
4) WRAP intends to recommend that the EPA method to define "most impaired days" be used as a common tracking metric that applies to all WRAP Class I areas. The Subcommittee will further recommend that individual states may wish to review and apply alternative assumptions as well for specific Class I areas in the state. Does your state have concerns with this recommendation?	• YES: 2 • NO: 14	• NV indicated that there should be some rationale/criteria that provides for states to use alternative assumptions.	NO	NO	NO	NO	NO	YES	NO, but it's still early on. We're just starting the process of ground truthing data to make sure that the appropriate days are being selected. 2 of our CIAs are thought to be heavily impacted by wildfire smoke and we're ve just started looking into whether this metric really captures anthropogenic impacts

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
3a) What methodology/plan do you have to begin this?	We will use the recommendations set forth in the subcommittee Protocol, to the extent they are appropriate in Montana. We may differ from the Protocol in the specific screening thresholds used (for example, we may end up using a different Q/d threshold.) We plan to start by calculating Q/d for all stationary sources and will screen sources out of further analysis if they fall below a certain threshold. We also plan to consider the pollutants contributing to visibility impairment at the nearby sites in deciding which sources to carry forward for further analysis. We will engage with sources to perform further analysis.	Nevada will follow the Reasonable Progress Source Identification and Analysis Protocol . We are considering the following methods to determine a list of sources for further in-depth analysis: i) Sources with largest emissions by pollutant, ii) Distance to sources from Class I area, iii) Q/d	At this point, we only have the capability to screen sources using a Q/d analysis. Once WEP modeling (maps) becomes available, we can focus more specifically on sources likely to contribute to haze.	We used the same Q/D analysis methodology used in Round 1, except the ratio for selecting sources was lowered. North Dakota has reached out to sources to complete a 4F analysis by end of January 2019.	Use updated Tss, or WRAP data as it is made available.	WRAP Subcommittee Products	We plan to use the guidance created by the WRAP Control Measures Subcommittee which includes Q/d and the 4-factor analysis.	Q/d analyses and RACT/4-factor analysis	Determine the reasonable progress goal for each Class I area, conduct visibility screenings and four-factor analysis
3b) How will you align your plan with approaches by other states?	See above. We're working through the subcommittee and with WRAP to identify possible differences between states and will work to align our where it makes sense.	Nevada plans to follow WRAP protocol and will follow guidance provided by the Consultation and Coordination Subcommittee.	We plan to use the recommended method/protocol from the Control Measures Subcommittee.	Currently, it appears we are ahead of other WRAP states. North Dakota would like to align its approach with what is recommended by WRAP, so if there are significant changes to source selection or the sources affected (e.g. O&G wellsites), it would be very beneficial to know WRAP's methodology sooner rather than later.	Continue to participate heavily in WRAP and ensure that data questions are answered during the consultation with federal, state, and tribal partners.	(Blank)	Hopefully they use a similar methodology	Hopefully WESTAR can help, not sure about the threshold for Q/d of other states	Wyoming will follow the draft guidance and communicate with states on approaches to round to planning. Wyoming has already begun reaching out to other states in Region 8
3c) Can your state begin RH planning (i.e., using emissions-based screening methods) before the tracking metric is finalized?	Yes. We can start looking at Q/d and can also consider the largest contributors to haze at different sites before finalizing a metric.	YES, but only to a point. Nevada needs a stable metric to identify the 20 percent most impaired days (MID) to evaluate source receptor relationships.	[REVISED 12/19/18] Yes. We have already done an initial screening of sources using a simple Q/d methodology. We also have the ability to use the Excel Tool (AZ) to guide us toward the pollutants most likely contributing to haze on the MID. New Mexico is also working with monitoring data on the TSS v2 to identify trends.	YES. We have already done this (used a screening method). Based on our review of the FLM's database, North Dakota is relatively certain SO2 ¬¬and NO¬X are the pollutants that most impact visibility in North Dakota. The sources with the highest Q/D for these pollutants were selected for the 4F analysis.	YES	YES	YES	NO	NO – Wyoming will need the tracking metric prior to screening
4) WRAP intends to recommend that the EPA method to define "most impaired days" be used as a common tracking metric that applies to all WRAP Class I areas. The Subcommittee will further recommend that individual states may wish to review and apply alternative assumptions as well for specific Class I areas in the state. Does your state have concerns with this recommendation?	NO	YES. There needs to be some rationale and criteria that provides for states to use alternative assumptions.	No. Using this method seems to result in reasonable estimates of anthropogenic impairment for our sites, although the Subcommittee has not actually recommended this (yet)	NO	NO	NO	NO	NO	NO

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
4a) Please provide your perspective on the pros/cons of a commonly derived metric for your state.	• A common metric is ideal for monitoring data analysis and modeling. • The common metric needs to appropriately account for international/national/volcanic effects.	--	EHD tentatively sees the intended WRAP Monitoring and Glidepath Subcommittee recommendation as reasonable, because a common metric for cross-state comparisons seems desirable, especially if individual states have flexibility to apply alternative assumptions as well for particular C1As. However, EHD needs to consult further on this issue with NMED, which will have primary responsibility for evaluating the IMPROVE monitor data for New Mexico's class I areas. EHD currently sees no cons for a commonly derived metric, but here again further consultation with NMED is needed.	Undecided. It depends on whether the most impaired days are adjusted for international and national situations. We have a contract with Ramboll to prepare the most impaired data metric graphs for all sites after the GEOS-Chem model outputs and international contribution information may provide additional assumptions that will apply to the most impaired days data set.	A commonly derived metric is ideal for monitoring data analysis and modeling; however, the EPA proposed metric has shown that it is not appropriate at certain sites. For those Class I areas where the proposed metric is not appropriate, a different approach will be needed. Unfortunately, it is unclear how this will impact modeling efforts.	To clarify, the proposed EPA guidance for identifying MIDs works well at some sites and not very consistently at others. The representative analysis conducted by the Monitoring Data and Glide Path Subcommittee shows the range of variations. See the presentation for the August RHPWG meeting by the Monitoring Analysis and Glide Path Subcommittee. By rule, States have the option of using alternative methods to select MIDs. A single method to select MIDs is preferred for multi-state regional modeling to make it less cumbersome. The modelers have not yet explained how they will use the selected MIDs to determine RRFs and to apply those RRFs to calculate 2028 RPGs. This is very important because states and the regulated community will want relatively accurate representations of a deciview average for MIDs, for reconstructing the Glide Path and for determining the 2028 RPGS. The MIDs will also be used for source apportionment modeling. This will affect the calculation of possible interstate contributions to anthropogenic haze. If a state knows that the MID selection process is not representing the MIDs at a site very well, the burden falls on that state to demonstrate what their proportional anthropogenic impacts may or may not be. In the end, Hysplit or Aermod, or some other specific modeling may be necessary to justify requests for additional reductions by one state to another. The 2028 dv goals should be the results of regional modeling, but CARB may also do rollback modeling to see what planned NOx, SOx, ROG, and PM reductions might deliver in 2028. The Glide Path is relative guide with an adjustable endpoint. Therefore, CARB may need to make some adjustments in the regionally modeled RPGs with a demonstration that the RPGs selected for the second planning period are reasonable for conditions at each IMPROVE monitor in California.	The commonly derived metric provides certainty and consistency for states. No cons identified, but haven't seen enough data to fully understand potential concerns.	Pros- A commonly derived metric for quantifying visibility conditions would be simpler and could be used by Hawaii if it appropriately adjusts for volcanic emissions. Cons – A commonly derived metric would not be appropriate for defining visibility in Hawaii's Regional Haze State Implementation Plan (RH-SIP) if it does not adjust for volcanic emissions.	(Blank)
5) Will your state's approach to selecting sources for reasonable progress analyses be different if IMPROVE monitoring data indicates that visibility is meeting URP versus not meeting URP?	• YES: 7 • NO/Not likely: 9	--	NO. EHD will work with NMED as necessary to address this issue. Right now, we concur with NMED that the answer to this question appears to be no.	YES	YES	NO	YES	NO	YES
If **YES**, 5a) How will your state's approach differ?	• Follow EPA approach and reevaluate control strategy for additional controls • Alter stringency of decision making • Impact which visibility impairing pollutant to track and types of control strategies • Change the number of sources/facilities to evaluate • Have fewer dedicated resources to screening if meeting the URP • Give priority to sources in areas not meeting • 4-factor analysis wouldn't change	--	N/A	If we are meeting the URP, our selection of sources will not need to be as inclusive of all emission sources and we may be able to use sector sources such as EGUs in the analysis.	ADEQ will follow EPA's proposed approach for sites not meeting the URP and reevaluate our control strategy for additional controls to consider. This does not necessarily mean we will implement additional controls, but we will review potential controls.	California will be reducing emissions, no matter what the Glide Slope looks like or what the modeled RPGs are, for the purpose of meeting ozone and PM health standards, improving community air quality, and achieving GHG goals. Visibility improvements will occur due to the reduction of haze precursor emissions. The relevance is how that visibility improvement will be measured, or judged, as adequate for visibility improvement or impairment reduction purposes.	It will affect the stringency of decision making with respect to control measures.	N/A	this would impact which visibility impairing pollutant we focus on and the type of the control technologies we require of industry based on the results on the 4-factor analysis
6) Has your state started projecting future-year emissions?	• YES: 1 (CA) • NO: 15	• HI, ID, NM, and WA plan to rely on WRAP/WESTAR for this.	NO	NO	NO	YES	NO	NO, WESTAR will do this	NO, we're relying on WRAP
If **YES**, 6a) Describe your state's progress and methods, including the sectors and years for which you are estimating emissions.	• Will be a comprehensive effort with facilities • Some states have put some effort into identifying potential future changes for facilities/sectors • California has extensive methods that it uses to project future inventories for the state; it is committed to consolidating the data so that it can be used for modeling purposes.	--	N/A	We have put some effort into identifying changes in facilities or sectors that will likely result in future year emission changes.	N/A	[REVISED 12/20/18] See https://www.arb.ca.gov/ei/ei.htm California will prepare its own 2014 inventory and 2028 forecast in a format for the modelers' use, except for biogenics and smoke. For those two categories, WRAP estimates should be used.	N/A	N/A	N/A
6b) Do you plan to use recommendations from the RHPWG Emission Inventory & Modeling Protocol Subcommittee for any of your projections?	• YES: 8 • NO: 1 (ID) • N/A: 6 • Undecided: 1 (AK)	• Many states plan to use recommendations from WRAP.	N/A	Undecided	YES	Smoke & Fire estimates and projections, and Biogenic emissions, after checking to see that they are not radically different than what CARB uses for criteria pollutant modeling and GHG accounting. CARB is also working with the Oil & Gas Work Group to verify the 2014 inventory and 2028 projections that group is preparing.	YES	N/A	NO

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
4a) Please provide your perspective on the pros/cons of a commonly derived metric for your state.	A common metric would make coordination with other states much simpler – all would be speaking about the same numbers. It would also be essential for using a shared monitoring analysis tool such as the TSS. It does, however, seem like there may be room to work with FLMs and neighboring states if there are specific sites that require a different analysis/metric. Agreement on a special metric for a site would help address the first two concerns.	pros – a common well defined metric available for use on the TSS. cons – a state that contributes to another state's CIA may not agree if the host state makes "alternative assumptions".	Whenever we're trying to determine estimates of what is anthropogenic and what is not, there will be uncertainty. No method will be perfect and it may not work for some sites. Using a commonly derived metric, however, helps states working together on regional analysis to have a common understanding and a common language when discussing regional contributions to haze on the most impaired days.	Using a commonly derived metric provides a common basis for assessing the impact of emissions reductions (both in-state and out-of-state). Using the "most impaired days" metric provides an advantage for ND due to the wildfires in 2015 and 2016. We need someone (WRAP?) to redefine the 2000–2004 baseline and natural conditions in order for us to use it.	Oregon believes that the EPA method is a good place to begin the review process, but agrees that flexibility may be needed as we further analyze the data.	(Blank)	Pro: It allows anyone, including EPA, to more easily evaluate our approach to identifying Most Impaired Days. Con: General location, proximity to urban areas, topography, meteorology, and other factors make each Class 1 Area unique. Using a common metric does not allow states to address this issue.	N/A	Wyoming supports a commonly derived metric as long as it retains the flexibility for each state to account for unique factors in each Class I area.
5) Will your state's approach to selecting sources for reasonable progress analyses be different if IMPROVE monitoring data indicates that visibility is meeting URP versus not meeting URP?	No. We plan to evaluate sources based on making reasonable progress at each site, regardless of whether the projected progress is above or below the URP.	YES – with clarification.	Not likely. The rule doesn't really make allowances for this. We are required to continue progress toward the end goal of natural conditions by 2064. This means that we screen our sources for those most likely contributing the most to haze and determine reasonable measures to implement. Whether we are above or below the URP does not make a difference on the implementation end. It only makes a difference regarding how much effort needs to go into the SIP revision.	NO	NO	YES	NO	NO	YES
If **YES**, 5a) How will your state's approach differ?	N/A	Nevada anticipates looking at 80 percent of sources contributing to visibility impairment. But if we are above the URP we will likely re-look at adjusting our approach to potentially bring in more facilities.]	The only possibility of altering our approach would be if there is clear evidence that despite the emissions level of sources, they are not likely contributing to haze at any CIAs. For this, we may be able to provide the justification for not including them as this would be considered unreasonable.	The number of sources selected would potentially change. The methodology (required 4F analysis) would not change.	N/A	Will likely not dedicate as many resources to the screening process if we are meeting the URP	N/A	N/A	Sources in areas not meeting the URP will take priority over areas which are meeting the URP
6) Has your state started projecting future-year emissions?	NO	NO	No. We are relying on the regional modeling for this.	NO	NO	NO	NO	WA will rely on WRAP to project emissions	NO
If **YES**, 6a) Describe your state's progress and methods, including the sectors and years for which you are estimating emissions.	N/A	N/A	N/A	This will be part of the 4F analysis requested. This is a question that the States need answered by the sources in their state, the state agency should not be undertaking this alone. That will only result in unreliable data.	N/A	N/A	N/A	N/A	N/A
6b) Do you plan to use recommendations from the RHPWG Emission Inventory & Modeling Protocol Subcommittee for any of your projections?	N/A	YES	N/A	YES. It depends on the quality and timeliness. The selected point sources should have much better information on projections than the subcommittee.	YES	YES	YES	N/A	N/A

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
7) Does your state plan to incorporate visibility as a factor in the control measures analysis?	• YES: 3 • NO: 2 (AQB, SD) • Possibly/Undecided: 11	• WY is uncertain because "WESTAR states have not yet reached a consensus on this".	NO. We will work with NMED as necessary on this issue but don't presently foresee using the "fifth factor approach. One of our staff, Ed Merta, is on the Control Measures Subcommittee and is keeping track of ongoing discussion of how best to screen sources for a four factor analysis in a way that best accounts for the impact of those sources on visibility.	Undecided	Maybe, depending on what information is available for use.	Maybe, but CA has no facilities reporting a total NOx+SOx+PM10+VOC emissions greater than 5,000 TPY. Q/d screening will be helpful. It will be very hard to calculate significant visibility improvements for specific anticipated controls.	Unlikely, but we may reconsider if EPA was to approve the use of the CALPUFF model, but the timing of such approval is growing short. Colorado may use past CALPUFF modeling from years ago as a factor in deciding appropriateness of emission controls.	POSSIBLY- It would be good to show visibility benefits	Still unknown at this point
8) What regulatory mechanisms does your state have to require controls on:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8a) Regulated point sources?	Statutory/Regulatory authority to: • Impose controls and reduction strategies • Require air permits • Adopt rules • Enforce compliance	--	Abq-BC have regulations in place to require controls via permitting of point sources (i.e. major sources). These regulations appear in the New Mexico Administrative Code, the full text of which is available at http://164.64.110.134/nmac/T20C011. Abq-BC regulations require permits for: PSD sources (20.11.61 NMAC); New Source Review in nonattainment areas (20.11.60 NMAC); Title V sources (20.11.42 NMAC). Also, all sources, whether major or minor/area, must obtain a construction permit under 20.11.41 NMAC.	TV permit program	ADEQ has statutory authority to implement stationary source emission reduction strategies for Regional Haze, located at Arizona Revised Statutes (ARS) § 49-458.01(A)(5)	Air Districts have regulatory authority; even State Air Toxic Control Measures must be backed by an air district rule with performance standards or permitting. U.S. EPA still retains some control of PSD permitting but is in the process of turning it over to the Air Districts.	State statues- see CRS Title 25, § 25-7-106, § 25-7-109, rulemaking/regulation and major source and minor source point source permitting. NSR and PSD permitting.	RH-SIP, permitting, and HAR. The RPS will reduce visibility impairing pollutants without the need for add-on air pollution controls. Permitting and RH-SIP will enable federally enforceable emission limits.	Have the authority to require a facility to obtain a Tier II permit, but needs to be justified.
8b) Area sources?	Statutory/Regulatory authority to: • Impose controls and reduction strategies • Require air permits • Adopt rules • Run source registration program • NV: None • UT: Only in nonattainment areas • SD: Only when federal standards applicable	• ND indicated it might require assistance from WRAP with addressing impacts from wellsites.	Abq-BC's construction permit regulation, 20.11.41 NMAC, requires permits for major as well as minor sources, which have emissions short of a major source threshold but above levels specified in the regulation. This regulation would apply to area sources for purposes of the Regional Haze rule [as opposed to "area sources" defined in the federal Clean Air Act for hazardous air pollutants, 42 U.S.C. 7412(a)(2)]. A different regulation, 20.11.39 NMAC, exempts minor source gas stations and emergency RICE (including those that might be treated as "area sources" under the Regional Haze Rule) from construction permit requirements in 20.11.41 NMAC. This regulation instead subjects these eligible sources to a streamlined authorization process outside the construction permit process. This process nevertheless requires compliance with applicable federal NSPS and NESHAPS. 20.11.39 NMAC subjects the applicable source categories to enforcement. Another regulation, 20.11.40 NMAC, applies to very small sources, emitting less than the threshold required for a minor source construction permit, but more than specified de minimis levels. These sources must register with EHD and periodically report their emissions. The sources are not subject to controls but are "on the radar" of EHD in case their emissions ever rise to the level of requiring a permit (or the alternative authorization for gas stations and emergency RICE). Collectively, the above-described regulations create a regulatory regime that can apply emission controls to area sources as understood for purposes of the Regional Haze rule.	TV permit program	ADEQ has statutory authority to implement area source controls necessary to make reasonable progress for Regional Haze, located at Arizona Revised Statutes (ARS) § 49-458.01(A)(13)	same as "8.a. answer" plus State control of consumer products	State statues- see CRS Title 25, § 25-7-106, rulemaking/regulation and major source and minor source point source permitting.	RH-SIP, permitting, and HAR.	Have the authority to require a facility to obtain a Tier II permit, but needs to be justified.

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
7) Does your state plan to incorporate visibility as a factor in the control measures analysis?	YES	YES – Nevada would like to if we can determine a practical mechanism to incorporate visibility	We will do this only if analysis shows that a source (resulting from the screening) is highly unlikely to contribute to haze at any CIA. This is unlikely, considering that we plan to use the Q/d methodology with overlaid WEP modeling maps to screen for sources.	This depends on EPA's final direction and guidance and should be a metric that is included. We have told the sources that received a 4F letter that this can be included in the analysis but may not help the cause. Visibility could be used as a deciding factor for projects that are on the reasonable cost bubble. Projects shown to improve visibility, would need implementation. Projects not shown to improve visibility, would not be required.	YES	NO	Undecided	not sure yet	UNCERTAIN – WESTAR states have not yet reached a consensus on this
8) What regulatory mechanisms does your state have to require controls on:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8a) Regulated point sources?	Montana Air Quality Permits, Title V Permits, administrative rules (adopted through our Board of Environmental Review), orders of consent through the Board of Environmental Review.	We have broad regulatory authority to impose controls using permitting regulations, however we need to investigate this more thoroughly.	We have the statutory authority to adopt rules to comply with all CAA regulations, authority to implement (through permits and compliance inspections), and authority to enforce those rules. We have a fully developed permitting program and compliance/enforcement program. Our Planning Section includes a Control Strategies group with experience in writing and planning for new rules and programs.	Delegated Federal Programs (e.g. BMACT, MATS), State Law and State Rules	Minor and major source permitting program	BART, PSD or if an area becomes non-attainment	Title V permitting	WA has the authority through our WA CAA and WAC	State Regulation
8b) Area sources?	Montana has a SIP-approved registration program in administrative rule covering oil and gas wells. A registration program is in development for crushing/screening, concrete, and asphalt plants.	None	[REVISED 12/19/18] NM has a permitting program for minor sources and a program of "NOI" (Notice of Intent [to construct]) for many types of "area" sources, such as O&G wellheads.	Delegated Federal Programs, State Law and State Rules (limited ability for O&G wells, need EPA reg. 8, WRAP, and/or other State assistance with addressing impacts from wellsites)	Indirect source permitting, smoke management program, general rulemaking authority	We only regulate areas sources that are applicable to Federal standards	They are regulated in our nonattainment areas	same	State Regulation

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
8c) Mobile sources?	• Nothing beyond Federal: 8 • ABQ: Vehicle inspection/maintenance program, regs for fuel standards and visible emissions • AK: Marine, aviation, rail, cruise regs • AZ: Can include in Plans • CA: Waivers, regs, fuel standards • CO: Inspection/maintenance program • NM: Participates in regional MPO for transportation conformity • NV: Mobile source programs • OR: Section 177 State	--	Abq-BC has adopted several regulations that can affect control of mobile sources in ways that do not involve setting emission standards. The most prominent is 20.11.100 NMAC, which establishes a vehicle inspection and maintenance program.This program requires light duty vehicles meeting certain specifications (e.g. vehicle weight) to undergo regular inspections to demonstrate that their federally mandated emission controls are functioning properly. A different regulation, 20.11.101 NMAC, provides for a more stringent vehicle inspection program to be implemented upon EPA issuing notice requiring such action (due to NAAQS attainment issues). 20.11.100 and 20.11.101 NMAC were originally adopted as control measures for carbon monoxide but their effect is to help implement the full range of emission benefits yielded by federal mobile source standards. Other Abq-BC regulations do not require installation of emission "controls" in the sense of devices installed on vehicles but still regulate emissions from vehicles. 20.11.102 NMAC requires motor vehicle gasoline sold locally during winter months to be oxygenated (i.e. blended wth a suitable alcohol or ether) in order to burn more cleanly. This regulation is a control measure targeted primarily at carbon monoxide. Another regulation, 20.11.103 NMAC, regulates visible emissions from motor vehicles. Final note: an additional regulation affecting mobile sources is no longer legally valid and is slated for repeal. 20.11.104 NMAC, adopted in 2007, implements California mobile source standards as of that year. This regulation became legally invalid in 2013, when the state of New Mexico repealed its parallel regulation implementing the California standards. Invalidation resulted because the federal Clean Air Act expressly provides that only a "state," not a locality, may adopt California standards. § 42 U.S.C. 7507.	Regulations. For marine, aviation, railroad – controls are limited. We already regulate cruise ship emissions. The state could develop additional regulations if really needed.	ADEQ has statutory authority to submit plans that contain provisions addressing mobile source emissions for Regional Haze, located at Arizona Revised Statutes (ARS) § § 49-458.01(A)(6).	waivers and regulation to 25 miles off-shore; fuel standards	State statues- see CRS Title 25, § 25-7-106, Inspection and Maintenance Program	Mobile sources are exempt from air permitting in accordance with the HAR.	None
9) List any regulations and/or control programs that could affect regional haze that your state has enacted in the last 5 years or since the last progress report. Please provide citations or links, if any.	• Various new regulations across states, including RPS, PM2.5 controls, dust rules, RH and PM SIPs, BART, regs for coal/oil/gas operations. • Nothing in the past 5 years for ND, UT, or WA.	--	Abq-BC submitted its progress report to EPA on June 30, 2016. Since that time, Abq-BC has not passed any major regulations or otherwise implemented new control programs that could affect Regional Haze.	Fairbanks PM 2.5 NAA control measures to reduce PM2.5	AZ Administrative Code, Title 18, Ch. 2 (https://apps.azsos.gov/public_services/Title_18/18-02.pdf): Municipal Solid Waste Landfill NSPS and EG (R18-2-731), Agricultural Best Management Practices for Pinal County (R18-2-610.03, R18-2-611.03, R18-2-612.01), Hayden Pb and SO2 Emission Limits (R18-2-B1301), Miami SO2 Emission Limits (R18-2-C1301), Pinal County Dust Rules (Pinal County Air Quality Control District Code of Regulations - §4-3-180 and §4-1-030), Cholla BART Reassessment (http://static.azdeq.gov/aqd/haze/2015_sip_revision.pdf), Coronado BART Alternative (http://static.azdeq.gov/aqd/haze/2017_sip_revision.pdf), AEPCO Better-than-BART SIP revision (http://static.azdeq.gov/aqd/haze/2014_sip_revision.pdf)	a. 2014 Truck & Bus Regulation Amendments https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm b. Submitted SIPs and rules too numerous to list here (see U.S. EPA website https://www.epa.gov/air-quality-implementation-plans/sip-status-reports)	2016 Regional Haze SIP revisions, found in Colorado AQCC Regulation 3 Part F. The Statement of Basis and Purpose for the rulemaking, found in Regulation 3 Part G, Section I.BBB., will show you what changes were made.	GHG Emission caps (http://health.hawaii.gov/cab/hawaii-greenhouse-gas-program/) - Minimum GHG emissions cap is set at 16% below 2010 GHG baseline or alternate approved baseline for eighteen (18) affected facilities unless a GHG control assessment demonstrates that a 16% reduction cannot be met. Most facilities are electric plants that will partner to meet a total combined cap that is at least 16% below the total combined GHG baseline. RPS (https://www.energy.gov/savings/renewable-portfolio-standard-4): 10% RPS by December 31, 2010; 15% RPS by December 31, 2015; 30% RPS by December 31, 2020; 40% RPS by December 31, 2030; 70% RPS by December 31, 2040; and 100% RPS by December 31, 2045.	On April 28, 2014, EPA approved the revised NOx BART determination and emissions limitation and BART alternative (79 FR 23273) for one of the two facilities subject to BART in the state
10) Does your state intend for WRAP to include state-specific emissions control measures in the 2028 WRAP regional AQ modeling that will inform RP goals for 2028?	• YES: 11 • NO: 2 • N/A: 1 (HI) • (Blank): 1 (CO) • Uncertain: 1 (WY)	--	YES. Our understanding from NMED is that they believe the answer to this question is "yes," and we will work in cooperation with NMED on this matter.	NO	YES	YES	(Blank)	N/A – Hawaii is not included in the regional air quality modeling analysis	YES

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
8c) Mobile sources?	None	We have some mobile source programs.	[REVISED 12/19/18] New Mexico participates in the El Paso Metropolitan Planning Organization for transportation conformity. When we need transportation information, such as VMT, we rely on the Dept. of Transporation (NM).	Nothing	Oregon is a section 177 state.	We do not regulate mobile sources	None	none, this is a federal issue	None
9) List any regulations and/or control programs that could affect regional haze that your state has enacted in the last 5 years or since the last progress report. Please provide citations or links, if any.	Discussed in 2017 progress report. None since that time. http://deq.mt.gov/Portals/112/Air/AirQuality/Documents/RegionalHaze/RegionalHaze_ProgressReport_8-2017.pdf.	The 2013 passage of Senate Bill 123 (https://www.leg.state.nv.us/Statutes/77th2013/Stats201319.html#CHz490_zSBz123) amended portions of NRS 704 (https://www.leg.state.nv.us/NRS/NRS-704.html#NRS704Sec7316), which required the elimination of 800 megawatts of coal-generated electricity in the state by 2019. The measure was aimed at closing the Reid Gardner Power Station, which occurred in 2017, a long contentious generating facility in southern Nevada. Nevada also has a Renewable Portfolio Standard (RPS) (https://www.leg.state.nv.us/NRS/NRS-704.html#NRS704Sec7821) that requires a certain percentage of electrical power consumed in the state to be renewable. This is difficult to quantify in terms of in-state emissions since power companies can purchase renewable power generated out of state to meet the RPS. Finally the integrated Resource Plan for our largest power provider, Nevada Energy, indicates the planned retirement of the Valmy Power Station in 2025 (Nevada's largest coal-fired EGU, one of only two remaining coal fired EGU's in Nevada). Within the last five years, Nevada has not specifically crafted regulations to reduce visibility impairment beyond our BART requirements for the first planning period.	Most recently, NM has instituted a dust mitigation plan that currently covers Dona Ana and Luna counties, where almost all of our PM exceedances occur. (https://www.env.nm.gov/wp-content/uploads/2018/08/NM_Draft_DMP_01aug18.pdf) NMED has proposed for adoption a Fugitive Dust Rule to codify best management practices for control of dust in exceedance-prone areas. The Environmental Improvement Board is expected to vote on this proposal at the end of October, 2018. (https://www.env.nm.gov/wp-content/uploads/2017/01/Proposed_Fugitive_Dust_Rule.pdf) Although not a regulation or control program per se, NM's largest coal-fired power plant, our only source subject to the SO2 Data Requirements Rule, retired 2 of 4 generators in 2017 and intends to retire the remaining 2 in 2022. Our SO2 emissions were already decreasing, so these retirements will decrease those emissions even further, resulting in lower sulfate concentrations at IMPROVE monitors. (https://www.env.nm.gov/wp-content/uploads/2018/06/NMED_SecretaryLetter_6.27.18.pdf) NM submitted a CAA Section 111(d) plan for Municipal Solid Waste Landfills in May 2017, including updating our State rule. (https://www.env.nm.gov/wp-content/uploads/2017/05/EIB-16-06-R-Order-and-Statement-of-Reasons-05022017.pdf and https://www.env.nm.gov/wp-content/uploads/2017/04/Exhibits-5-and-11-Proposed-State-Plan.pdf) EPA regularly delegates authority to implement and enforce NSPS, NESHAP and MACT federal rules and they are incorporated by reference into State rules. (https://www.env.nm.gov/wp-content/uploads/2018/04/83-FR-15964-EPA-Delegation-to-NM.pdf) NM's State Implementation Plan has been revised to align with federal regulations on numerous occasions.	No new state rules Federal rules include Boiler MACT, MATS Rule, RH1 projects at EGUs.	PM Advance planning in Non-attainment areas. Smoke management rule changes. HeatSmart program.	BART	(Blank)	No new regulations have been enacted in the last 5 years	Wyoming Air Quality Standards and Regulations, Chapter 8, Section 6 – Requirements for existing oil and gas production facilities in the Upper Green River Basin
10) Does your state intend for WRAP to include state-specific emissions control measures in the 2028 WRAP regional AQ modeling that will inform RP goals for 2028?	YES	YES, The planned 2025 closure of both of the two EGU's at the Valmy Power Station is something that modelers should incorporate into their models. However, this is not a statutory or regulatory driven measure, only a planned closure that most likely will occur. In addition any emission reductions resulting from the Reasonable Progress analysis should be incorporated.	YES	YES. EGUs and other major point sources shall be determined through 4F analysis and state input. If the state-specific control measures are developed for O&G wellsites, they will also be included.	YES	NO	YES	YES	UNCERTAIN – Control measures are still being evaluated

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
If **YES**, 10a) Does your state understand the WRAP 2019 timeline for 2028 modeling?	• YES: 9 • NO: 1 (OR) • N/A: 4 • (Blank): 1 (ID) • Uncertain: 1 (ND)	• ND thinks WRAP is behind schedule: "2014 baseline modeling should have been completed by now or should be well underway. 2028 modeling should be completed by April 2019."	YES	N/A	YES, according to the 2018-2019 WRAP workplan, it appears WRAP will need this information by Jan 2019; however, ADEQ has not received direction on the 2028 EI projections, which would include these control measures.	i. At this point in time, CARB understands that WRAP will model 2014 as the base year and forecast to 2028 during 2019. The 2028 modeling scenarios will include one run (base case) for on–the–books and on-the-way reductions and known shutdowns. By the end of the year, states will provide additional emissions reductions for the final RPG modeling by WRAP. ii. CARB is aware that U.S. EPA plans to issue the results of 2028 photochemical modeling of a 2016 base year forecast to 2028 in the summer of 2019. CARB does not know how or if WRAP plans to reconcile or correlate these two modeling exercises.	YES	N/A	(Blank)
11) Has your state begun planning:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11a) For public outreach?	• YES: 5 • NO: 11	--	NO. We will cooperate with NMED in planning during 2019 on this subject.	YES	YES	NO. There is a tentative CARB hearing timeline, but any other special education outreach or draft review workshops has not yet been planned.	NO	NO	NO
11b) For consultation with:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
i) Other western states?	• YES: 11 • NO: 5	ABQ, NV and ND plan to consult with other states *through* WRAP only.	YES. EHD has begun this planning in the sense that EHD is cooperating with NMED to be included in WRAP planning efforts. EHD has not conducted consultation through any mechanisms other than WRAP.	YES	YES	YES. CARB co-Chairs the RHPWG which includes plenty of behind the scenes work with other states. The CARB co-Chair also participates in three WRAP RHPWG subcommittees and listens in on any of the other Subcommittees or Work Groups, as needed.	YES	NO	YES
ii) Local air regulatory agencies?	• YES: 9 • NO: 5 • N/A: 2 (HI, UT)	ABQ plans to consult with local agencies *through* WRAP only.	YES. Through WRAP, per above answer.	YES	YES	YES. Monthly conference calls with planning and engineering staff already available through CAPCOA. CARB already briefed one Air District Board at their request.	NO	N/A	NO
iii) FLMs?	• YES: 11 • NO: 5	ABQ, HI and NM indicated they have only consulted with FLMs *through* WRAP.	YES. Through WRAP, per above answer.	YES	YES	YES. Annually or more frequently (depends on the year) through Air & Land Managers (ALM) for policy issues and Interagency Air and Smoke Council (IASC) for technical issues. The Next ALM meeting is scheduled for November 8, 2018. California is fortunate to have a specific person designated at both the USFS and the NPS specifically for air quality issues. Both are integral to the California Smoke Management Program and also PSD review. A NPS representative is a facilitator of the WRAP RHPWG Subcommittees and FWS and USFS representatives participate in one or more of the WRAP RHPWG Subcommittees and are cced on all WRAP RHPWG conference calls.	NO	Discussed Regional Haze support work with WESTAR-WRAP and FLM	NO
iv) Tribes?	• YES: 5 • NO: 10 • N/A: 1 (HI)	ABQ indicated they have only consulted with tribes through WRAP.	YES. Through WRAP, per above answer.	YES	YES	NO. However, one Tribe from California is represented in the WRAP Tribal Data Work Group and is cc-ed on WRAP Regional Haze Planning Work Group calls. CARB does have a single point of contact assigned to work with Tribes in California.	NO	N/A	NO
v) EPA?	• YES: 11 • NO: 5	ABQ indicated they have only consulted with tribes through WRAP	YES. Through WRAP, per above answer.	YES	YES	YES. Representatives of Regions 6, 8, 9, 10, and OAQPS participate in the WRAP Regional Haze Planning Work Group. Region 8 and OAQPS reps participate in the Consultation & Coordination, Monitoring Data & Glide Path Subcommittees and the WRAP Technical Operations Work Group. A specific reviewer of Regional Haze Plans at Region 9 has not been assigned yet.	NO	Asked EPA for their input on how to develop a metric for quantifying visibility conditions	NO
12) Related to consultation with Tribes, FLMs, and EPA:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12a) Briefly describe previous RH consultation efforts, including dates and relevant entities.	States specifically mentioned consultation with the following entities: • FLMs: 9 • Tribes: 4 • EPA: 6 • Most consultation occurred during first period of RH planning, but some has happened since.	• Many states indicated consultation has been facilitated by WRAP.	During the first Regional Haze planning period, EHD cooperated with NMED in jointly consulting tribes, FLMs, and EPA. This consultaiton took place from approximately 2000 to 2011. During preparation of the Abq-BC Regional Haze Progress report in 2015-2016, EHD made its draft report available for public comment to all stakeholders (including a 60 day period for review and comment by FLMs) prior to submitting a final report to EPA, as required by the Regional Haze rule.	The State of AK engaged in consultation with FLMs, stakeholders and regional NGOs for 2011 SIP and 2015 progress report.	ADEQ has been heavily involved in all WRAP workgroups and subcommittees and considers these a portion of the consultation/ coordination process. In addition, ADEQ held its first stakeholder outreach meeting on 10/2/2018.	See Chapter 8 of the California Regional Haze SIP;. https://www.arb.ca.gov/planning/reghaze/reghaze.htm	Colorado held a number of consultation calls specifically with TX, NM and CA. Colorado met with FLMs, on a number of occasions for face-to-face meetings. Colorado also held informal discussions with nearby states at WESTAR conferences and through WESTAR planning calls.	We discussed regional haze support work with WESTAR and FLM July 19, 2018. We talked about the possibility of using default parameters provided by EPA instead of establishing new visibility conditions. We sent results to EPA on May 9, 2018 from a comparison of old and new visibility data.	Current staff were not present for previous consultation efforts
12b) Do you envision this to be done through WRAP, state resources, or a combination of the two?	• WRAP only: 1 (ND) • State resources only: 1 (AK) • Combination: 14	• WA wants to know: "In regards to the threshold for the Q/d it would be better to discuss the thresholds for the Q/d analyses through WRAP. WA was told by the FLMs that a threshold of Q/d >10 should be used. It is our understanding that some states will use 4 as a threshold. Why the discrepancy?"	A combination of WRAP and state resources, in cooperation with NMED. We will also consult with EPA Region 6 directly.	State resources	A combination, as described above. ADEQ will continue to coordinate with FLMs and surrounding States through WRAP and undergo separate stakeholder outreach efforts.	Combination of the two – need to clarify process for coordination with Tribes, none of which have any sources with known impacts in California.	Combination	A combination of the two	Combination of the two

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
If **YES**, 10a) Does your state understand the WRAP 2019 timeline for 2028 modeling?	YES	YES, we understand the 2019 timeline for 2028 modeling. We anticipate providing emission reductions resulting from Reasonable Progress analysis by the end of 2019.	Yes. We understand and will be able to work within their timeframe.	We thought so, but feel they are way behind schedule – so maybe we don't. 2014 baseline modeling should have been completed by now or should be well underway. 2028 modeling should be completed by April 2019. This is based on the data States submit to WRAP in Jan. 2019, which in turn, is based on the data received and reviewed from sources that conducted the 4F analysis. If 4F analysis are not being done in other states as of yet, how will good data be received for use of the 2028 modeling required in April 2019?	NO	N/A	YES	YES	N/A
11) Has your state begun planning:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11a) For public outreach?	YES	NO	No, but this is a priority for 2019.	NO	NO	YES	NO	NO	YES
11b) For consultation with:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
i) Other western states?	YES	NO, just through the WRAP	Not formally, but we are involved in many subcommittees and so we consult with other western states informally often.	NO. Not directly State-to-State, through WRAP	YES	YES	YES	NO	YES
ii) Local air regulatory agencies?	YES	YES – Local air agencies are aware of the Regional Haze Rule. They understand that NDEP may request them to provide additional information and that their facilities may be affected.	Yes. We regularly communicate/consult with the Albuquerque/Bernalillo County Department of Environmental Health.	NO	NO	NO	N/A	YES	YES
iii) FLMs?	YES	NO	Only informally through subcommittee work.	NO	NO	YES	YES	YES	YES
iv) Tribes?	NO	NO	No. We would work through our Tribal Liaison for this consultation. It will be included in our 2019 planning for outreach.	NO	YES	NO	YES	NO	NO
v) EPA?	YES	NO	This will be included in our 2019 planning for outreach.	NO. Not directly EPA-to-State	NO	YES	YES	YES	YES
12) Related to consultation with Tribes, FLMs, and EPA:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12a) Briefly describe previous RH consultation efforts, including dates and relevant entities.	Montana consulted with FLMs and EPA in the process of developing a progress report in 2017. Montana actively participates in WESTAR and WRAP work groups, committees, and subcommittees.	Nevada held Regional Haze Stakeholders Meetings July 17, 2000 and March 2, 2005. The 2009 SIP was submitted to the FLMs 1/5/2009 for a 60-day review and comment period. The FLM community took every opportunity to comment on Nevada's RH SIP, including the 60-day formal FLM review period, Nevada's public comment period, and EPA's public comment period for proposed rulemaking. In addition numerous opportunities were provided by the WRAP to participate fully in the development of technical documents developed by the WRAP. NV participated in the collaborative WRAP process where tribes were represented. The majority of state consultation with other WRAP states was conducted through the Implementation Work Group (IWG). The IWG took the products of the WRAP technical analysis and consultation process and developed a process for establishing RPGs. This consultation process ensured that states were aware of each other's RPGs and LTS.	[REVISED 12/19/18] New Mexico participated fully in consultation opportunities offered through WESTAR-WRAP in the first round of RH planning. Consultation may have included the following topics (per the NM Regional Haze SIP): i. implementation of emissions strategies; ii. summary of major new permits issued; iii. status of State actions to meet commitments for completing future assessments or rulemakings; iv. changes to the monitoring strategy or monitoring stations affecting tracking of reasonable progress; v. work on preparation of reasonable progress reports; and vi. items for FLMs to consider or provide support for in preparation for SIP revisions; and summary of topics discussed via meetings, emails and other records. NM has a lot of documentation regarding previous consultation with tribes, other states, EPA, FLMs and many other stakeholders, including a full list of those contacts.	For RH1, North Dakota sent a letter to the WRAP Tribal Caucus Coordinator providing contact information for the Department. The tribes received a letter during the public comment period for RH1. There was no involvement by the tribes and no comments were received from them.	Plans are being developed, but no outreach has occurred on current RH planning efforts.	State, FLM and EPA consultation was conducted during both the RH SIP development and the 5 – Year Progress Report. Some consultation was done through WRAP and some on our own.	During this planning phase our consultation efforts have been limited to interactions within WRAP Workgroups and Subcommittees	We had several conference calls with the NPS and the USFS to discuss the results of our Q/d analyses, and ask for their input and comments.	Consultation with National Park Service – 2011, Forest Service – 2010, Department of Interior – 2008
12b) Do you envision this to be done through WRAP, state resources, or a combination of the two?	A combination, but mostly led by the state.	YES, through a combination of the two	Mostly through WRAP, although NMED has a tribal liaison to work with tribal entities and we also intend to consult with FLMs and EPA directly.	Through WRAP.	Combination	A combination of both	Utah will use a combination of WRAP and State resources	In regards to the threshold for the Q/d it would be better to discuss the thresholds for the Q/d analyses through WRAP. WA was told by the FLMs that a threshold of Q/d >10 should be used. It is our understanding that some states will use 4 as a threshold. Why the discrepancy?	Combination

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
13) Will your state contribute in-kind work toward this Round 2 RH planning effort?	• YES: 12 • NO: 3 • Uncertain: 1 (WY)	--	YES. EHD intends to respond as needed (and feasible) to requests for information from the WRAP Regional Haze Planning Workgroup, its subcommittees, and other WRAP bodies. EHD will also assist as needed and feasible with preparation of deliverable documents, such as the Protocol for screening sources now being developed by the Control Measures Subcommittee.	YES- if needed	YES	YES	YES	YES	YES
13a) List in-kind work provided on previous and current RH efforts, if any.	• Emissions inventories • Participation in subcommittees/work groups • Control measures protocols • IMPROVE data analysis • Modeling • AK, ND, SD, and WY did not indicate involvement.	--	EHD staff member Ed Merta is a member of two Regional Haze Planning Work Group subcommittees, on Control Measures and Shared Database work. Ed has provided feedback on draft documents for these committees. EHD staff member Travis Miller has responded to inquiries from WRAP regarding emissions inventory data.	(Blank)	ADEQ is contributing to every workgroup (except oil and gas) and subcommittee WRAP has established.	In the first planning period, CARB staff lead for the California Regional Haze Plan was on team that reviewed and selected consultants and made various presentations at WRAP meetings. Same staff person was member of the Work Group whose efforts culminated in WESTAR's August 2013 visit to EPA-OAQPS at RTP to request rule changes. Subsequently same CARB staff member led the WESTAR Regional Haze Committee drafting comments on the proposed rule revisions and proposed guidance during 2015 and 2016. Same CARB staff member is current co-Chair of the RHPWG and reports to WRAP TSC meetings, and to the WESTAR Technical and Planning Subcommittees. This same staff member with other CARB staff prepare the base year and future year forecasts; review biogenics, smoke emissions, and Oil & Gas emissions; review the gridded emissions input assigned to California cells prior to modeling; and review RFPs and contract deliverables. Another CARB staff member serves on the WRAP Regional Technical Operations Work Group. The RHPWG co-Chair also prepares the control measures analysis for California with assistance from the air districts and other CARB staff, as needed.	Emission inventories and control measures protocol.	Previous in-kind work - Emission inventories, potential source contribution function analysis/HYSPLIT, and PMF.	EI
13b) List subcommittee participation and technical skills that the state is considering for potential in-kind efforts.	• All states besides ND and SD plan to be involved, with many states looking to contribute to all subcommittees. Specific technical skills offered include: • Emissions inventories • Control measures • Modeling • Oil and Gas (AK) • SIP writing and Excel-based techniques (ABQ, NM) • PMF modeling (HI)	--	We wil work with NMED as necessary to provide Regional Haze related information to WRAP. Our goal is to provide data and information specific to Abq-BC that will result in SIPS for New Mexico and Abq-BC that function effectively as an integrated whole. To that end, EHD intends to provide data as necessary on emissions and sources in Abq-BC, and to contribute to WRAP deliverables as necessary to accomplish that goal.	The state participates in the oil and gas, consultation, rh planning workgroups. Our expertise is in these subject matters.	ADEQ is participating in all subcommittees and has provided technical and planning assistance on each of these with all efforts currently underway with the subcommittees. ADEQ will continue to do so and should be able to provide assistance in all aspects of planning process, except for the modeling portion. For this effort ADEQ has limited experience with photochemical modeling.	See 13a above. CARB does its own inventory and forecasting, and will do its own Control Measure analysis. CARB will also do additional monitoring data analysis as needed. With RHPWG co-Chair Jay Baker (UT DEQ) the CARB co-Chair wrote the initial Regional Haze Survey completed in January 2017. CARB worked on the WESTAR update in 2017 for the 2021 SIP, which was never completed, although elements were incorporated and fleshed out in the WRAP Work Plan. During 2017, CARB staff made presentations on Regional Haze to local air districts, FLMs, WRAP webinars, and the WRAP December workshop. In 2017, Co-Chairs conceived the RHPWG Subcommittees and selected the Leads in 2018 (with consultation from WESTAR staff, WRAP staff). CARB staff participate in the Monitoring Data and Glide Slope Subcommittee, the Shared Database Subcommittee, and the Control Measures Subcommittee. (RHPWG co-Chairs split up the subcommittee participation between themselves.) CARB staff listens in on the Emissions & Modeling Subcommittee and the Consultation & Coordination Subcommittee, and other Work Groups as needed. CARB staff member contributes to writing protocols; reviewing contracts; and draft deliverables in the Subcommittees and as RHPWG co-Chair shares the preparation of agendas and making presentations.	Control Measures and Emissions and Modeling Subcommittees.	PMF and emissions inventory	Participate in monthly calls with Monitoring and glidepath, Emissions Inventory and Planning subcommittees
14) Provide the links to state webpage(s), if any, where you are publicly posting documents related to regional haze rulemaking/planning.	• All states but ABQ, CO, ID, and WY provided a link to their RH homepage.	• CO currently relying on WRAP's website but plans to eventually incorporate RH on their state site.	None at this time.	http://dec.alaska.gov/air/anpms/regional-haze/ and http://dec.alaska.gov/air/air-permit/permit-regulations/	Stakeholder meetings - http://www.azdeq.gov/events, General RH information - http://www.azdeq.gov/node/580 and http://www.azdeq.gov/node/4482, RH plan - http://static.azdeq.gov/aqd/haze/az_haze_2011_plan.pdf, SIP Revisions - http://www.azdeq.gov/node/4505, 5-yr Progress Report - http://static.azdeq.gov/aqd/haze/2015_rh_progress%20report.pdf	https://www.arb.ca.gov/planning/reghaze/reghaze.htm	Currently there is not a public webpage for Colorado Regional Haze Planning-but we are relying on WRAP website. Eventually, Regional Haze will be a topic on the Division's outreach webpage found at the following website: https://www.colorado.gov/pacific/cdphe/APCD-stakeholder-processes	Public notices to receive comments on Hawaii's Regional Haze Progress Report and permits to limit SO2 emissions from power plants pursuant to Hawaii's Regional Haze FIP were posted at: http://health.hawaii.gov/cab/.	None

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
13) Will your state contribute in-kind work toward this Round 2 RH planning effort?	YES	YES – our participation is in-kind and is focused on Nevada's planning efforts.	YES	NO. North Dakota does not have the staffing resources to assist in this effort. We will, and have, share(d) our input on what we are currently doing.	NO	NO	YES	YES	UNCERTAIN
13a) List in-kind work provided on previous and current RH efforts, if any.	IMPROVE data analysis (Kristen and Brandon), emissions inventory verification (Rhonda), informal communication framework (Rebecca)	Nevada is fully engaged with the WRAP	[REVISED 12/19/18] YES. As stated above, we have staff members involved in every subcommittee of the RHPWG. One staff member is a SC lead. Another is a WG lead. We have contributed EI refinements as well. Our in-kind work is mainly at the SC level. NMED staff are currently contributing to all RHPWG subcommittees and will continue to do so. Our largest contributions are towards the Monitoring/Glide Path SC, the Shared Database SC, the Modeling/Emissions Inventory SC and the Control Measures SC. We also have a staff member involved in the O&G Work Group.	None – staff limitations	Oregon provided work on the original Regional Haze planning work, in partnership with Washington and Idaho.	N/A	Participation in Regional Work Groups, helping to organize training webinars, reviewing and providing input on regional work products	Staff participation in several workgroups	N/A
13b) List subcommittee participation and technical skills that the state is considering for potential in-kind efforts.	Monitoring & Glideslope – Kristen Martin, Brandon McGuire; Control Measures – Craig Henrikson, Rebecca Harbage; Emissions Inventory & Modeling – Rhonda Payne, Stephen Coe; Shared Database – Kristen Martin, Brandon McGuire; Consultation & Coordination – Rebecca Harbage; Oil & Gas Work Group – Eileen Stielman.	Nevada staff participate in all workgroups and subcommittees.	We will continue to serve on all subcommittees, contributing expertise in writing (in general), SIP writing experience and Excel-based technical expertise as needed.	None – staff limitations	Chris Swab lead the WRAP Regional Haze Emissions subcommittee until his departure from the agency in June 2018. Phil Allen participates in the Monitoring Data and Glide Path subcommittee.	N/A	Co-chair of the RHPWG, participation in the all WRAP Subcommittees, representation on the Fire and Smoke Work Group, and Regional Technical Operations Work Group. We can provide Technical review of modeling platforms and modeling data.	Emissions inventories – Farren Herron-Thorpe, monitoring/glide slope - Jean-Paul Huys, control measures – Phil Gent and Gary Huitsing, Modeling protocol – jean-Paul Huys	Wyoming is participating in the Control Measures and Oil & Gas Subcommittees
14) Provide the links to state webpage(s), if any, where you are publicly posting documents related to regional haze rulemaking/planning.	deq.mt.gov/Air/AQ/Regional Haze	NDEP is currently revamping their webpages, this is the current link: https://ndep.nv.gov/air/planning-and-modeling/regional-haze-and-bart	We have not yet posted much for the second round of planning. Our Regional Haze web page is found at https://www.env.nm.gov/air-quality/reg-haze/.	https://deq.nd.gov/AQ/planning/RegHaze.aspx - RH2 4F letters	No webpage updates have been made. https://www.oregon.gov/deq/aq/Pages/Haze.aspx	https://denr.sd.gov/des/aq/airprogr.aspx	https://deq.utah.gov/legacy/pollutants/r/regional-haze/index.htm https://deq.utah.gov/legacy/pollutants/r/regional-haze/state-implementation-plan/index.htm	https://ecology.wa.gov/Air-Climate/Air-quality/Air-quality-targets/Regional-haze	N/A

Attachment 3. Responses to 2018 Regional Haze Planning Readiness Survey
Western Regional Air Partnership

Question	Summary of Key Findings	Summary of Concerns Related to WRAP	Albuquerque	Alaska	Arizona	California	Colorado	Hawaii	Idaho
15) Please list any special regional haze planning issues/concerns for your specific state. As an example, if you are a §51.309 state, list any additional challenges in transitioning to the §51.308 approach.	• International/natural emissions estimation • Timeline concerns due to states' rulemaking processes • Public education on RH program • Concerns with modeling compatibility • Using estimates of Most Impaired Days under Natural Conditions as basis for "routine natural" emissions • 2064 endpoint • Quantifying visibility benefits from measures to reduce emissions. • Achieving reductions in neighboring states • Meeting requirements for 4-f analysis and RP. • SO2 Milestone Trading program. • Identifying control measures as early as possible for inclusion in the 2021 SIP • Determining if localized emissions will be treated as impacting visibility in Class 1 areas other than those identified in the last SIP.	• AZ and CO will require extra time due to legislative restrictions on rulemaking and SIP approvals. • ID expressed concern with keeping up with all the WRAP subcommittees work and having access to final work products, and would like to see an updated and more detailed WRAP workplan. • SD expressed concern about receiving WRAP work products in a timely manner as they plan to submit the SIP early.	As a jurisdiction in a 309 state, with its own 309 SIP element, Abq-BC will work with NMED to decide how best to approach 309 SIP provisions from the first planning period in formulating the new SIP. A key issue in this regard is what will happen to the SO2 backstop trading program adopted in Abq-BC as 20.11.46 NMAC. Other concerns for Abq-BC: • identifying as early as possible the type of Regional Haze emission control measures for specific Abq-BC source categories that will need to be considered for inclusion in the 2021 SIP; • determining whether emissions from Abq-BC will be treated as impacting visibility at Class 1 Areas other than the nine areas (with eight IMPROVE monitors) identified in the SIP for the first planning period. A more extensive response to this question must await further consulations with NMED.	Quantification of international and natural emissions	Arizona's rule making process takes approximately 1 year to complete due to the State's rule moratorium. This requires us to complete other technical and planning work approximately 1 year in advance of the SIP submission deadline so that we have finalized rule in our submittal.	**a.** The current 2064 U.S. EPA defaults for California IMPROVE monitors may not be realistic. **b.** May need to have more understandable explanation of the Regional Haze Program for the public because (1) natural haze impacts visibility during the wildfire season when many people can access the parks for vacations; (2) some wilderness areas in California are snowbound on the Best Visibility Days; and (3) the Glide Path creates unrealistic expectations in the minds of those who have been lead to believe that the current 2064 endpoints are accurate representations of Natural Conditions, and are achievable. Either the current endpoint in deciviews is miscalculated, or it is impossible to achieve without adjusting for international impacts, prescribed fires for resource benefit, other changing natural conditions, or all of the above. **c.** It is not clear that modeling using a 2014 Base Year is compatible with a 2028 forecast using 2016 as a base year. **d.** Using the 2064 "new" estimates of Most Impaired Days under Natural Conditions as the basis for "routine natural" emissions may not be dependable. The values are even lower than the initial 2064 defaults. U.S.EPA has not explained how they calculated the values nor what they mean conceptually. Natural contributions from wildfires were not counted in the initial 2064 endpoint for Worst Haze Days. That means recent numerical adjustments by U.S. EPA to lower the 2064 deciview endpoints from Worst Haze days of the first planning period to the Most Impaired Days for the second planning period compounds the error of not including wildfire impacts on Worst Days in the first place. **e.** The future 2064 endpoint could be adjusted with each planning period to account for changes in predicting future conditions. One cogent reason is that the amount of prescribed burning and wildfire smoke, as well as international emissions, constantly changes. Future predictions can only be anticipated from past tends. **f.** International emissions were "known" contributions in the past, based on modeling. Would it not make more sense to add them to the baseline, rather than apply some placeholder adjustment to 2064, that is bound to change by then?	Colorado is not a 309 state. Colorado has a mandatory legislative review process (from Jan-May each year) for any SIP that is submitted for federal approval. Thus, Colorado needs extra time to submit a timely SIP.	1) Separating volcanic sulfate from anthropogenic sulfate; and 2) Quantifying visibility benefits from measures to reduce emissions.	Mostly concerned with keeping up with all the WRAP subcommittees work and having final work products made available to states. We've so far provided some inputs when we received requests but haven't seen what concrete/final recommendations are coming out of the last 6-8 months of deliberation/discussion. We would like to see an updated and more detailed workplan from WRAP based on last year's work
16) What comments does your state have on the Sept. 11, 2018 Regional Haze Reform Roadmap released by EPA?	• States generally see it as being too general/vague and having been released too late. • Concerns about completing activities within the roadmap's timeframe. • Concerns that the EPA modeling may not be compatible with WRAP's modeling efforts. • HI says volcanic emissions are not adequately addressed.	• AZ recommends WRAP analyze the options for States to consider when addressing modeling inconsistencies so that States have a more approvable SIP product and are better able to address stakeholder concerns. • States expressed concern that parts of the roadmap conflict with WRAP's own roadmap.	None at this time.	It is general but looks promising.	ADEQ does not anticipate major changes to the guidance or rule moving forward that would alter our planning efforts. That being said, the 2016 modeling platform may not agree with the WRAP modeling efforts which could cause some confusion for stakeholders and may complicate the SIP approval process. ADEQ recommends WRAP analyze the options for State's to consider when addressing modeling inconsistencies so that State's have a more approvable SIP product and are better able to address stakeholder concerns.	Glad to hear something of a schedule; looking forward to possible integration of U.S. EPA tools into work already started by western states using other approaches; marginally concerned that U.S. EPA nationwide modeling promised in summer of 2019 will not be timely or compatible with other modeling, or that the planning process will extend beyond the 2021 SIP deadline as a result; hopeful that constructive changes can be made through guidance with more acceptance of viable alternatives for demonstrating progress in improving visibility; encouraged that U.S. EPA might rethink Natural Conditions without a fixed value determined for the distant future.	Colorado supports the key concepts of states leading the RH implementation, reducing state planning burdens and leveraging emissions reductions from other CAA programs. However, Colorado has specific concerns about EPA finalizing the draft RH guidance (for second 10-yr planning period) sometime in the spring of 2019. Frankly, EPA should have finalized the guidance by now. States are too far along in the RH planning process to accommodate potential changes to the guidance.	Volcanic emissions are not adequately addressed.	Provided no new information but laid out an updated timeline for when specific EPA tools are anticipated to be released which may conflict with the WRAP workplan provided to states like finalizing natural visibility conditions estimates
16a) Would release of guidance and/or data from EPA according to the schedule outlined in the Roadmap affect your state's participation in the WESTAR-WRAP regional analysis process?	• YES: 2 • NO: 12 • Maybe: 2	• AZ indicated it would depend on if WRAP is meeting the planning process deadlines • ID indicated that they will rely on WRAP for the technical aspect of SIP development	NO	NO	Maybe. This would be dependent on WRAP meeting the planning process deadlines. While ADEQ favors regional consistency in RH process approaches and methodologies, we can not allow this preference to delay a complete and accurate SIP submittal.	NO. Would prepare an analysis of MID and potential Natural Conditions values independently anyway. Western states should be allowed to demonstrate visibility improvements via a different approach than the eastern states, because Natural Conditions are different at every IMPROVE monitor, and change over time, independent of anthropogenic influences. The current 2064 U.S. EPA default deciview value for Natural Conditions might represent a world that does not rely on fossil fuels for energy (minimal NOx, SOx, or CO2 equivalents), might discount some portion of episodic natural emissions and prescribed fires, and might exclude international emissions. Perhaps setting Greenhouse Gas reduction goals for anthropogenic emissions might be another way to end up with minimal anthropogenic impact on visibility at Class 1 Areas. The nexus between visibility improvement and greenhouse gas reductions should be investigated further.	NO	NO	YES, but only if it affects the regional work that WRAP is doing as we're relying on them for the technical aspect of SIP development
16b) What information would your state want or need from EPA in terms of the Roadmap deliverables, to augment your SIP preparation?	• A final guidance as soon as possible • Support on marine emissions strategy • Approach for addressing URP adjustment for prescribed fires and international emissions • An update for the 2028 visibility modeling platform • Natural conditions estimates • Recommendations for selecting the 20% MID • Modeling • Funding • Tracking Metric • Plans for federal land • Clarification on how states can meet the draft Guidance description of a screening process for sources that account for 80% of visibility impacts	ABQ would like clarification on how states can meet the draft Guidance description of a screening process for sources that accounts for 80% of visibility impacts, as right now it doesn't seem clear how the Q/d + WEP + modeling approach being prepared by the Control Measures Subcommittee can be demonstrated to be consistent with EPA's 80% threshold.	Abq-BC will participate in the WESTAR-WRAP reginal analysis process regardless of the release of data or guidance from EPA. That being said, a finalized version of the 2016 Guidance might be helpful to improve our understanding of the process, so long as a finalized Guidance didn't contradict the earlier guidance or work performed by WRAP to date. Also helpful would be receiving clarification on how states can meet the draft Guidance description of a screening process for sources that accounts for 80% of visibility impacts. Right now it doesn't seem clear how the Q/d + WEP + modeling approach being prepared by the Control Measures Subcommittee can be demonstrated to be consistent with EPA's 80% threshold. We will continue to work with NMED in determining the kinds of EPA support that would best assist our Regional Haze planning process.	We want their participation and support on marine emissions strategy	Our primary want from EPA is an approach to address URP adjustment for prescribed fire and international emissions. These factors can highly influence many of our nonattainment areas and we expect the same would be true of visibility in Class I areas.	See answer 2.a.ii. U.S. EPA could provide Alaska and other states help calculating the impacts of international emissions using Hysplit and other back trajectory modeling. U.S. EPA could work on the nexus between greenhouse gas reduction and visibility improvement. U.S. EPA could do research to improve air quality modeling in complex terrains with sources having no defined plumes.	Colorado needs EPA to update the 2028 visibility modeling platform and natural conditions estimates. Colorado needs final recommendations for selecting the 20% most impaired days also.	1) Photochemical modeling; and 2) PMF modeling.	Nothing new, Just as long as EPA doesn't change the goalposts.

Question	Montana	Nevada	New Mexico	North Dakota	Oregon	South Dakota	Utah	Washington	Wyoming
15) Please list any special regional haze planning issues/concerns for your specific state. As an example, if you are a §51.309 state, list any additional challenges in transitioning to the §51.308 approach.	Our main concern is appropriately accounting for impacts from wildfire, prescribed fire, and international (Canadian) sources.	How is Nevada going to get reductions from adjacent states that impact visibility? Meeting the requirements of the Reasonable Progress analysis (4-factor analysis) for Nevada.	We are as yet uncertain as to whether we will continue the SO2 Milestone Trading program. We're fairly uncertain, as well, as to what will be required for the transition.	"Reasonable progress" is ill-defined and subject to interpretation. Without having this well-defined, it is hard for states to know what will be accepted as reasonable. This will be especially difficult in the second round since most of the feasible projects have been undertaken by EGUs in RH1. This is why 1) visibility should be included and 2) O&G wellsites needs to be addressed. North Dakota would like to address O&G emissions that affect visibility, but we are hesitant to address this issue alone. North Dakota will likely try to utilize what others have previously accepted as showing reasonable progress.	Oregon is part of 308. No transition needed.	We plan to submit early so the timeline of the work products is a concern	We are a 309 state. We've discussed the transition with the other two 309 states and feel we have a good path forward. We are going to try to modify the SO2 milestone framework going forward such that the milestone remains steady into the next planning period. The difficulty will be in showing that what we have done to achieve SO2 reductions is BART. We shouldn't need to revisit BART for SO2 during this round of planning. Our other concern is that we are trying to resolve a FIP and subsequent court proceedings from the last planning period before we begin preparing a SIP for this planning period.	(Blank)	In absence of any final guidance, Wyoming is uncertain what the challenges might be. Wyoming will draft a 308 SIP according to the current RH rule
16) What comments does your state have on the Sept. 11, 2018 Regional Haze Reform Roadmap released by EPA?	None	The WRAP has already made significant progress with Regional Haze planning under the current draft guidance. It is our hope that the Roadmap will not compromise existing progress.	It's pretty vague. New guidance would have been more helpful earlier in our process. Because we are already well on the road to determining the protocols we will use, new guidance will only confuse matters, unless there are clarifications that will be helpful.	It came out late, has limited usefulness, and is not very helpful since it basically states that more information will be provided in the future.	We have concerns about our ability to complete consultation and planning activities within current roadmap timeframe.]	(Blank)	It is late in the process for this planning period to make any major changes to the current structure of the rule.	I think the Roadmap is too vague, with no specifics	Wyoming would like the guidance as soon as possible
16a) Would release of guidance and/or data from EPA according to the schedule outlined in the Roadmap affect your state's participation in the WESTAR-WRAP regional analysis process?	NO	NO	No. We intend to participate fully in the WESTAR-WRAP regional analysis process.	ND is continuing its planning using the draft guidance in order to meet the 2021 deadline (which will be tight). The updated URP and Guidance document would have been useful in the summer of 2018.	NO	YES	NO	YES	NO
16b) What information would your state want or need from EPA in terms of the Roadmap deliverables, to augment your SIP preparation?	(Blank)	Timely resolution of the tracking metric and timely release of natural conditions estimates	Beyond information, it would be helpful for EPA to support the work the states are doing with funding; otherwise, EPA should be supporting regions with more in-kind work aimed at reducing the work load of the regional planning organizations. Further, EPA should work more closely with western states to understand and provide solutions for our unique situations. For example, relying on the NC-II to determine the amount of haze that is natural (routine) is not well-suited to sites in the west, where altitude, vegetation and terrain create sites which vary greatly. (The assumptions in NC-II estimates consider "the west" as a homogeneous area.)	We need a final guidance and it needs to come out ASAP. We would like to know what EPA will be doing on federal land to address impacts from O&G cluster sources (i.e. O&G wellsites). This is something North Dakota is very interested in pursuing for our Regional Haze planning, but we need to first know what EPA is doing on federal land.	Timely issuance of guidance.	Updated visibility modeling, updated natural visibility estimates	None. We like the path that we are on. We plan to use the tracking metric in the proposed guidance so finalizing the guidance may help. But it's not critical because it is just guidance.	Overall clear guidance	(Blank)