WRAP 2014-18 Integrated Work Plan

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Girdwood, Alaska

Acknowledgements – many thanks

WRAP Technical Steering Committee members

- Brock LeBaron
- Alice Edwards
- Julie Simpson
- Mel. Joseph
- Bob Downing
- Jean-Paul Huys
- John Vimont
- Tim Allen
- Bob Kotchenruther
- Darla Potter
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- Jeff Johnston
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Federal agency technical representatives and extramural experts

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- Greg Frost
- Tom Webb
- Patrick Barickman
- Pat Brewer
- Frank Forsgren
- Tina Suarez-Murias

Work Plan Overview – main body

Link to Work Plan page: http://www.wrapair2.org/WorkPlan.aspx

Executive Summary

I. Background and Status

II. Organization and Structure

III. Technical and Planning Work Activities

A. Regional Haze Planning

B. Regional Emissions, Analysis, and Modeling Capabilities

C. Effects of Changing Sources and Climate on Western Air Quality

Work Plan Overview – appendices

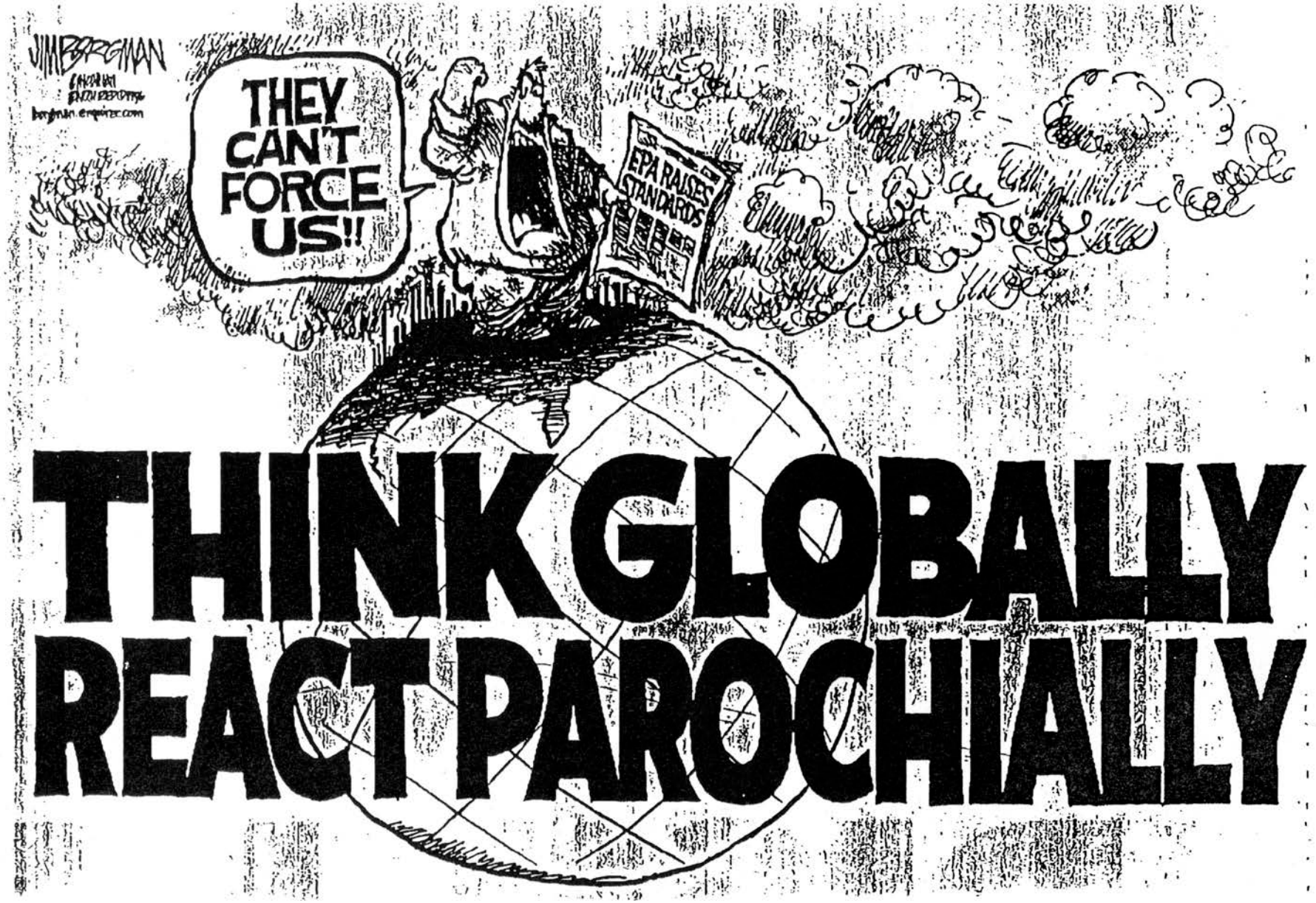
Technical Appendices

A. Support of Tribal Air Quality Capacity and Tribal Implementation Plan (TIP) Development
B. WRAP Members' Decision Support Systems (TSS and FETS) – Current / Planned
C. WRAP Technical Support for WESTAR Regional Haze Plan
D. Western Regional Modeling Framework – WRAP Modeling Studies
    D.1 BLM Cooperative Agreement and Drill Rig 1-hour NO2 Study Activities
    D.2 NPS Cooperative Agreement and 3-State Air Quality Study / Western Data Warehouse
    D.3 State of New Mexico – Dona Ana County Ozone Nonattainment Modeling Study
E. Fire Working Group and Impacts of Natural-Uncontrollable Fire on Western Air Quality
F. Oil & Gas Working Group and Better Technical Information for Emissions Control Planning for Oil & Gas Sources
G. Joint Fire Sciences Program Proposal - Real-World Evaluation of Fire SOA Emissions Factors from Fires in a Data Management System (REFERS-DMS) (submitted December 11, 2013)
H. NASA Applied Sciences Program Proposal: Evaluation and Application of AQAST Products and Knowledge in Western U.S. Air Quality Planning and Management (submitted April 24, 2014) (PDF)

Administrative Appendices

I. WRAP 2014 Charter
J. WRAP Members' and External Review and Comment (to be completed after comment period)
K. Detailed Work Plan Budget

Background and Status


JIM BORGMAN
THEY CAN'T FORCE US!!
EPA RAISES STANDARDS
THINK GLOBALLY
REACT PAROCHIALLY

Background

- WRAP has supported work of its members on regional haze since 1997

- Historically, WRAP work products result from direction and priorities from the Grand Canyon Visibility Transport Commission and WRAP Board

- Carried out through Committees, Forums, and Workgroups addressing state, tribal, Federal Land Manager (FLM), Environmental Protection Agency (EPA), industry, and environmental groups' collective needs and air management concerns for regional haze planning

WRAP Vision

- WRAP's vision is to be the leading technical and planning information source for air quality management in the western United States

- The Partnership continues to promote, support and monitor the implementation of regional haze plans to improve visibility in all Western Class I areas through a process that strives for consensus among its partners and stakeholders

- Class I areas in western states are national treasures constituting 75% of the nation's Class I areas

- WRAP assists its membership to explore, understand, and address a variety of regional air quality issues including regional haze, climate change, ozone, particulate matter, and deposition of nitrogen and mercury

Work Plan Intent

This Work Plan is intended to describe planned WRAP efforts to develop and maintain critical sets of data and to further define and understand emissions from a number of source sectors relevant to western air quality, for the 2014-18 timeframe

Accomplishments

- From 1997 through today, WRAP has been successful in developing policies and technical systems to address members' needs. Many of these products remain applicable and useful to WRAP members today

WRAP Charter

- Since its inception in 1997, WRAP has updated its Charter twice
  - Once in late 2009 and again in July 2014
- The organization is staffed and administratively supported by the Western State Air Resources Council (WESTAR)
  - Focused primarily on providing regional air quality technical support for a variety of regional air quality issues of interest to the membership

WRAP membership has changed over time

- The original WRAP Board was comprised of equal membership from state and tribes in partnership with federal agencies
  - Governors and tribal leaders or their designees were Board representatives
  - 33 Board members
- WRAP is open to all states, federally recognized tribes, and local air agencies in the geographic region encompasses by the fifteen western states, and includes federal agencies as members
- At the time of the July 2014 Charter amendment adoption, membership included a diverse group of air quality management professionals from the 15 western states, 17 tribes, 26 local air agencies, 4 federal land management agencies, and EPA
  - 63 member agencies
  - Additional local air agencies have joined since July

Purposes of the WRAP organization

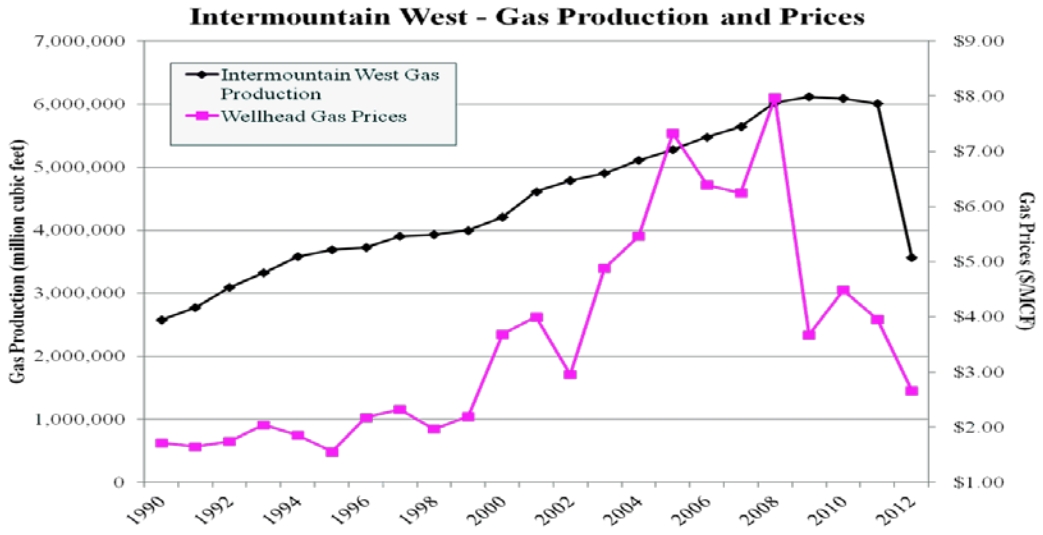
2009 and 2014 WRAP Charters lay out a continuing need for regional air quality efforts in support of the membership:

1) Maintain and update the regional haze work that WRAP has developed for the membership…
2) Develop a common understanding of current and evolving regional air quality issues in the West…
3) Examine and discuss Western regional air quality issues from a multi-pollutant perspective
4) Develop and maintain regional databases that support regional and sub-regional technical analyses…
5) Collaborate with USEPA to ensure that, to the maximum extent possible, WRAP data and analyses are compatible with and leverage work conducted at the national level…
6) Evaluate the air quality impacts associated with regionally significant emission sources…
7) Consult with air quality agencies in other regions to reduce duplication of effort…
8) Evaluate impacts of climate change affecting air quality in the West…
9) As requested by the membership, formulate and advance consensus positions on Western regional air quality issues

Emissions Changes

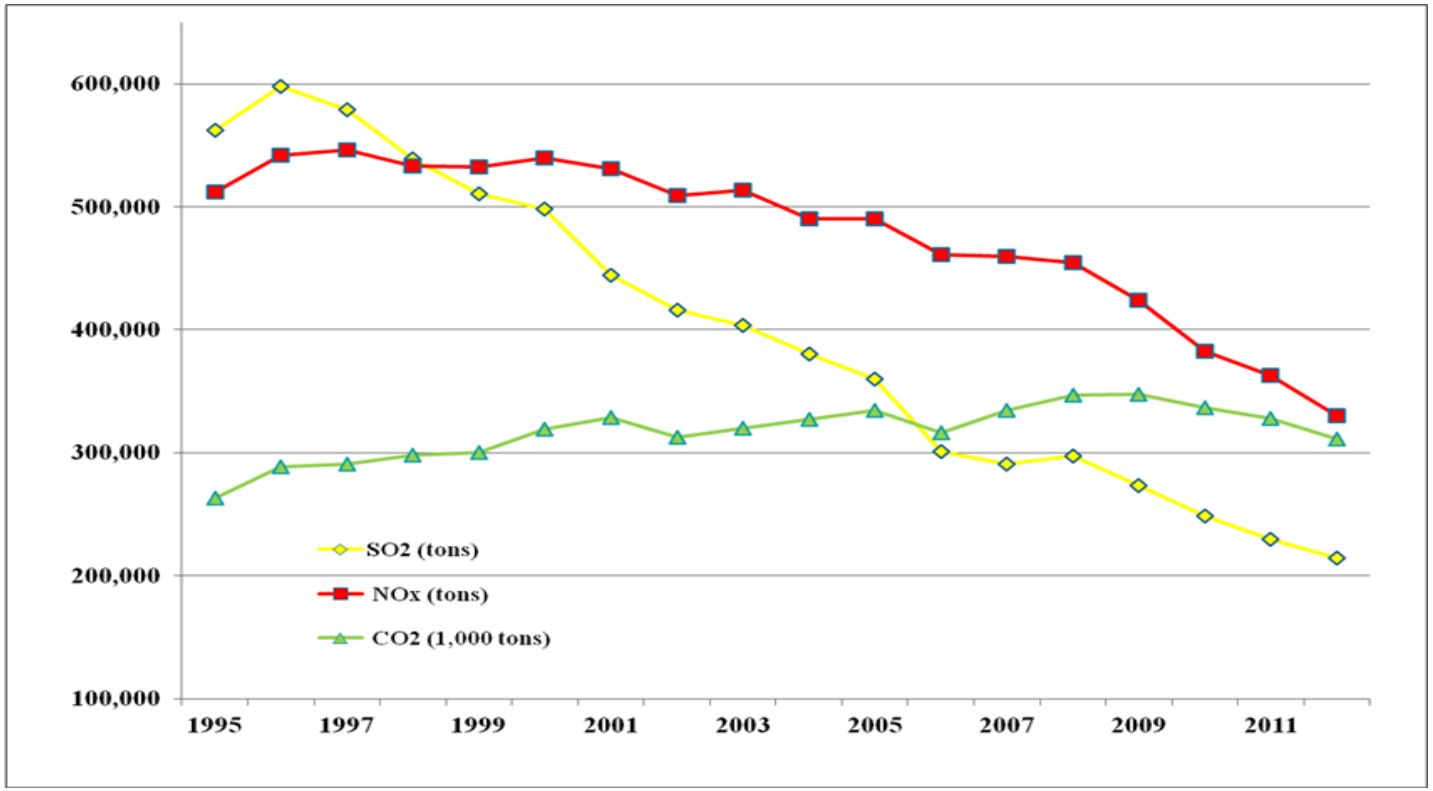
- Mobile Sources – EPA standards for land-based engines and fuels will greatly reduce emissions from mobile sources. Mobile sources are the largest source of nitrogen oxide emissions in the West. These standards will reduce mobile source emissions of nitrogen oxides by 90% over the next 15 years, even as the West continues to grow.

- Oil & Natural Gas Production – Gas and more recently, Oil production, have expanded dramatically in the Intermountain West in the last decade. Gas production increased while prices have varied by a factor of more than 2. Existing production has been supplemented with new production. Associated emissions have increased and are projected to increase further.



Emissions Changes

- Fossil Fuel Stationary Sources and Electrical Generating Units (EGUs) – By 2018, through Best Available Retrofit Technology (BART) implementation and the SO_2 Backstop Cap and Trade Program implemented by several western states under Clean Air Act §309, significant additional reductions of SO_2 and NO_x emissions are expected. These control programs in the western states' existing baseline Regional Haze Plans will address the long-standing issue of emissions from grandfathered sources, especially from coal-fired EGUs.

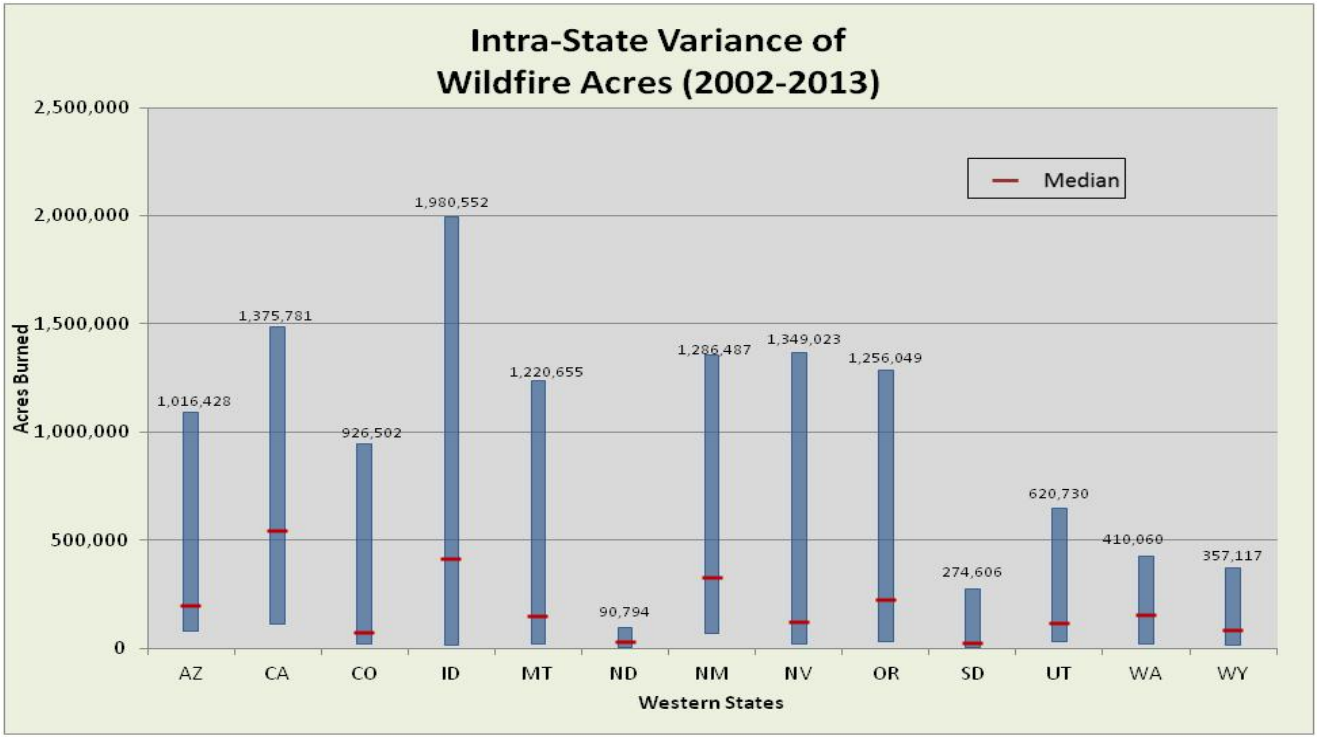


Data Source: EPA Clean Air Markets Division

Emissions Changes

- Prescribed Burning and Smoke Management – Western states/tribes/federal land managers have established smoke management programs to ensure that air quality impacts are minimized when prescribed burns are necessary on public and private land. In addition, the WRAP has implemented a fire tracking system to help land managers and air quality planners manage controllable smoke impacts on a regional basis. Natural, unplanned fire remains a very significant and highly variable source of air pollution in the western U.S. and additional studies and resources are need to understand the impacts of fire emissions on regional and local air quality management efforts.

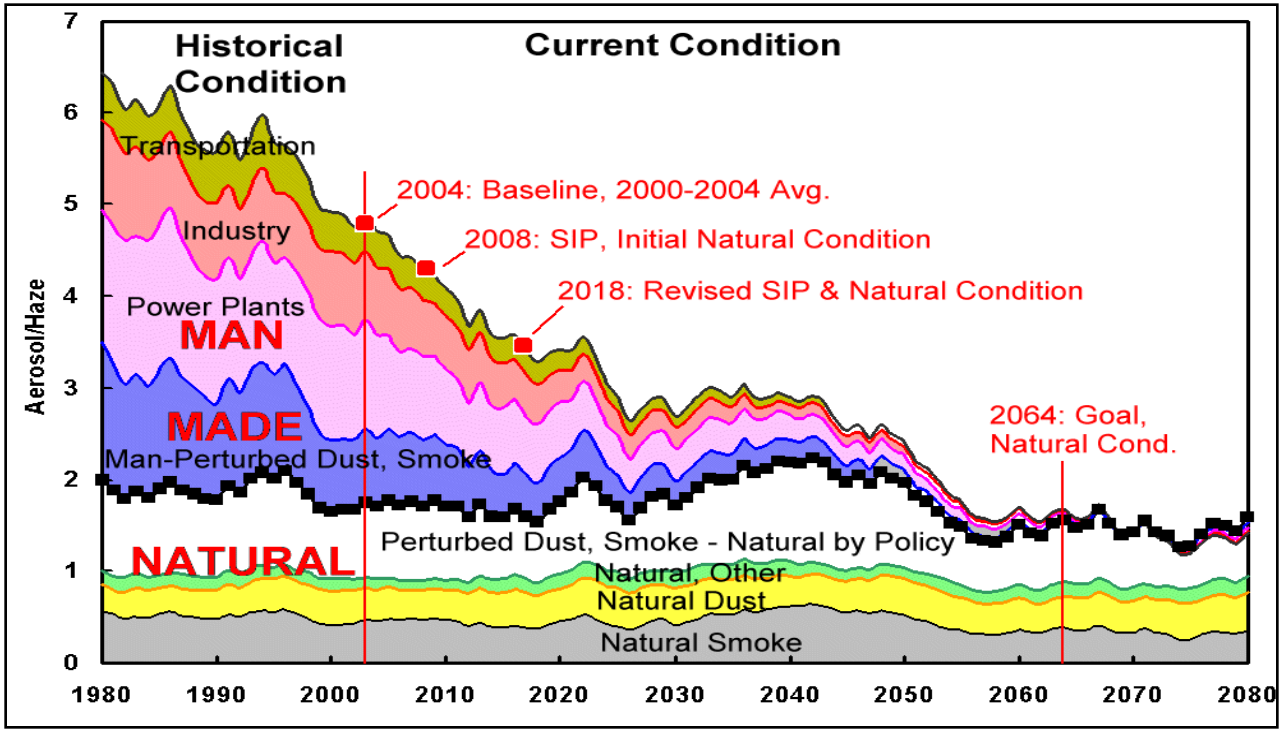
Contiguous WRAP region wildfire activity (acres – source: National Interagency Fire Center)



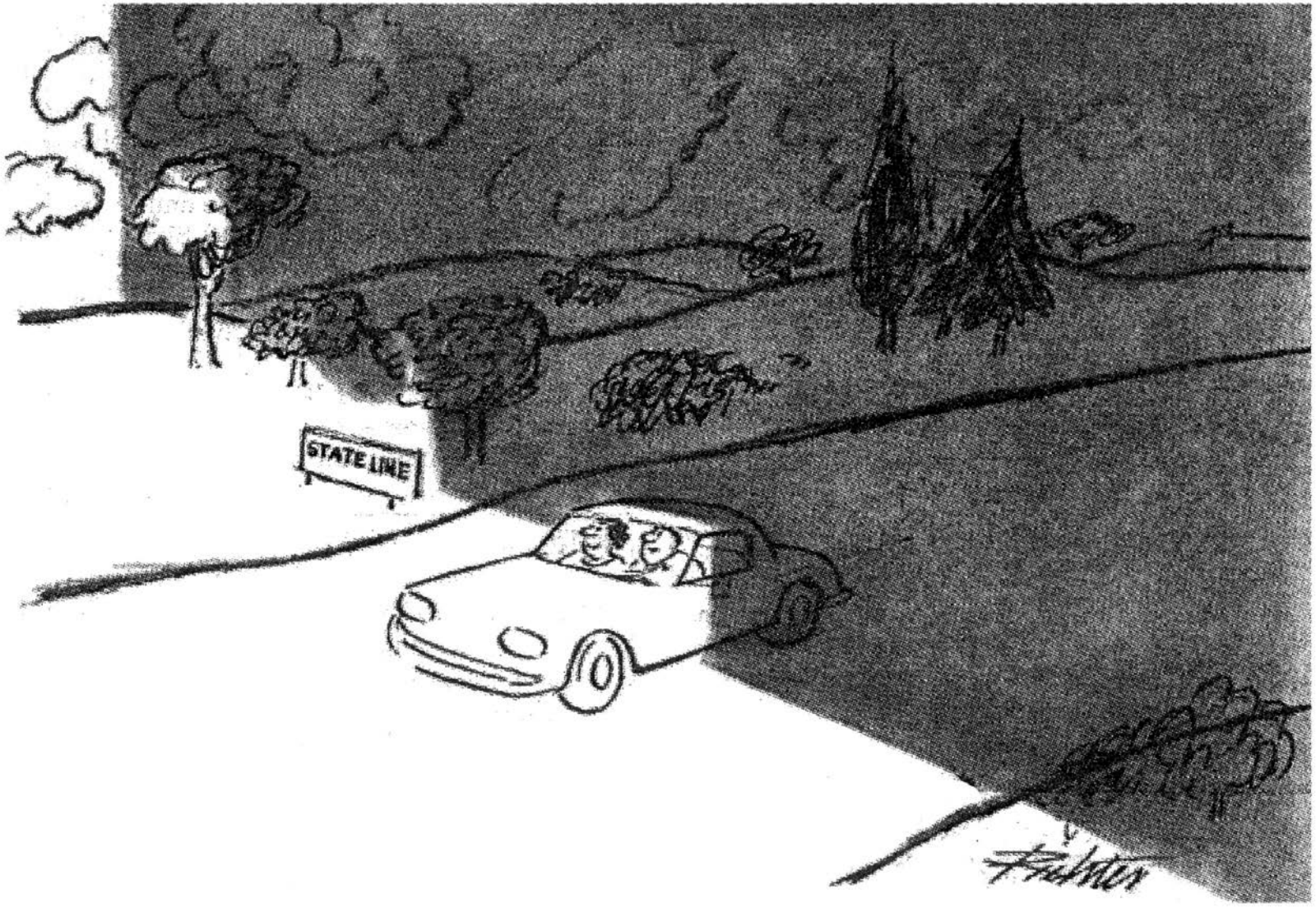
Progress on reducing Regional Haze

- Regional Haze planning presents a number of challenges to achieve continuing reasonable progress toward the Clean Air Act's national visibility goal. Numerous analyses of source contributions and controls for anthropogenic sources will be required on a regional basis.

Conceptual trend for WRAP region emissions affecting Regional Haze planning



Organization and Structure



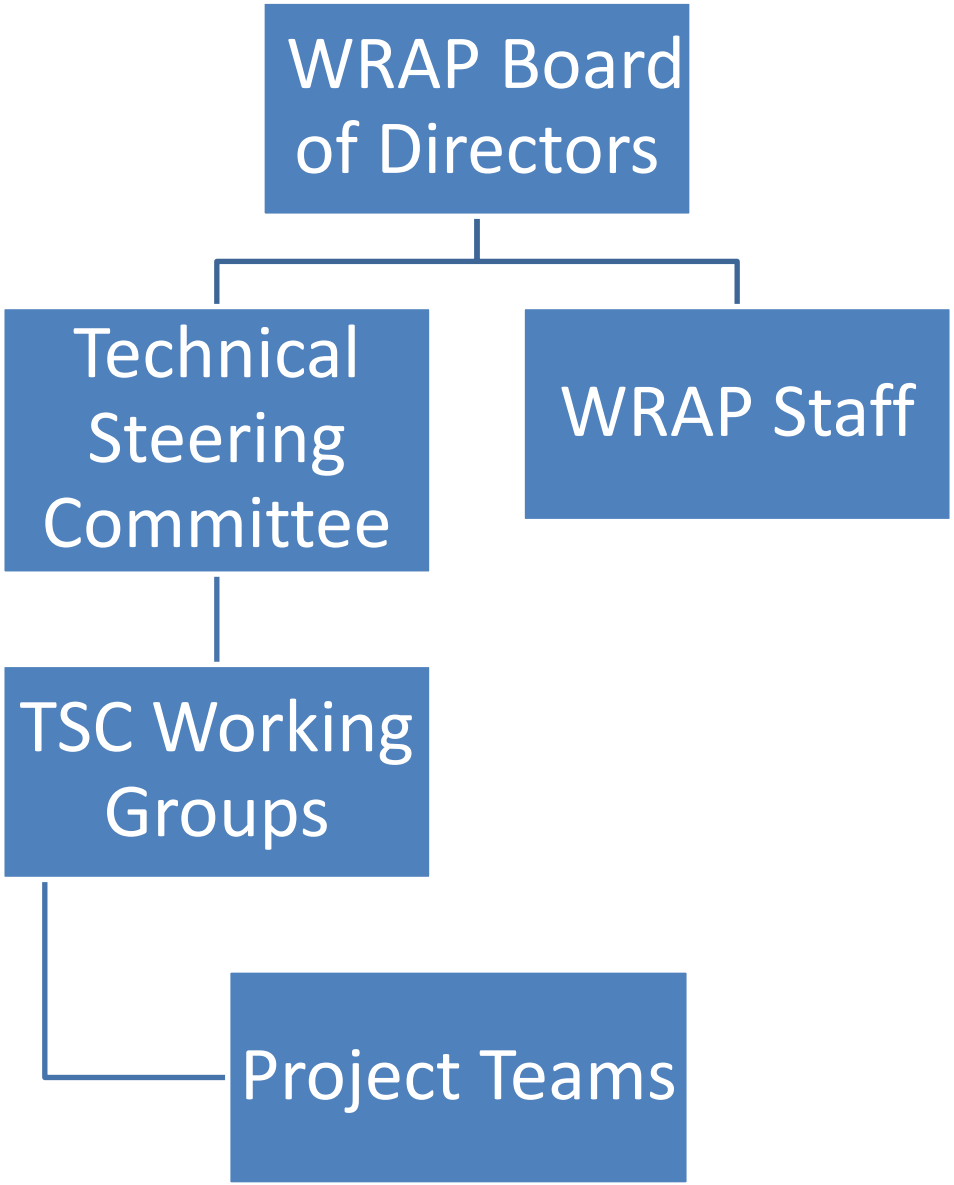
"They have very strict anti-pollution laws in this state."

WRAP organization objectives for Work Plan

3 objectives for continued successful operations, support WRAP strategic goals

- Maintain the WRAP process through:
  - Open and transparent communications
  - Deliverables that support the common needs of membership, avoid duplication
  - Pursue opportunities to leverage multi-agency resources for larger projects
  - An active Technical Steering Committee, as well as Working Groups and Project Teams implementing and tracking work under this plan.
- Continue support for developing and implementing tribal capacity
  - Improve the ability of Tribes to assess their air quality conditions and develop strategies in larger regional planning process
  - Increase ability of Tribes to protect and manage their natural resources and communities
- Maximize coordination within WRAP, leverage work of other related partner organizations through outreach, host / attend technical conferences, produce white papers – all to network with other organizations with common interests and needs

Proposed Org Chart in Work Plan



WRAP Board activities

- WRAP Board of Directors consists of five state, five tribal, five federal and two local air agency representatives
  - Board of Directors acts on behalf of all WRAP members
    - Activities, powers, duties of Board described in WRAP Charter
  - Charter authorizes the Board to provide overall policy direction

- The WRAP Board resolves all issues on a consensus basis
- The WRAP Board may vote on administrative matters when consensus cannot be reached
- In this Work Plan, committees and subcommittees are the specific Working Groups listed

Technical Steering Committee activities

- TSC consists of representatives of membership as approved by Board
  - TSC responsible for technical projects
  - Develop and complete a Work Plan
  - Technical, funding and grant opportunities aligning with WRAP Board direction
- Recommended Working Groups
  - WESTAR Regional Haze
  - Fire
  - Oil & Gas
  - Modeling Framework
  - Tribal Data
- All current and any new WRAP activities and projects overseen by TSC, a Working Group, or Project Team
- Ensure coordination with WESTAR and other organizations to avoid duplication of efforts and leverage resources, ensure the public availability of regionally important data, hold an annual technical conference

Working Groups of the TSC

- Formed at recommendation of TSC and approval of Board
  - To track ongoing, specific technical interest areas for WRAP membership
  - Start with tribal data, modeling framework, oil and gas, regional haze planning, fire - expect other regional air quality issues in the future.
- Working Groups accomplish :
  - Assess recent research and initiatives in their area of interest through communications with outside entities, technical conferences, webinars and review of academic and white papers
  - Recommend projects and funding opportunities in technical area of interest to TSC for consideration and action
  - Recommend formation of smaller temporary project teams to TSC and identify project team members and leaders that can further individual projects
- Complete projects approved by TSC and Board
- Hold periodic conference calls to update Working Group, TSC and WRAP membership on findings and project status
- Develop white papers outlining WRAP technical issues and needs
- Select a chair or chairs to coordinate work and communicate with TSC

Project Teams of the TSC

- Identified as needed by TSC-Working Groups-WRAP staff
- Project Team designated and convened from WRAP members and stakeholders to work on short-term, defined projects
- Each Project Team has a chair or co-chairs to lead or coordinate team activity
  - Dissolve following the completion of a specific project
- Project Teams:
  - Ensure that technical projects are successfully completed;
  - Review work plans, budgets, schedules, and deliverables for specific technical projects
  - Make recommendations to TSC and Working Groups for further work and/or for current or subsequent WRAP Work Plan recommendations
  - Meet as needed, provide updates to TSC and Working Groups

WRAP staff activities and responsibilities

- Provide full-time technical leadership support as well as significant experience and expertise for TSC
  - As time / funds permit, support and collaborate on technical project work with TSC-Working Groups-Project Teams
  - As time and resources permit, support TSC-Working Groups-Project Teams directly
    - WRAP may retain outside contractors for support on specific projects
  - Assist with funding opportunities aligning with Board direction
  - Work with TSC to ensure timely submittal of grant applications
- Track activities and projects to assist TSC-Working Groups-Project Teams, for periodic reporting
  - Consider needed technical tools and systems for WRAP membership use
  - Organize WRAP meetings / calls with input from TSC, Board, and membership
  - As directed by the Board, draft and implement a strategic plan for WRAP
  - Review available funding, WRAP membership needs and prioritized projects, produce reports / white papers outlining future technical needs and needed funding

Attributes of WRAP Regional Analysis and Planning Support Activities

Desirable Capabilities

Remote sensing/Satellite data,
Improved technical resolution for international transport,
Efficient regional data and decision support systems, etc.

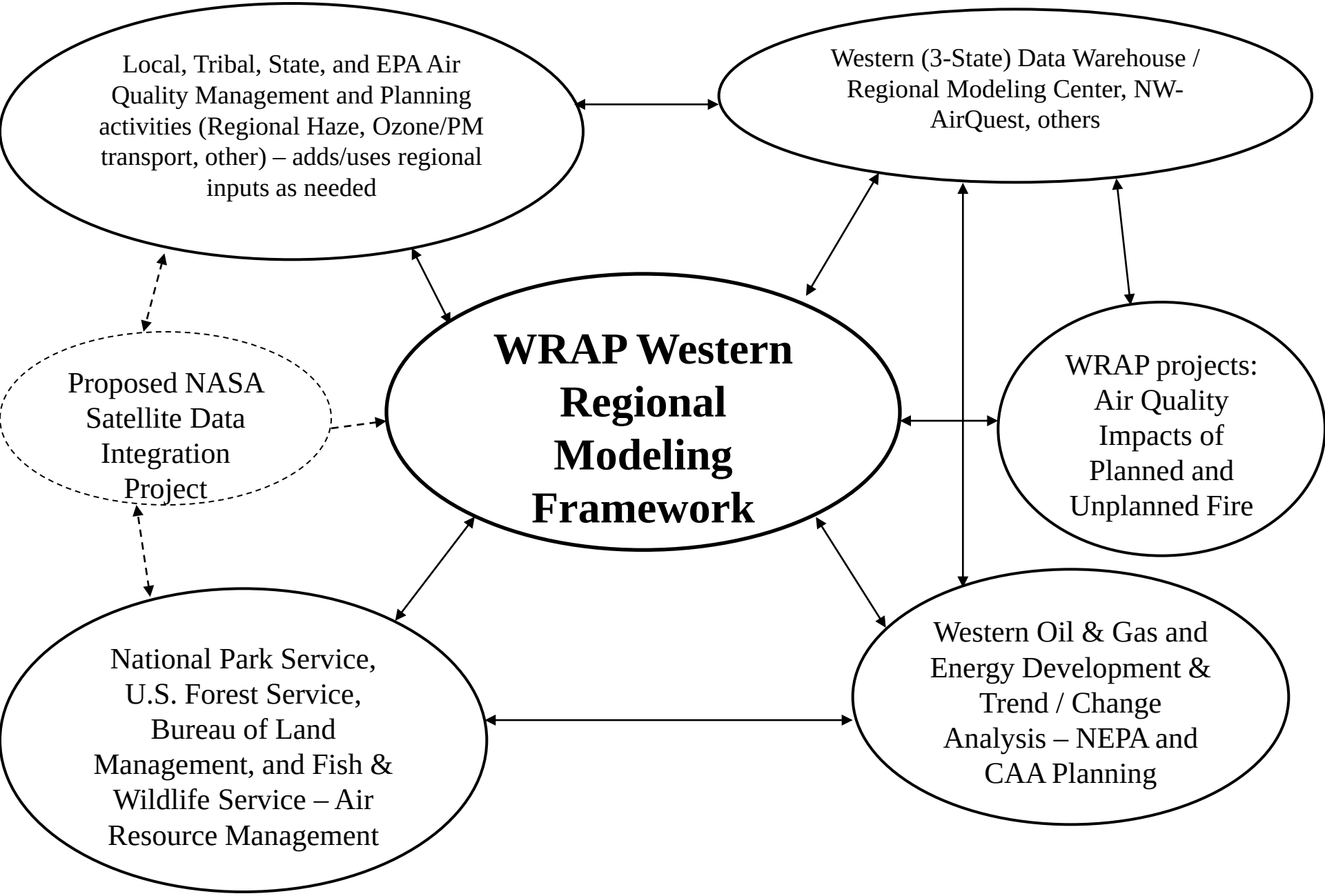
Necessary Regional Activities

Regional Haze Planning Support,
Tracking and Analysis of Controls, etc.

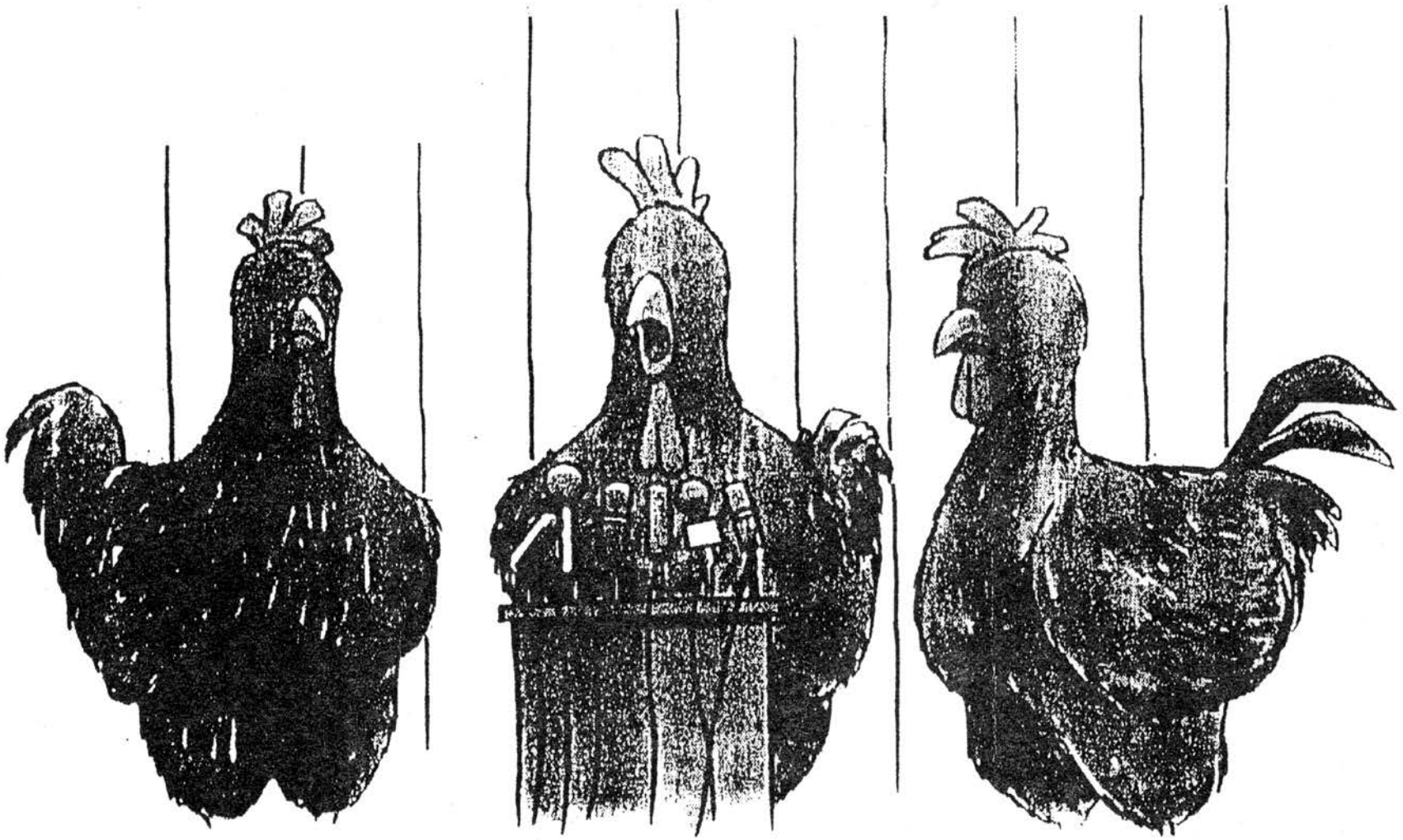
Required Foundational Activities

Western Regional Modeling Framework,
Tracking and Projection of Regional Emissions,
Preparation/delivery - ready-to-use Datasets, e.g., Monitoring, Meteorology, etc.

WRAP members and relationship to regional technical activities



Technical and Planning Work Activities



"Until our experts fully study the object in question,
we cannot confirm or deny Ms. Penny's claim that the sky is falling."

Approach to addressing Western technical topics

- Focus on development and implementation of a Western Regional Modeling Framework utilizing data from WRAP members and applying photochemical modeling tools
- The Framework will be the central, principle effort to jointly address 3 technical objectives in an integrated fashion, within the 5-year time horizon of this Work Plan
- Technical Objectives
  - Support Regional Haze analysis and planning
  - Continue developing, refining, and analyzing regional data and analysis tools for strategic evaluation of ongoing and future air quality control programs
    - Utilize data from WRAP members and apply photochemical modeling tools
  - Analyze effects of changing sources and climate on western air quality

Regional Haze

- Challenges
- Principles
- WRAP technical support activities
  - Monitoring data analysis
  - Emissions inventory development – leverage as much as possible
  - Modeling scenarios
    - Base year with source apportionment
    - “rules and reductions on the books” by 2018 – check RP goals
    - 2028
  - Assist with 4-factor analysis
  - Technical Support System update
  - Support as needed for Alaska and Hawaii
  - Other support as resources allow
    - Fire, area sources, updates to Natural Conditions

Use regional data and analysis tools

- Challenges
- Key Topics
- Extend WRAP Regional Haze technical support activities
  - Background Ozone
  - Multi-pollutant
  - Exceptional Events
  - Transport - international and inter-jurisdictional – leverage as much as possible
  - Extend WRAP technical tools and systems
    - Technical Support System
    - WRAP Fire Tools
  - Support as needed for Alaska and Hawaii
  - Other support as resources allow

Analyze effects of changing sources and climate on Western air quality

- Key Topics
  - Changes and progression of Oil and Gas development
  - Changing fire emissions - wildfire increases and wildland management policy
  - Changing temperatures and shifts in biologic resources
  - Shifts in energy facility source types and locations
  - International sources
  - Population changes and impacts

Work Plan deliverables and remaining development schedule

- Deliverables described in Appendices
  - Additional editing needed
  - Discuss budget tomorrow
- WRAP-wide review call Sept. 25th
- Review and comment period open through Oct. 24th
- Board actions to start on Nov. call
  - Active discussion needed of interplay between:
    - known and potential funding resources
    - in-kind or shared contributions by WRAP members
    - centralized WRAP-contracted support