The WRAP provided technical assistance and developed policies to assist western states with developing Regional Haze SIPs during the period 2003–2008. Wildland and agricultural fires were a key source category for the Attribution of Haze Project[1], which apportioned natural and anthropogenic pollution sources impacting Class I Areas.

To include Wildland and Agricultural fire in the source apportionment process, a point-based emissions inventory for the year 2002 was created using fire activity records provided by Federal Land Managers and State air quality agencies. GIS techniques were used to assign metadata to each record for calculating emissions, estimating plume height, and to assign each record as a "Natural" (NAT) or "Anthropogenic" (ANTH) source. Emission factors were assigned based on information from EPA as well as peer-reviewed. An evaluation process included sending data summaries to key stakeholders (FLMs, state air quality staff, etc), which resulted in additional activity records being added from state and regional databases[2] and fuel loadings for large fire being adjusted in some cases.

> **Key Data Elements for a Point-Based Fire EI**
> - Date
> - Location (Latitude/Longitude)
> - Size (Acres)
> - Type (Wildfire, Prescribed, Ag)
> - Fuel loading (Tons/acres)

> **NAT and ANTH Assignment by Fire Type**
>
> Wildfire: Always Natural
>
> Agricultural Fire: Always Anthropogenic*
>
> Prescribed Fire: Dependent on vegetation characteristics
>
> *Except for Tribal ceremonial uses

NAT/ANTH assignments were critical to the Attribution of Haze Project and to help Regional Haze planners understand the role of fires (if any) in their SIPs. This metadata attribute was not reported in the activity records, so a process was developed using a recently approved WRAP policy[3] and GIS techniques. Per the policy, prescribed fires could be classified as either NAT or ANTH, so each activity record was overlaid with a vegetation characteristics map to classify each record. Fires with vegetation characteristics that were considered very different from "historic conditions," (e.g. with an excessive build-up of dead fuel due to fire suppression) were classified as ANTH.

Attribute	WRAP 2002	NFEI 2014
Sources	Reports	Reports + Satellite
Location	Lat/Lon	Lat/Lon
Size	Reports, by event	Reports + Satellite
Type	Reports	Reports + inferred
Fuel	Reports + GIS	GIS
NAT/ANTH	Policy + GIS	N/A

For 2021 SIP updates, fires will again play an important role. EPA developed a process to remove "natural" carbon from the attribution process, but there may be persistent natural and anthropogenic fire signals in some Class I Areas. Starting with the 2014 National Fire EI (2014 FNEI), a new Base Year Fire EI will be prepared for source attribution modeling. Evaluating the 2014 NFEI will focus on adding NAT and ANTH assignments, soliciting feedback from stakeholders on summary characteristics (e.g. acres by type by county/month), and identifying gaps for processing data into model-ready files.

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[1] https://www.wrapair.org/forums/aoh/index.html

[2] https://www.wrapair.org/forums/fejf/documents/WRAP_2002_PhII_EI_Report_20050722.pdf

[3] https://www.wrapair.org/forums/fejf/documents/nbtt/WRAPFEJFNAGuidance.pdf