

Sensitive Air Quality Related Values of Mid-Atlantic Network Parks

An air quality related value (AQRV) is a resource that may be adversely affected by a change in air quality. AQRVs include visibility and specific scenic, cultural, physical, biological, ecological, or recreational resources. Research has identified certain AQRVs as sensitive, such as lakes with low acid-buffering capacity and plant species that display injury symptoms at ambient ozone concentrations. An “X” in the table below indicates the AQRV is known to be, or likely to be, sensitive to air pollution. “Unknown” indicates there is not enough park-specific information available to determine if the resource is sensitive. The table is based on best available information relative to park resources and pollution sensitivity, and will be updated when more data are available.

Visibility is a sensitive AQRV affected by air pollution to some degree in every unit of the National Park System. Air pollution affects how far we can see vistas and landscape features, and how well we can see them. Air pollution and light pollution also affect the dark night sky resource, an integral component of visibility. **Vegetation** may be sensitive to a variety of air pollutants, including nitrogen, sulfur, and ozone. Nitrogen and sulfur may affect plant growth and species composition. Ozone may cause leaf injury and growth and reproduction effects. Ozone-sensitive plant species have been identified in many parks and are listed in [risk assessments](#) that have been conducted to evaluate the risk to vegetation from ozone at park units. **Surface waters** and **soils** are susceptible to acidification, unnatural enrichment, or eutrophication from atmospheric deposition of hydrogen ions, nitrogen and/or sulfur. Water and soils that have evolved under low nutrient conditions, or those with low buffering capacity, are particularly vulnerable. **Fish and wildlife** are all potentially sensitive to air pollutants, including airborne toxics like mercury and dioxins. Air pollutants may have a direct effect to fish and wildlife (e.g., mercury neurotoxicity) or an indirect effect to their habitat (e.g., stream acidification).

Park	Visibility	Vegetation	Surface Waters	Soils	Fish & Wildlife ***
Appomattox Court House NHP	X	X	Unknown	Unknown	X
Booker T. Washington NM	X	X	Unknown	Unknown	X*
Eisenhower NHS	X	X	Unknown	Unknown	X*
Fredericksburg and Spotsylvania County Memorial NMP	X	X	X	Unknown	X*
Gettysburg NMP	X	X	Unknown	Unknown	X*
Hopewell Furnace NHS	X	X	Unknown	Unknown	X*
Petersburg NB	X	X	Unknown	Unknown	X*
Richmond NBP	X	X	Unknown	Unknown	X*
Shenandoah NP	X**	X**	X**	X**	X*
Valley Forge NHP	X	X	Unknown	Unknown	X*

* Fish consumption advisories have been issued by the state in or near the park due to unsafe levels of one or more toxics.

** Visibility degradation, ozone-induced foliar injury, and chronic and episodic stream acidification have been documented in the park.

*** Environmental contaminants information for

the network can be found at

<http://www2.nature.nps.gov/air/Pubs/pdf/toxics/RattnerReport2006.pdf>;

a report summary is at

<http://www2.nature.nps.gov/air/permits/aris/networks/docs/SummaryContaminantsMIDNandNCRN.pdf>