5.3.3 Air Quality Monitoring

Deposition of contaminants from precipitation and the atmosphere plays an important role in water chemistry and water quality on the refuge. Date for three air quality monitoring networks is collected at a location on the Okefenokee NWR (Figure 24, Table 12). Two of the monitoring networks, the Mercury Deposition Network (MDN) and National Trends Network (NTN) are part of the larger monitoring network, the National Atmospheric Deposition Program (NADP). The MDN only measures wet-deposition mercury concentrations. Samples are collected weekly and only during precipitation events (NADP 2014a). Like the MDN, the NTN collects weekly samples during precipitation events but measures the concentrations of a variety of the chemical constituents in precipitation (NADP 2014b). The third monitoring station, the Interagency Monitoring of Protected Visual Environments (IMPROVE), consists of aerosol, light scatter, light extinction and scene samplers used to measure a broad spectrum of air pollutants that are more related to visibility than deposition. The IMPROVE sampler collects four simultaneous samples every three days (IMPROVE 2013).

Table 12. Air quality monitoring data collected on Okefenokee National Wildlife Refuge. All measures are collected at the same location, which is shown on Figure 24.

Station ID	Network	Parameters[4]	Period of Record
GA09	MDN[1]	Hg	7/29/1997 – Present
GA09	NTN[2]	Ca, Mg, K, Na, NH_4, NO_3, Cl, SO_4, pH, Conductivity	6/03/1997 – Present
13-049-9000	IMPROVE[3]	Al, As, Br, Ca, Cl^-, Cl, Cu, Fe, Pb, Mg, Mn, Ni, P, K, Se, Si, Na, Sr, S, Ti, V, Zn, Zr, NO_2, NH_4NO_3, $(NH_4)_2SO_4$, SO_4, Organic C, Organic P, Particulate matter	9/28/1991 – Present

[1] Mercury Deposition Network (MDN).

[2] National Trends Network (NTN).

[3] Interagency Monitoring of Protected Visual Environments (IMPROVE); IMPROVE agencies and organizations: Air Resource Specialist, Bureau of Land Management, Desert Research Institute, US Fish and Wildlife Service (USFWS), US Forest Service, Mid-Atlantic Regional Air Management Association, National Oceanic and Atmospheric Association, National Park Service Air Resource Division (NPS ARD), Northeast States for Coordinated Air Use Management (NESCAUM), Research Triangle Institute, State and Territorial Air Pollution Program Administrators, US Environmental Protection Agency, University of California at Davis, University of California at Davis Crocker Nuclear Laboratory, Western States Air Resources Council.

[4] Aluminum (Al), Arsenic (As), Bromine (Br), Calcium (Ca), Carbon (C), Chloride (Cl^-), Copper (Cu), Iron (Fe), Lead (Pb), Magnesium (Mg), Manganese (Mn), Nickel (Ni), Phosphorous (P), Potassium (K), Selenium (Se), Silicon (Si), Sodium (Na), Strontium (Sr), Sulfur (S), Titanium (Ti), Vanadium (V), Zinc (Zn), Zirconium (Zr), Nitrite (NO_2), Ammonium Nitrate(NH_4NO_3), Ammonium Sulfate ($(NH_4)_2SO_4$), Sulfate (SO_4).