

and as a result to the ecosystem are likely. This includes increased mercury uptake in fish and further restrictions on their consumption. As noted in the TMDL's for the St. Mary's and Suwannee Rivers that are near the mining site, a 56 to 58 % reduction in mercury loading is needed to meet acceptable water quality standards (TMDLs). Release of mercury from contaminated soils during mining operations can only make the situation worse.

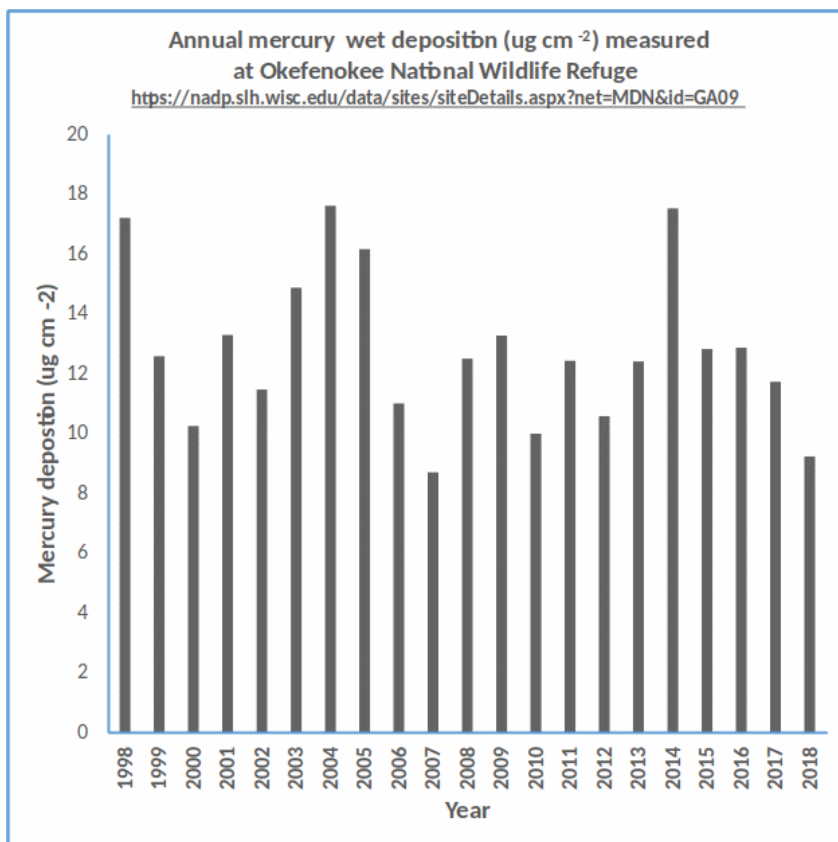


Figure 4: Annual mercury wet deposition, ONWR, from NADP.²⁷

Twin Pines Hydrologic Analysis Memo (Gage Selection)

As hydrologists from seven universities have written,²⁸ the Macclenny St. Marys River Gauge favored by the miners and GA-EPD²⁹ is too far from the mine site to be used to determine hydrologic effects. Not only should the closer Moniac gauge be used, but also the Traders Hill gauge, which is downstream of the creeks such as Boone Creek that run east from the mine site.

There is no wall in the Okefenokee Swamp between the St. Marys and Suwannee River watersheds. Any change in the level or composition of the swamp water will affect all of the Okefenokee Swamp, and the Suwannee River, which drains about 85% of the swamp. Lower water levels would mean more difficult boating on the paddle trails and motor boat tour routes, affecting the economy as well as wildlife. Thus the Fargo Suwannee River Gauge should be used. There is no way to know whether the mine affects the Suwannee River without measurements.

Not only water level but also water quality should be monitored at the river gauges.

Water quality sampling wells are also needed beyond the mining area and near both the St. Marys and Suwannee Rivers. There is scientific evidence that the swamp exchanges surface waters with underground waters all the way down to the Floridan Aquifer.³⁰ Underground water is the primary source for drinking water, irrigation, and industry throughout south Georgia and north Florida. Florida is already affected by water withdrawals from as far away as Savannah, a hundred miles farther than the mine site, as evidenced by the North Florida Southeast Georgia Groundwater Model (NFSEG), compiled with collaboration of personnel of the Georgia Environmental Protection Division for the