

From: [jen.malacarne](#)
To: [Brown, Don](#)
Subject: [External] Coal Ash Rulemaking
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After completing 6 years of monitoring (for heavy metals associated with coal waste) at two points on the mid-Kaskaskia River (2010-2017) the KWA (Kaskaskia Watershed Assoc) heard a summary of the results.

As expected, Sulphur and Iron levels were high. Surprisingly, Manganese (Mn) was consistently above the IEPA Maximum Contaminant Level (MCL) for drinking water. Illinois requires Manganese to be managed, although the federal EPA does not. While water treatment plants are currently able to drop out enough of the Manganese to reach MCL, they are at the upper limit of the process. Any more Manganese will require a SECOND ROUND OF TREATMENT, increasing time and expense to clear our drinking water here.

Manganese research shows serious damage results from excessive Manganese intake.

In Grote, Australia it has been named - "Manganese Madness," and causes aggressive behavior leading to imprisonment of a high percentage of the population where the Manganese levels are very high in exposed soils.

In the California penal system, studies in the 1990's found high levels of Manganese in hair samples from a "statistically significant" number of prisoners held in solitary confinement because of their aggressive behavior.

Many studies from snakes & amphibians in coal residue ponds find very low levels of reproduction and delayed metamorphosis linked to heavy metals.

Studies of Learning Disabled students are finding high levels of Manganese in their systems compared to their higher IQ counterparts.

PLEASE BE SURE TO INCLUDE MONITORING OF MANGANESE IN ANY COAL RESIDUE CONTROL MEASURES YOU ARE FORMULATING.

Contact me for specifics. Regards,
Jennifer Malacarne
(OKAW, Inc. Land Trust Director)

&
(Kaskaskia Watershed Assoc. Board Member)