Dragonfly Larvae as Bioindicators of Mercury in Texas Waters

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Mercury (Hg) is released into the environment by coal-fired power plants, artisanal gold mines, and other human activities. Aquatic bacteria then convert the inorganic mercury into a highly toxic compound called methyl mercury. The methyl mercury builds up through bioaccumulation and biomagnification causing consumption bans for several species of fish in Texas. Dragonfly larvae can be used as bioindicators for methyl mercury contamination in aquatic ecosystems. The carnivorous diet of larvae leads to the bioaccumulation of measurable amounts of methyl mercury. Fort Worth ISD students have been working with TCU on the USGS citizen science - "The Dragonfly Mercury Project". Dragonfly larvae are collected by students using dipnets at the Fort Worth Nature Center and Refuge along with National Parks across the United States. The larvae are placed in Ziploc bags with a label indicating the family, total length, date and location. Students use gloves and follow a strict protocol to avoid contamination of samples. The samples are frozen and shipped with dry ice to a USGS lab for analysis. We report the data currently available to the public on The Dragonfly Mercury website for the family *Libellulidae* at the Fort Worth Nature Center and Refuge (n=45, $\bar{x}$=35.9ppb) in North Texas, the Big Thicket (n=81, $\bar{x}$=283.7ppb) in East Texas and the Padre Island National Sea Shore (n=38, $\bar{x}$=36.6ppb) in South Texas.