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Hello, my name is Lindsay Blanton, and I'm the Water Programs Coordinator for the Wissahickon Valley Watershed Association. I have been monitoring the Wissahickon Creek, and have managed a team of citizen science volunteers to monitor the creek, for three and a half years.

The Wissahickon Watershed is home to almost a quarter of a million people. The Wissahickon Valley Watershed Association has spent the past 60 years serving and educating those people to care for our watershed community. We know these citizens to be people who value their environment. People who value time spent in nature. People who value and cherish wildlife.

I am here today on behalf of the Wissahickon Valley Watershed Association but also on behalf of all those people... to urge the Board to adopt aquatic life criteria for chloride or for specific conductivity. This is absolutely vital for suburban waterways like the Wissahickon Creek to remain viable habitats for all the wildlife we know and love.

Pennsylvania lies in the center of what is known as the "Salt Belt", the cluster of northeastern states in which large quantities of salt are applied to roadways to control snow and ice. Today as we speak, as the snow falls, our salted roads will convey polluted runoff to the Wissahickon Creek. Chloride concentrations of course are higher in areas with more impervious surface, and watersheds throughout Southeastern Pennsylvania are seeing elevated chloride levels in our streams like never before.

Once chlorides are in a water body, there are no biological processes that remove them. They are not typically removed at water treatment plants due to restrictively high cost. And thus we are seeing chloride in the stream throughout the year, including summer "low flow" spikes when evaporation exceeds precipitation.

As many studies have concluded, we now know that elevated levels of chloride are toxic to aquatic life in freshwater environments. For example, macroinvertebrates maintain an internal ionic concentration that is higher than the surrounding water through osmoregulation. Osmoregulation can be disrupted by large increases in certain ions (including chloride). This disruption in ion exchange can cause stress or even death to these sensitive macroinvertebrates. The Wissahickon has had steadily poor macroinvertebrate IBI scores, (at 26% and below for all sites since we started surveying in 2011). Though we know this can be attributed to many stresses, rising chloride levels in our creek surely have a profound impact on their populations.

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Studies have also found chloride tolerance levels for some fish species to be as low as 3.1 ppm. Frogs and salamanders that spawn in vernal pools may also be severely affected. Vernal pools tend to have high chloride concentrations in early spring, when eggs are laid, and in summer, when larvae and tadpoles undergo metamorphosis, two especially delicate times in their lifecycle.

The Wissahickon Valley Watershed Association has collected data on chloride for 14 years, since 2004. We currently sample at 13 different sites, spanning the entire watershed. Between 2013 – 2017, all our sites tested above the EPA recommended aquatic life criteria of 230mg/L during winter sampling. Since 2011, significant trends of increasing chloride concentrations were found at several of our sites, not just for the winter months, but throughout the entire year on average.

The bottom line is that chloride is increasing in our waterways. The bottom line is that we know this is *bad* for our waterways.

We understand that there may be mixed messages from EPA and other states on what the accepted procedures for chloride should be. But this is Pennsylvania. Our citizens care about our environment, and our citizens want to protect our rivers.

We urge you to make a commitment, to get the ball rolling, and not to delay setting standards any further. The time is *now* to start improving our procedures and thinking about what's going on the ground and ending up in our waters. There may be other regulatory tools to solve the problem of chloride in our waters. But let us begin here. Leadership needs to be taken by the state of Pennsylvania, and we need to act, starting with the standard.

The use of road salts in Pennsylvania is not going to stop in the near future, and the long-term effects of chloride in aquatic communities remain to be seen. But we do know this.

Freshwater shouldn't be salty.

Thank you very much.

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