

Ohio House Agriculture and Conservation Committee
Opponent Testimony
Substitute House Bill 110

Dana Ohman,
The Nature Conservancy in Ohio
May 25, 2021

Good morning Chair Koehler, Vice Chair Creech, Ranking Member Brent and members of the House Agriculture and Conservation Committee. My name is Dana Ohman and I am an aquatic ecologist as well as a fisheries biologist. I have a Bachelor of Science degree in Life Science with a minor in Earth Science from Otterbein University and a Master of Science degree in Wildlife and Fisheries Conservation from the University of Massachusetts, Amherst. I am certified as a Fisheries Professional with the American Fisheries Society. My experience and career have spanned working for federal, state, private sector, and non-profit entities giving me a unique perspective in working with many different interest groups, landowners, and scientific colleagues. I specialize in stream processes such as fluvial geomorphology, hydrology, and stream restoration. I look at the effects of past land use and I read landscape processes on watershed scales to determine the causes of stream impairment and instability. I utilize the evaluation of freshwater aquatic communities comprised of fish, macroinvertebrates, and amphibians to help determine how those impacts are affecting water quality thereby affecting all of us who use water for consumption, recreation, and those whose livelihoods depend on healthy water. I have conducted research on stream restoration and the effects on freshwater fish communities. I work with The Nature Conservancy in Ohio and I extend my deepest gratitude for the opportunity to offer testimony as an opponent of HB175.

HB 175 ignores the vast scientific community that recognize the important role ephemeral streams

Scientists who specialize in stream processes and aquatic communities have researched ephemeral streams and the vital role they play in watersheds. This is evident in the finalized 2015 report entitled *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence by The U.S. Environmental Protection Agency's Office of Research and Development*. This 408-page report reviewed more than 1,200 peer reviewed articles. One major take away of this report is that and I quote "The scientific literature unequivocally demonstrates that streams, regardless of their size or frequency of flow, are connected to downstream waters and strongly influence their function."

Ephemeral streams are physically, chemically, and biologically connected to downstream bodies of water. This equates to what we allow to occur in upstream waters will eventually travel downstream. As eloquently stated in the 2018 report entitled *Headwater Streams and Wetlands are Critical for Sustaining Fish, Fisheries, and Ecosystem Services* article by the American Fisheries Society, "Downstream waters are the time-integrated result of all waters contributing to them. For example, the amount of water or biomass contributed by a specific ephemeral stream in a given year might be small, but the aggregate contribution of that stream over multiple years, or by all ephemeral streams draining that watershed in a given year or over multiple years, can have substantial consequences on the integrity of the downstream waters. This report also stated polluted headwaters contribute to harmful algal blooms that result in toxic water, fish kills, domestic animal and human morbidity, and economic damage."

Streams with ephemeral flow unlike those of perennial or intermittent flow, sit above the water table and become active during rain or snow events. Ephemeral streams should not be confused with rills which occur on the landscape when shallow channels form because of erosive action of water flowing over the surface of the land. Ephemeral streams, unlike rills, have a defined bed or substrate material along with a defined bank that depicts an ordinary highwater mark. Rills are not necessarily connected to other bodies of water such as other streams, ponds, lakes, or wetlands like ephemeral streams are. Ephemeral streams play a role like the national guard in that they are being called to action or duty in times when there is a need.

Ephemeral streams incorporate many important functions for watershed health. Some of these functions include accumulating beneficial nutrients such as organic matter from the adjacent terrestrial areas, nutrient cycling, provide necessary habitat for taxa that are only found in ephemeral streams, and act as a repository as a seed and egg bank. When enough precipitation or snow melt occurs the results of these essential functions get transported downstream.

The analogy in a previous proponent testimony suggested that ephemeral streams are like the tiny branches of trees and therefore are not necessary for the health of the tree. Using that same analogy, most of those tiny branches contain leaves that are needed to supply the necessary nutrients to sustain the life of the tree. Not allowing protection for ephemeral streams is like defoliating a tree, and then asking the tree to survive with only a few leaves. I have yet to see a healthy tree with only a few remaining leaves.

Ephemeral streams provide important ecosystem services for Ohioans

Ecosystem services are defined as services that are beneficial to human society that are caused by the ecological function of those services. Ephemeral stream ecosystem services include sustaining aquifers, supplying clean water, providing recreational opportunities, sustaining aquatic biodiversity, flood attenuation, and creating dispersal corridors as well as habitat for aquatic and semi aquatic organisms. In addition, the results of these beneficial ecosystems services are carried downstream to other bodies of water.

Unfortunately, these ecosystem services can be altered with development. The National Wildlife Federation found that development has the potential to significantly change the hydrologic characteristics of a watershed by covering uplands with impervious surfaces, and removal, channelization or armoring of small or headwater streams. Disruption of the natural stream network interferes with or destroys natural flow patterns and sediment-transport functions, resulting in downstream flooding and changes to the clarity and chemistry of the downstream flows. This can damage wildlife habitat and downstream water supplies for human.

When these ecosystems services are depleted this can cause a ripple effects within a watershed system causing the potential to increase human cancer risks by increasing the opportunity of hazardous effluents to enter a watershed, diminished recreational as well as commercial fishing opportunities, increased flooding risks, increased costs associated with reservoir dredging, increased costs of water filtration due to sedimentation, increased risk of impoundment failures, decreased profit from business and localities that support recreational opportunities such as boating, and increased cost of road and associated infrastructure repairs. These services are discussed in the December of 2020 report by the External Environmental Economics Advisory Committee entitled *Report on the Repeal of the Clean*

Water Rule and its Replacement with the Navigable Waters Protection Rule to Define Waters of the United States (WOTUS).

HB 175 does not address the need for regulatory certainty

There is a great deal of uncertainty regarding the regulation of ephemeral streams. Regulation by the federal government creates a whipsaw effect in how the waters of the U.S. are regulated. The efforts to define waters of the U.S. have had agency regulations issued in 1977, 1980, 1982, 1986, and 1988. In 1981, The U.S. Environmental Protection Agency proposed a rule defining waters of the U.S. that was also put out for rulemaking by the US Army Corps of Engineers in 1982. In 1983 the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers adopted a joint definition of waters of the U.S. Following the joint definition, litigation ensued with the 1985 *United States v. Riverside Bayview Homes* case, the 2001 case of *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*, and in 2006 with *Rapanos v. United States*. The 2015 Clean Water Rule was created to better define waters of the U.S. and this rule was supported by an extensive analysis of scientific publications to determine jurisdictional guidelines. The Navigable Waters Protection Rule finalized in April 2020, has incurred subsequent filings by 17 states and 2 cities in May 2020. Unfortunately, the replacement rule's jurisdictional guidelines are contrary to the best available science.

Approving HB 175 ignores existing science of ephemeral streams and would pit Ohio at odds with future compliance from federal administrations that would rely on existing science. Constantly changing rules can create setbacks and increased costs for those who potentially seek permits as alternative designs may have to be considered. Having rules that align with science protecting ephemeral streams along with their connection to downstream bodies of water will ensure reliability.

Protecting and restoring ephemeral streams ensures the health of all those that depend on water

The role of ephemeral streams is analogous to that of bioaccumulation of heavy metals in fish. Bioaccumulation is the magnification of contaminants as it works its way up the food chain. When a contaminated fish ingests carcinogens or heavy metals, these are then magnified tenfold in its body. When another fish or animal eats that fish those contaminants are then magnified by tenfold in its body and so on until an animal is no longer ingested. Now imagine if you are walking along a stream and you notice a great deal of trash that was thrown into in a slight ravine which happens to be an ephemeral stream channel. In that dump site there are old used oil cans, tires, mattresses, appliances, parts of cars, used home medical equipment. Then every time it rains all the contaminated trash moves its way downstream. Now magnify that for each ephemeral stream that occurs in that watershed which can be a few to more than a million times depending on watershed scale.

Loss of legal protections for ephemeral streams would contribute to a severe threat and create a cascade of consequences, including reduced water quality, impaired ecosystem functioning, and negative economic consequences from increased pollution. Scientific studies from Tango, Staletovich, and Zimmer have found that polluted headwaters contribute to harmful algal blooms, fish kills, domestic animal and human death, and economic damage. This conveys the importance in protecting as well as restoring these vital aquatic resources.

In 1976 when the Clean Water Act was written, they knew what people were doing to our waterways, and unless enacted, our waterways would have continued to be a dumping ground. The following is a list of potential pollutants that could enter our ephemeral streams and impact our Ohio's waterways.

“dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.” Ephemeral streams, like capillaries are not isolated anatomical parts, ignoring their collective importance is detriment to the entire system.

In summary, ephemeral streams are an integral part of healthy watersheds. Excluding ephemeral streams from regulatory protection will have far reaching implications for humans, fish, wildlife, and their habitats, as well as economies dependent on those ecosystems. I implore that you reassess the removal of ephemeral streams from regulatory protection. Thank you for your time and consideration. I would be pleased to answer any questions the committee may have.