

Re: EPA-HQ-OW-2018-0149-0003, Revised Definition of Waters of the United States

Dear Dr. Armitage and the EPA SAB: USEPA regulators:

Please provide my comments to the EPA regulators working on the revised definition of the waters of the United States. I am an aquatic ecologist; a researcher at a public university who has spent the past 30 years doing research on streams and wetlands and publishing peer-reviewed papers in scientific journals.

The 2015 Clean Water Rule was drafted based on sound science with the input of many respected aquatic ecologists and scientists. The proposed revisions to this rule do not have that basis in science, are arbitrary, and will result in significantly less protection for our waters. I oppose the proposed changes and request that the 2015 Clean Water Rule be reinstated and put into effect.

It is not possible to protect our mighty rivers and Great Lakes without protecting the tiny streams that join together to create them. We depend on our rivers and lakes for commerce, jobs, drinking water, recreation, fisheries, and many other necessities. Thus, it is in our best interest to provide these aquatic resources with strong, scientifically-based protections.

Specific to the proposed changes:

1. Using the Scalia interpretation of a stream (based on a 50 year old dictionary definition) does not represent sound science nor a scientific way to protect our aquatic resources. This arbitrary definition should be replaced with the 2015 definition that was based on a comprehensive scientific literature review and expert input.
2. Removal of ephemeral and intermittent streams from protection will greatly reduce our ability to protect our perennial streams. It is not possible to maintain the health of larger, continuously flowing streams without protecting the tiny streams that join together to form the larger stream. If the tiny streams get polluted, or even worse, are removed from existence, the health of the waters that these tiny streams flow into will of course be affected. Not only is this logical, it is also sound science. EPA's own report concluded, "*All tributary streams, including perennial, intermittent, and ephemeral streams, are physically, chemically, and biologically connected to downstream rivers via channels and associated alluvial deposits where water and other materials are concentrated, mixed, transformed, and transported.*"
3. Basing protection upon something called a "typical year" is arbitrary and has no scientific basis for water quality and protection purposes. Stream ecologists have been doing their work for decades and have standardized, scientific, peer-reviewed methods for identifying stream beds, stream banks, and other stream channel characteristics. These do not rely on specific times of year or the need to try to define what a typical year might be.
4. For wetland protection, replacing the word "adjacent" with the word "abut" will have serious repercussions and remove many crucial wetlands from federal protection. As has long been proven scientifically, wetlands do not need to be abutting a waterway to clean the water and provide biological and ecological services to nearby waterways and ecosystems. Definitions suggesting otherwise have not been scientifically substantiated. The 2015 WOTUS rule had a more scientific definition for wetland protection.
5. Waters of the United States deserving of protection have been mapped in high precision and accuracy by a number of methods and agencies, with LIDAR increasing this accuracy across the

nation. It is not true that we don't know where these waters are or that this is too hard to define in order to provide them with protection.

The implication of these proposed changes is that the agency is moving away from a scientific basis for managing and protecting the nation's waters. I urge the EPA to return to the 2015 rule, which was based on sound science and reporting from the agency's own scientists and reports. Arbitrary and capricious rule-making will not serve our nation's waters well. We have been made only too aware of the vastly greater cost of cleaning up water rather than protecting it in the first place, and water quantity is as important as quality to the health of streams, rivers, and wetlands.

Our continent contains amazing aquatic resources that it is our responsibility to protect and conserve so that we and our children and grandchildren may benefit from them and from the ecological processes that they protect. Please stand strong in upholding the scientific basis for protecting our nation's waters.