

February 28, 2011

Mr. Edward Hanlon  
U.S. EPA Science Advisory Board  
1300 Pennsylvania Avenue, NW  
Washington, D.C. 20004

Re: Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources

Dear Mr. Hanlon:

Please accept the following comments to the Environmental Protection Agency's Science Advisory Board regarding the *Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources*.

American Rivers applauds EPA's plan to study the entire lifecycle of water involved in the hydraulic fracturing process. There are myriad questions currently surrounding the process of hydraulic fracturing and its potential impacts on water. With the drinking water supplies for millions of Americans at stake, we believe it is entirely appropriate and essential to complete a thorough lifecycle analysis that considers the many moving pieces of the hydraulic fracturing process that impact water. We believe EPA has recognized this and compiled a study design that reflects this reality.

The examination of water withdrawals for use in hydraulic fracturing is a critical first step to the study. EPA's inclusion of this aspect is critical as clean water supplies around the nation are dwindling. In addition, the completion of the cumulative water withdrawal impact analysis will be very important to illustrate landscape-level impacts. Without the withdrawal of water from either surface or groundwater sources, hydraulic fracturing as it stands today could not happen. Therefore, it is essential to consider this aspect as part of the process.

The connections to hydraulic fracturing of chemical mixing, well construction, and fluid injection are clear, as all of those activities occur on the well site in order to make hydraulic fracturing possible. Containment and treatment of flowback and produced water is another essential element of study, as the impacts of the products of this back-end process cannot be ignored. We hope that this approach will yield a more complete map of the impacts of hydraulic fracturing water use from start to finish.

One of the most informative aspects of this study will likely be the case studies. We would encourage EPA to look at additional case studies to get a better picture of the array of different geologies, water sources, and population densities where hydraulic fracturing is occurring across the country. However, we caution that the practices witnessed in the proactive case studies may not reflect the "normal" precautions taken on a drill site, and that bias should be taken into consideration when conclusions are drawn.

We support the use of the Susquehanna River Basin in the examination of water acquisition. Already a large volume of water is being withdrawn from the Susquehanna Basin for hydraulic fracturing. As the draft study plan notes, excessive water withdrawals from small headwater streams can quickly impact the hydrology and water quality of those systems. The Susquehanna River Basin contains many smaller tributaries that will be of great concern as water extraction increases, and that would cumulatively impact the mainstem Susquehanna over time.

We encourage EPA to continue to pursue potential partners for a case study on fracturing or refracturing existing wells. As well infrastructure ages, it will begin to degrade. Fracturing existing wells may increase the probability of a well casing or structural failure. It will be important to have an idea what that rate of failure might be in order to determine if that practice is well advised. Similarly, while it may be outside the scope of the current study, an examination of the breakdown of well infrastructure over the life of a well needs to be completed in order to determine how to prevent future contamination of water supplies. If thousands of wells are to be drilled in a relatively small area, this will be a critical examination.

For the retrospective case studies on well integrity, we encourage EPA to work with local individuals who have reported water contamination from natural gas drilling that is believed to be due to failed well integrity. Upon confirmation of a well integrity issue, assessing the impacts to the health of these individuals will give a more complete picture of the full range of consequences of hydraulic fracturing. It will also aid in EPA's ultimate characterization of toxicity and human health effects.

Regarding analysis of data and case studies on chemical mixing and produced and flowback water, surface spills from trucks should be included in the study. Pennsylvania alone reports truck spills regularly of hydrofracturing chemicals and wastewater. The likelihood of contamination from these types of spills and best management practices to avoid them should be covered as part of the study. Cumulatively, these small spills could produce a big impact on water supplies, especially in areas with high truck traffic and high density of wells. Additionally, given recent publications revealing the potential impact of radioactivity in drilling waste, that element should be included in EPA's examination of wastewater treatment in addition to chlorides, bromides, other deep earth chemicals, and fracturing fluids.

American Rivers protects and restores the nation's rivers and the clean water that sustains people, wildlife, and nature. It is important to us that EPA proceeds with the utmost regard for scientific integrity and concern for the health of our rivers, water, and citizens. Thank you for taking on this challenging task in such a comprehensive way.

Sincerely,

Jessie Thomas-Blate  
Most Endangered Rivers Coordinator