



**Oral Statement of Nichole Saunders to the USEPA Science Advisory Board
Hydraulic Fracturing Research Advisory Panel**

October 28, 2015

Re: Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources

Members of the Advisory Board:

My name is Nichole Saunders and I represent the Environmental Defense Fund (EDF). Thank you for the opportunity to provide comments today.

In 2009, Congress urged EPA to carry out a study on the relationship between hydraulic fracturing and drinking water. EPA's draft report is a good step towards filling a number of significant gaps in understanding regarding this relationship and EDF appreciates the time and effort EPA clearly put into compiling a valuable, cumulative synthesis of data and information available to date within the scope of this review.

However, EDF is concerned that EPA has failed to appropriately recognize and address how the large number of unknowns, uncertainties, and limitations in the report qualify the Agency's widely-cited (and often mis-cited) conclusion that the agency did not find evidence that hydraulic fracturing activities have led to widespread, systemic impacts on drinking water resources. This major finding is unclear at best and misleading at worst.

Congress did not require EPA to reach a final, national conclusion on this subject, but rather to study it – and to improve our understanding. What I'm here to share with the Board today is that EPA has successfully done just that, but has failed in providing meaningful messaging on its efforts.

EDF asks that this Board urge EPA to revise its main finding to more clearly and accurately represent the body of the report. If this assessment supports any broad conclusion, it is that the Agency does not at this time possess adequate information to make a definitive statement regarding widespread, systemic impacts of hydraulic fracturing.

The current conclusion that the Agency has not found evidence of widespread, systemic impact is vague, flawed in its reasoning, a misrepresentation of the full content of the report, and has the potential to significantly misdirect much needed research and policymaking.

Simply put, the cover doesn't match the content, and this Board should correct that error.

EPA's reasoning that "the number of identified cases . . . was small compared to the number of hydraulically fractured wells" is an oversimplified representation of the facts that creates more questions than answers about what the finding means:

- Were there adequate data to scientifically and accurately represent the stated numerator and denominator – identified cases versus fractured wells?
- What is the statistical significance of "small"?
- To what time frame does this conclusion apply?
- How does this take into consideration local and regional impacts?
- And perhaps most importantly, how does this conclusion incorporate the severity of individual impacts?

EPA encountered obvious difficulties in identifying and quantifying the existence, frequency, and severity of impacts in the face of acknowledged data gaps, limitations, and uncertainties. Formulating this result – or absence of results – into an overall finding that there is a lack of evidence of widespread, systemic impacts is a misleading mischaracterization of the facts.

Spills are a good example.

EPA could estimate spill rates for only two states. The total number of spills, their release volumes, and associated concentrations could only be "roughly estimated" due to underlying data limitations. That rough calculation – an extrapolation of data from two states across the entire nation – resulted in an estimate of 100 to 3,700 spills annually.

How was a virtually unknown national spill rate accounted for in the overall finding that spills have not led to a widespread, systemic impact on drinking water resources?

Of the 1,076 chemicals listed as used in hydraulic fracturing, many of which show up in produced water and fracturing fluids, EPA could identify physiochemical properties for only 42%, and could present key chronic toxicity information for only 13%.

How can we truly claim to understand the potential severity of spill impacts without this vital information on the character of the waste spilled?

Fundamental data gaps like this are not well-represented in EPA's major finding. And similar key unknowns are present in every chapter of this report.

The mere presence of unknowns, uncertainties, and limitations, however, is not the issue.

EDF's main concern lies in the manner in which key data gaps and uncertainties – despite their acknowledgement – have been overshadowed, both in the report and in public dialogue, by the overall finding that EPA has not found evidence of widespread, systemic impacts.

As written, this finding could misdirect future scientific research and policy making both in the United States and internationally, negating the time and effort EPA devoted to compiling this Highly Influential Scientific Assessment and potentially impeding forward progress in addressing the very real vulnerabilities and uncertainties highlighted.

EDF believes that every impact and potential vulnerability matters, especially if there was a missed opportunity to avoid that impact or minimize that vulnerability through informed advancements in science, technology, industry practices, or regulation. While EPA may not at this time possess adequate information to make a conclusive statement regarding widespread, systemic impacts of hydraulic fracturing, EPA does have ample information to use this assessment to more clearly highlight and define the scientific and technical data needed to support more definitive answers in the future. EDF respectfully urges this Board to encourage it to do so.

Thank you.