



# Northeastern University

## Social Science Environmental Health Research Institute

December 5, 2015

To Whom It May Concern:

I'm writing to express my strong support for Dr. Susan Nagel's research. As an anthropologist of science I've worked extensively with communities impacted by oil and gas extraction. My forthcoming book with Duke University Press explores how the boom in Shale Gas extraction reveals underexplored relationships between endocrine disruption and climate change research.

Susan Nagel, PhD is conducting groundbreaking research in the area of endocrine disrupting activity associated with unconventional oil and natural gas (UOG) operations, which combines hydraulic fracturing and directional drilling techniques to liberate natural gas and oil from previously inaccessible underground shale plays. She directed the first field study to assess whether UOG operations increase EDC activity in surface and ground water at sites that had previously experienced UOG wastewater spills. The Nagel research team found that water from these sites had two to three times the estrogenic and/or antiandrogenic activity than water from sites without spills. This research was published in *Endocrinology* in March 2014 and was featured on the cover of this prestigious journal. Nagel recently was the senior author of a review paper that critically reviewed over 150 peer-reviewed scientific studies related to UOG operations and reproductive and developmental effects potentially associated with this project. They concluded that "Chemicals used and produced in UOG operations are associated with human health effects and demonstrated to cause reproductive and developmental damage in laboratory animals."

Nagel's research is investigating unexplored scientific questions that are vital to assessing the human and environmental health impacts of unconventional energy development.

Thank you for your consideration,  
Best Wishes,

A handwritten signature in cursive script that reads "Sara Wylie".

Dr. Sara Wylie  
Assistant Professor of Sociology/Anthropology and Health Science  
Northeastern University

Dr. Sara Wylie  
335 Int. Village  
360 Huntington  
Avenue  
Boston, MA  
02115  
s.wylie@neu.edu  
617-373-2385

