



CAYUGA LAKE WATERSHED NETWORK

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Position Statement on Hydraulic Fracturing

“A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise.”

— Aldo Leopold, *A Sand County Almanac*

The Cayuga Lake Watershed Network is a grassroots organization founded in 1998 to provide a central organization for the protection of Cayuga Lake and the 37 major creeks in its 870-square mile watershed, which spans 44 municipalities and extends into 7 counties. Cayuga Lake, 38 miles long and 435 feet deep, is at the center of New York State’s majestic Finger Lakes, which drain to Lake Ontario. These local water bodies define our region, providing clean water that supports the life, economy, and lifestyles of our region. All of our residents depend on the lake, its creeks, and groundwater resources for clean drinking water, as do our vibrant agrarian livelihoods.

Wineries, vineyards, orchards, vegetable and grain farms, dairy farms, breweries, cheesemakers and creameries are among the flourishing producer enterprises of our region. Farms maintain 30% of the land in Tompkins County, contributing more than \$100 million annually to our local economy and maintaining a crucial element of our diverse, natural landscape that entices visitors and new residents, alike. Tourism generates on the order of \$156 million annually, producing more jobs per investment dollar than heavy industry. Tourism also builds amenities that enhance the local quality of life, and it fosters local economic activity¹.

The Cayuga Lake Watershed Network’s Strategic Plan supports projects with communities, organizations, and businesses that maintain and improve the quality of Cayuga Lake, its tributary creeks, and the watershed as a whole. Our mission is *to identify key threats to Cayuga Lake and its watershed, and advocate for solutions that support a healthy environment and vibrant communities.*

Position of the Cayuga Lake Watershed Network on Hydraulic Fracturing: In hydraulic fracturing we have identified a key threat to the Cayuga Lake Watershed. A growing body of science indicates that shale gas extraction would contaminate our fresh waters, pollute our air, negatively impact sustainable livelihoods and our local economy, and aggravate climate change. Development of shale gas would also forestall the growth of the renewable energy sector that offers to bolster our economic vitality and curtail greenhouse gas emissions. We oppose the continuation of hydraulic fracturing and urge immediate emphasis on an energy policy that promotes conservation and renewable energy sources.

Key Findings:

Impacts on Water: Thousands of cases of pollution of ground and surface waters with hydraulic fracturing chemicals and methane have been reported¹⁻⁴. Two recent studies have confirmed contamination of underground water by hydraulic fracturing^{2, 3}. Alarmingly, one of these found systematic contamination of water wells within 1 km of active Marcellus gas wells with shale methane, averaging 17-times the levels of more distant wells³. Contamination of fresh waters has occurred in all phases of shale gas mining, from blowouts, to underground contamination, to leaking wastewater pits, to tanker truck accidents¹. Based on 2005-2009 gas lease data and a

“build-out analysis” of cumulative impacts of mining Marcellus shale gas, Tompkins County would expect the development of 2100 Marcellus gas wells that would result in 16,800 tons/year of sediment runoff, 336 leaking wells, and 42 incidents of ground water contamination^{1, 6}. Each well would use 5 million gallons of water amended with 167 tons of chemicals per hydraulic fracturing event¹. Many of the 750 chemicals identified in hydraulic fracturing fluids can damage organs, disrupt hormone systems and reproductive cycles, cause cancer, induce developmental defects, and cause death⁶⁻⁹. And a recent analysis of case studies provides compelling evidence that water contamination from gas drilling has caused such illnesses and death in livestock and humans⁷. The U.S. Geological Survey has noted that ubiquitous faults not recognized by the NYSDEC would provide conduits between fractured shale and underground waters⁵. Neither the gas industry nor New York State has the capacity to properly cleanse or dispose of this toxic wastewater¹. These facts, as well as the exemption of the gas industry from Federal environmental safeguards, lead us to suspect that hydraulic fracturing of deep shale formations presents a pervasive hazard to underground and surface waters.

Economic Impacts: The Cayuga Lake Watershed is distinctive in its natural beauty and economic vitality, with striking natural features, healthy urban centers, several renowned academic institutions, and productive rural landscapes¹. Although gas development would bring gas industry jobs, associated services, and royalties for struggling landowners, it would also harm our existing agriculture and tourism trades because it requires heavy industrial activity across the landscape. There has been insufficient attention to these impacts by gas drilling advocates. Several studies have found that regions subjected to intensive energy extraction, including gas development, have suffered economically in the long term in comparison to non-urban regions not experiencing such activity^{1, 10}. And even the direct economic benefits to landowners and municipalities are often disappointing because shale plays are turning out to be far less productive than projected by the gas industry¹¹.

Effects on Global Climate and Hydrology: Because natural gas burns cleaner than coal it has been heavily promoted as a “bridge fuel” to our renewable energy future. If shale gas presented a real opportunity to effectively address climate change we would need to give it serious consideration. But full-cycle analyses (including fugitive emissions of methane during mining and transportation) of greenhouse gas impacts of different fossil fuels indicate that shale gas produces more warming than coal¹². And recent field measurements from a Colorado gas field indicate that methane leakage is even greater than previously estimated¹³. Human society is now estimated to combust about 100,000 years of plant growth annually, fueling the increasing carbon dioxide levels in Earth's atmosphere¹. Climate scientists have concluded that we are beyond the safe level of atmospheric carbon dioxide and that immediate action is required to avoid irreversible “tipping points” within the next couple decades that will lead to a drastically altered global climate¹⁴. Climate change has already altered regional hydrological cycles and this would amplify with further warming¹⁵.

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