

WATER USE AND HYDRAULIC FRACTURING IN MICHIGAN: MYTH VS. FACT

MYTH: *Compared to other industries, hydraulic fracturing uses an enormous amount of water.*

FACT: According to a 2009 U.S. Department of Energy [report](#), hydraulic fracturing would amount to less than 0.8 percent of the water demand in any given area. According to the Michigan Department of Environmental Quality (DEQ), in 2012 Michigan consumed over 200 billion gallons of water (BGW), and of that only 55 million gallons were used for hydraulic fracturing – less than 0.03 percent of total consumption. Non-agricultural irrigation, including but not limited to golf courses, used 9.2 BGW; industrial, excluding hydraulic fracturing, used 28.2 BGW; electric power generation used 37.5 BGW; public water supply used 49.6 BGW; and agricultural irrigation used an incredible 134.3 BGW. In 2013, 35 million gallons of water were used for hydraulic fracturing – the equivalent of irrigating just 56 acres of corn during the growing season.

MYTH: *Hydraulic fracturing will lower the water level of Michigan's lakes.*

FACT: As [indicated](#) by the U.S. Geological Survey (USGS), Michigan's lakes and groundwater are indeed linked. However, according to the [National Climate Data Center](#), Michigan received over 40 inches of rain in 2013 and Lakes Michigan and Huron are now 12-15 inches above their levels from 2012. More importantly, one inch of water covering Lakes Michigan and Huron [equals](#) approximately 800 billion gallons of water. In 2012 and 2013 combined, water used for hydraulic fracturing totaled less than 100 million gallons -- 0.01 percent of what one inch of water in Lake Michigan represents.

MYTH: *Unlike other industries, water used for hydraulic fracturing is consumptive and does not return it to the water table.*

FACT: According to the [U.S. Department of Agriculture](#) (USDA), up to 90 percent of the water used in agriculture is consumed through irrigation and crop use (evapotranspiration) and not returned to the water table. Furthermore, according to DEQ, agricultural irrigation in Michigan consumed 134.3 billion gallons of water in 2012, which also will not be returned to the water table. Hydraulic fracturing, on the other hand, used just 35 million gallons of water in 2013.

MYTH: *Hydraulic fracturing and the production of natural gas is more water intensive than other forms of energy production.*

FACT: According to the DEQ, deep shale gas requires just 2.5 gallons of water to produce one million BTUs. However, it takes about 11 gallons of water to produce the same amount of energy from nuclear power, and 23 gallons to produce the same amount of energy from coal. More striking is that it takes 15,800 gallons to produce the same amount of energy from corn ethanol and a staggering 44,500 gallons of water to produce the energy from soy biodiesel.

MYTH: *Withdrawing water for hydraulic fracturing will cause a drain on the groundwater supply.*

FACT: Hydraulic fracturing, unlike other uses, is only a temporary process. The process itself only takes [3 to 10 days per well](#) to complete. In addition, to protect communities from the potential negative impacts of large water withdrawals, the DEQ only grants water withdrawal permits after analyzing data obtained from a [Water Withdrawal Assessment Tool](#) (WWAT). The WWAT is designed to predict the effects of large water withdrawals in a given area.