



Ohio Department of Natural Resources
Division of Soil and Water Resources
Fact Sheet

Fact Sheet 12-68

Water Withdrawal Regulations for Oil and Gas Drilling

Introduction

Fresh water is a critical component for the drilling and development of Ohio's oil and gas resources. Water is used for support purposes, such as dust control on access roads and equipment cleaning; drilling operations for making drilling fluids and the cement used for securing casing in the bore hole; and for well stimulation processes such as hydraulic fracturing.

In most cases, between two and six million gallons of water are needed to complete hydraulic fracturing on a Marcellus or Utica shale well. Drilling and hydraulic fracturing of deep shale wells is in its early stages in Ohio, but all indications are that oil and gas development from shale will expand in the next few years. With the expansion of deep shale drilling, the need for reliable water supplies will expand at an equal pace.

To assist oil and gas drilling companies with understanding the regulations governing withdrawal and use of water in Ohio, the following provides general information regarding water rights, water withdrawal regulations, diversions of water across the Lake Erie - Ohio River watershed divide, and consumptive use of water.

Water Rights in Ohio

In Ohio, land owners have the right to make reasonable use of ground water underlying their land or of the water in a lake or watercourse located on or flowing through or along their riparian land. This right to a reasonable use is a property right protected by Article 1 Section 19b of the Ohio Constitution. Withdrawals that unreasonably interfere with the withdrawals of other land owners using the same stream or aquifer may be subject to liability via civil litigation.

Water Withdrawal Registration

Section 1521.16 of the Ohio Revised code requires any owner of a facility, or combination of facilities, with the capacity to withdraw water at a quantity greater than 100,000 gallons per day (about 70 gallons per minute) to register such facilities with the Ohio Department of Natural Resources Division of Soil and Water Resources. It is important to note that the

law requires registration if a facility has the capacity to withdraw 100,000 gallons per day even if a lower volume is actually withdrawn. Registration under this program is not a permit to withdraw water, nor does registration impose any restrictions on withdrawals. Withdrawal registration requirements pertain to all of Ohio.

Diversion of Water from the Ohio River Drainage Basin into the Lake Erie Drainage Basin

Ohio Law (ORC 1501.32) requires a permit, issued by the Director of the Department of Natural Resources, to divert more than an average of 100,000 gallons per day, over any 30-day period, out of the Ohio River drainage basin into the Lake Erie drainage basin. Diversion as applied in this section means the transfer of water from the Ohio River drainage basin to the Lake Erie drainage basin.

Consumptive Use of Water

No facility may have a new or increased consumptive use of more than 2 million gallons of water per day, averaged over any 30-day period (60 million gallons per month), without first obtaining a permit from the Director of the Department of Natural Resources (ORC 1501.33). Consumptive use as used in this law, means a use of water resources, other than a diversion, that results in a loss of that water to the basin from which it is withdrawn and includes, but is not limited to, evaporation, evapotranspiration, and incorporation of water into a product. For oil and gas operations, this could include the incorporation of water into drilling fluids and hydraulic fracturing fluids.

Lake Erie Basin Requirements

The permitting requirements listed below, and on the back, apply only to the Lake Erie Basin.

Diversion of Water from the Lake Erie Drainage Basin into the Ohio River Drainage Basin

The Great Lakes - St. Lawrence River Basin Water Resources Compact (Compact), a binding agreement among the eight states that border the Great Lakes,

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which has been enacted into Ohio law and carries the force of Federal law, specifically prohibits (with very limited exceptions) any new or increased diversion of any amount of water out of the Lake Erie drainage basin. Therefore, no permits for the transfer of water out of the Lake Erie basin for oil and gas operations, or other types of operations, are allowed.

Prior Notice and Consultation Requirement of the Compact

The Compact requires all Lake Erie basin proposals for new or increased consumptive uses of 5 million gallons per day or more, averaged in any 90-day period (450 million gallons or more in a three month period), to be submitted to the eight Great Lakes States and the Canadian provinces of Ontario and Quebec for review and comment.

General Permitting Requirements

A permit is required for a new or increased withdrawal or consumptive use directly from Lake Erie of at least 2.5 million gallons per day averaged over any 90 day period.

A permit is also required for a new or increased withdrawal or consumptive use of at least one million gallons per day, averaged over any 90 day period, from any river or stream or from ground water in the Lake Erie watershed.

Permits for Withdrawals from High Quality Waters*

A permit is required for a new or increased withdrawal or consumptive use of one hundred thousand gallons per day from any river, stream, or segment, and the entire watershed upstream; if the river, stream, or segment is a high quality water. If the drainage area upstream of the intake is greater than 100 square miles, there is a 90 day averaging period that applies to the permit requirement. If the drainage area upstream of the intake is less than 100 but more than 50 square miles, a 45 day averaging period applies. If the drainage area upstream of the intake is 50 square miles or less, no averaging period applies.

*High quality water means a river or stream segment that has been designated by the EPA under Chapter 3745-1 of the Administrative Code as an exceptional warm water habitat, cold water habitat, outstanding state water, or superior high-quality water.

For more information please contact:

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