

# INTRODUCTION

## GROUNDWATER: YOUR HEALTH AND YOUR BUSINESS

Think about the importance of having enough clean water. Your family’s health depends on it, and so does your rural-based business. Every living thing – humans, plants and animals – needs water to survive. Good well stewardship goes a long way toward ensuring safe and reliable water supplies for you, your neighbours and future generations.

In eastern North America, rural residents and farming operations rely primarily on groundwater to meet their needs. In many areas, groundwater is the only water source.

Groundwater accumulates from precipitation (rain, snow or sleet) and is stored beneath the surface of the earth. It fills cracks, pores and crevices of underground materials.

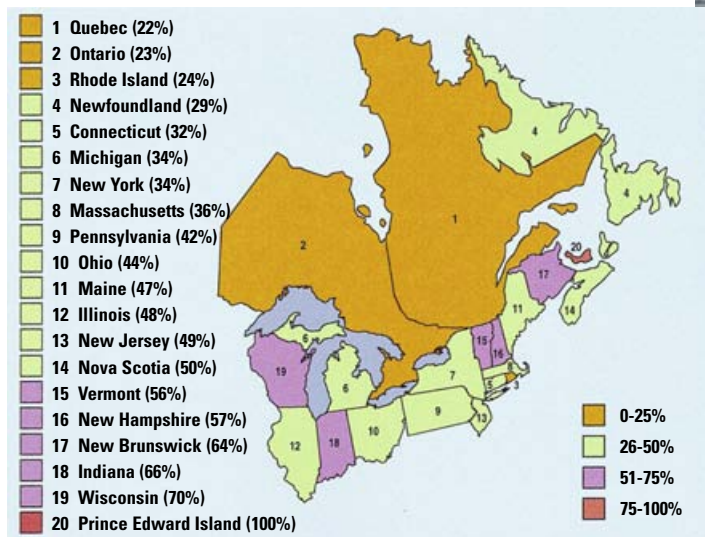
The alternative is surface water, which is stored on the earth’s surface in oceans, lakes, ponds, rivers, streams, ditches, ice-caps and wetlands.

As a water source, groundwater is preferred. It requires minimum treatment, the need for costly pipelines is eliminated, temperature and quality are usually uniform, and when properly managed, the supply is dependable.

No one “owns” groundwater: it’s a shared resource that we all enjoy and have a duty to protect.

## IS THERE ANY GOOD GROUNDWATER LEFT?

Groundwater is a renewable resource. In eastern North America, we have an abundant supply of good groundwater. Rainfall and melting snow replenish the water we draw from wells. The earth stores and protects an immense underground supply of groundwater.



This shows the percentage of water use from groundwater sources in eastern North America.



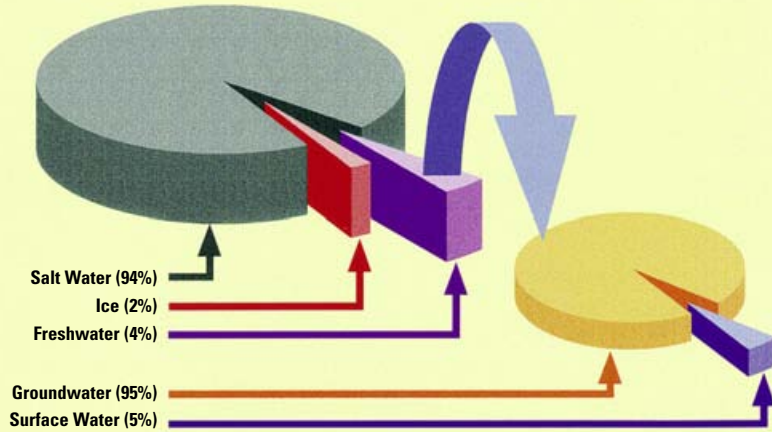
The average Canadian uses 350 litres (80 gal.) of household water every day.



Farming operations need a fresh, daily, dependable supply of drinking water for many purposes.

# INTRODUCTION

## GROUNDWATER: A FRESHWATER RESOURCE



About 94 percent of all the water on Earth is salt water in oceans and seas, two percent is frozen in glaciers, and four percent is fresh water – mostly groundwater.

Groundwater makes up about 95 percent of usable freshwater. The remaining five percent is in lakes, rivers, and wetlands.

## OLD WELLS AND NEW WELLS

Early farm water supplies were drawn from streams, springs and hand-dug wells. Since then, the needs of rural businesses and residents, and the well technology to meet those needs, have evolved. Our awareness of the importance of clean groundwater has also grown. Regulations that govern the construction, maintenance and abandonment of wells have been put in place to protect water resources.

Like machines, well components wear out and sometimes have to be repaired or replaced. By looking after your well, you protect your investment and the reliability of your water supply. Currently, Regulation 903 of the Water Resources Act governs private water systems in Ontario.



Components such as pumps, screens, casings and caps wear out, and well production can drop. Well systems require routine inspection and maintenance to stay at peak production.

# INTRODUCTION

## WHAT'S IN THIS BOOK

You'll find practical information and advice on your well and the water supply it taps, including:

- ▶ where groundwater is found and how it moves
- ▶ what you should know about groundwater quality
- ▶ what you must do to protect each well on your property
- ▶ how to properly plug and seal unused water wells
- ▶ what you need to know about constructing new wells and upgrading old ones
- ▶ when and how to monitor water quality and correct problems
- ▶ the regulations and legislation that govern minimum construction, maintenance and abandonment requirements of water wells
- ▶ when to call the experts
- ▶ resources for more information.

If you need help with terminology, see the glossary on the final pages of this book.



**Private wells are the primary source of safe and reliable water for farmers.**



## INTRODUCTION



**Proper construction and regular maintenance to protect your well from contamination are far less expensive and time-consuming than cleaning up your water supply once it has been polluted.**



**Modern drilling equipment operated by qualified and knowledgeable contractors can be very effective and efficient. Nonetheless, critical construction and maintenance practices must be followed to protect family health and the future of the water supply.**