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Water Management



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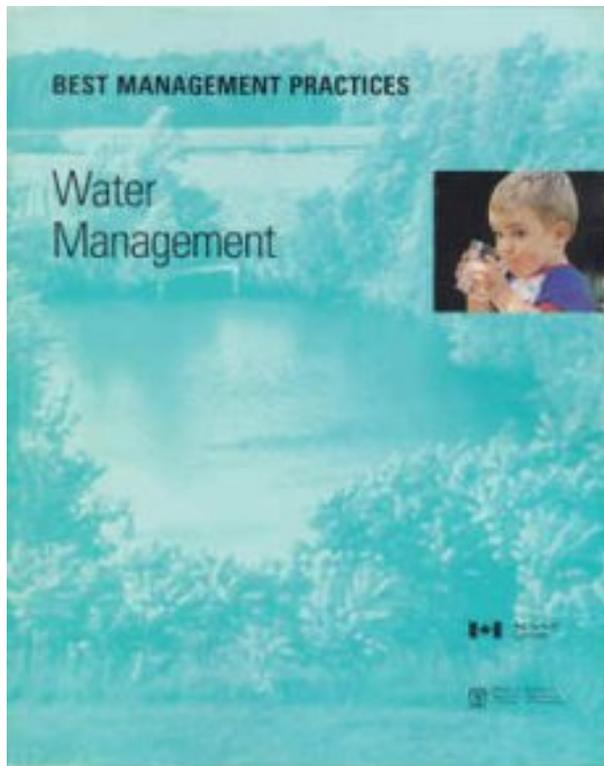
This site contains excerpts from the Best Management Practices, *Water Management* book. The published version can be ordered by clicking the link below. It is free to farmers.

[Ordering Information](#)

[Series Information](#)

The symbol,  denotes a section or chart that is available in published form only

For more information about Water Management, refer to the following documents:



- [About Nutrient Management and Water Quality -- Questions and Answers](#)
- [How to Prepare for Irrigation During Dry Spells](#), OMAF Factsheet, Order No. 99-023
- [Pond Construction: Some Practical Considerations](#), Virginia Cooperative Extension
- [Stewardship of Rural Resources: Water Quality, Supply, Drainage and Irrigation](#), OMAF Publications
- [Water Conservation Green Tips](#) (from the Ministry of the Environment)
- [Water is GROUNDWATER?](#), Cooperative Extension Service, Michigan State University, August 1991
- [Water Requirements of Livestock](#), OMAF Factsheet, Order No. 86-053

The production of the BMP series of books has been a cooperative effort of [Agriculture and Agri-Food Canada](#), Ontario Ministry of Agriculture and Food, and the [Ontario Federation of Agriculture](#).

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BEST MANAGEMENT PRACTICES



Water Management

Introduction

Water is a precious resource. The success of your farm business and the health of your family depend on having a clean and abundant supply.

Water is also a shared resource. Water used on your farm, whether for livestock, laundry, drinking, or mixing with pesticides, has been used by other people, fish and wildlife before you, and will be used by them again after it leaves your farm.

As a user of water, you have a right to expect an ample supply of clean water to meet your needs.

Likewise, it's expected that water leaving your farm, either through evaporation, infiltration to groundwater, or surface runoff, will still be abundant and clean for the next user.



Farming influences the water cycle. Management will affect the amount of precipitation that infiltrates the ground, how much flows over the surface, and will even have an impact on evaporation rates.

Historically, agricultural technology has allowed us to manipulate the quantity and quality of water supplies to increase productivity. Today, new technology, and a better understanding of natural processes, can help you protect your water while maintaining productivity.

This book will show you practical ways to conserve water and safeguard its quality. The following sections separate the farm operation into four areas:

- the home
- the barn and other farm buildings
- the field
- wetlands, watercourses, woodlots, and ponds.

We recommend that you read this book from start to finish: like the water cycle itself, each section contains material that has some bearing on the whole!

But first, a brief look at how water -- and the pollutants it can carry with it -- pass through our environment. You need to understand the water cycle before you can develop an effective water management plan for your operation.

Pathways of Water

Water is in constant motion, continually recycling through the environment in a series of pathways called the water cycle.

The water cycle establishes a water balance in every hectare of land and kilometre of stream. We can affect this balance, positively or negatively, as we change our land and water use.

Pathways of Pollution

Water is a universal carrier. Its properties enable it to dissolve many substances, and carry them with its flow. Pollutants can be carried with water through all phases of the water cycle.

Your farm is part of the overall water cycle, having an impact on both the surface water that runs over it and the ground water that runs beneath it.

Normal farming practices involve the use of many substances that can potentially contaminate water: pesticides, fuel, fertilizers, manure, to name a few.

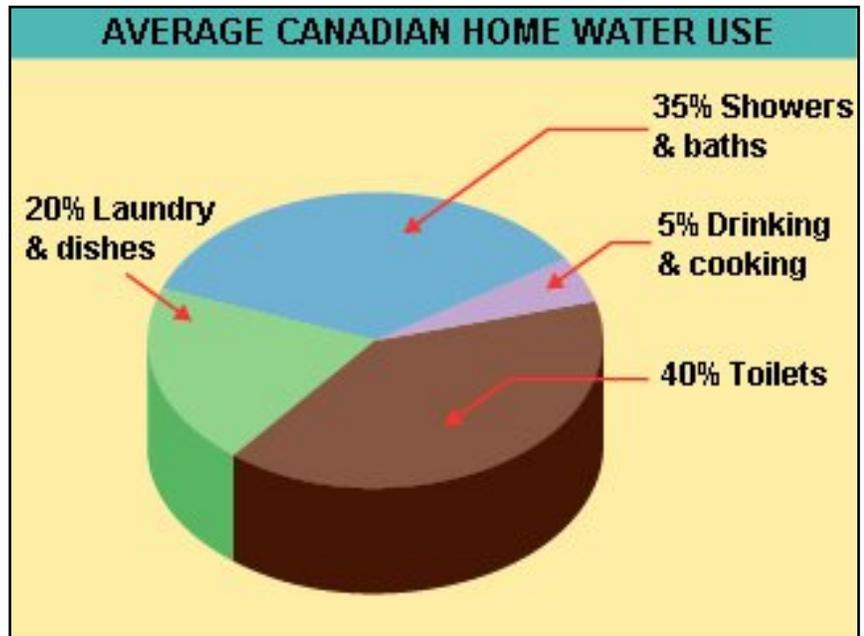
These substances can move into surface water, either by being attached to sediment eroded from agricultural land, or dissolved in runoff. They can infiltrate soil to contaminate ground water supplies.

An Ontario Perspective

Most of Ontario's agricultural production lies within the Great Lakes - St. Lawrence River basin. This is the largest fresh surface water system in the world. It holds 20 percent of the world's available fresh water.

As the number of water users in Ontario continues to increase, there are greater demands on our water supplies. When planning for the future we must ensure that water is used as efficiently as possible and protected from pollution.

Water is the common property of all Ontario citizens. To protect our water resources and all who use them, a variety of laws and regulations are in place. A [summary of this legislation](#) can be found in the last section of this *Water Management* online book.



Available in Published Version of Water Management



Composition of Earth's Freshwater - Chart



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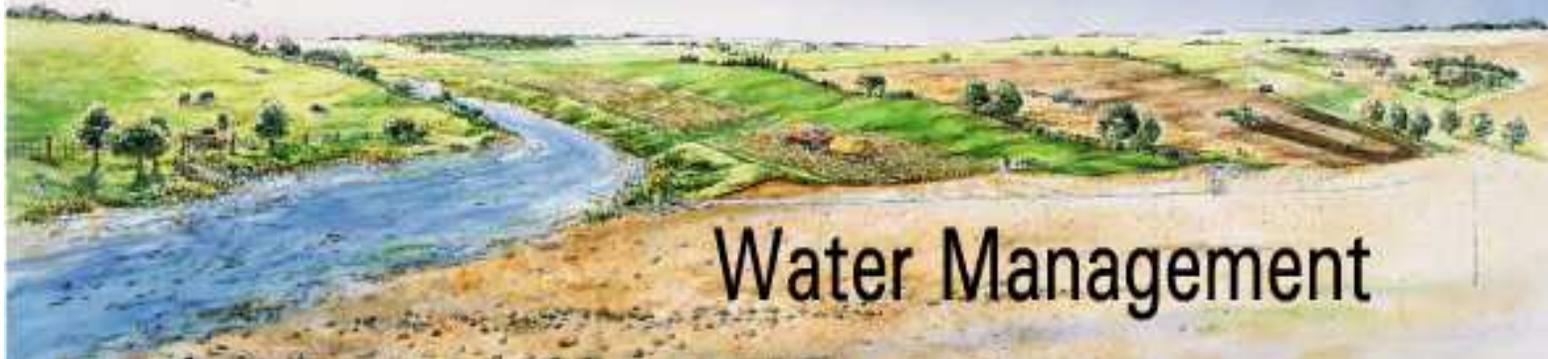
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BEST MANAGEMENT PRACTICES



The Home



Plenty of clean drinking water is something most of us in Ontario take for granted. Each day, greater demands are being made on our water supplies. In fact, 15,000 to 20,000 new wells are installed each year in Ontario.

A recent survey of rural wells in Ontario raised some concerns about the quality of the water we are drinking.

Wise management of your home's water will help to ensure ample and safe water for everyone. You'll also realize some energy savings, and help your septic system function properly.

Unprotected wells are a high risk location for contaminated surface water to directly pollute the ground water through surface runoff.

This section describes best management practices for: the well, home water efficiency, the septic system, and household hazardous wastes.

Every year you should check that the sanitary seal and well cap are secure and watertight.



Checklist for Your Well

Each year make sure that:

- ✓ surface drainage around your well is directed away from the well casing
- ✓ water doesn't pond on the ground near the well
- ✓ the sanitary seal and well cap are securely in place and watertight
- ✓ the well cap is at least 40 cm. above normal ground level
- ✓ all joints, connections, or cracks in the well casing are sealed with cement, grout, or other commercial materials
- ✓ well pump and distribution systems are in good condition
- ✓ a permanent grass buffer of a minimum 4-metre width is maintained around the well head
- ✓ water is tested for bacteria (contact your local Health office)

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Home Water Efficiency

Keeping track of household water use for one week can help to identify the main areas of water use and where to target efficiency efforts.

Fixture	Water-Efficient Measure
Shower	install a water-efficient shower head (\$10-\$4)
Toilet	install a toilet dam (saves 4 litres/ flush, \$7) install a water-efficient toilet that uses 6 litres per flush (\$150-300)
Dishwasher	wash full loads only
Washing Machines	do one less load of laundry / week use a 'suds saver' feature that allows rinse to be reused (saves 50% water on second load)
Kitchen Faucet	install a kitchen faucet aerator that maintains spray while using less water (\$5)
Bathroom Faucet	install a bathroom faucet aerator (\$5)
Lawn Watering	don't water your lawn water in evening /early morning choose grass varieties or ground cover that are drought-tolerant use drip or trickle method install a timer to avoid overwatering (\$12-\$60)

The Septic System



Have your septic tank pumped at least every three years.

ALL wastewater produced in the house must be disposed of through the septic system. This includes toilets, showers, baths, dishwashers, and washing machines.

Water softener backwash should be diverted away from the septic system and treated in a separate leaching pit. Otherwise, if your water softener malfunctions, it can cause a total malfunction of the septic system.

Keep storm or drainage water out of the septic system. Eavestroughs, foundation drains, and footing drains should be drained away from the septic system.

Keep household hazardous wastes out of the septic system. It is not designed to treat these wastes.

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Household Hazardous Waste Disposal

Common sense prevails in properly managing household hazardous wastes:

- never dispose of hazardous wastes down a drain or a toilet
- use alternatives to hazardous products
- buy only the amount you will use
- don't over-water your lawn after using pesticides and fertilizers. Runoff to streams or infiltration to ground water can occur
- securely store any excess in a well-ventilated place for transport to a Hazardous Waste Collection Depot

Disposal

Take excess household hazardous products to your recycling depot (for specific products such as batteries, paints, or oil), or to a Hazardous Waste Depot.

Many communities are holding special collection days for hazardous wastes. Contact your municipality for information.

Hazardous Wastes Used Around the Home Include:

Pesticide and Garden Products	fertilizers, insecticides, weed killers, rat poisons, mothballs, flea collars, and sprays
Health Products	unused medicines
Vehicle Products	batteries and battery acid, transmission fluid, antifreeze, car wax with solvents, motor oil
Paints and Glue Products	brush cleaners, enamel or oil-based paints, paint strippers, primers, stains/finishes, thinners, turpentine, wood preservatives
Cleaning Products	chlorine bleach, disinfectants, floor and furniture polish, oven cleaners, metal cleaners, rug and upholstery cleaners
Other Wastes	dry-cell batteries, butane lighters and cylinders, lighter fluid, swimming pool chemicals

Available in Published Version of Water Management



Pathways of Water

- The Water Cycle Around Your Home



Water Sources

- Looking Beneath the Surface
 - Ground Water and Your Well
- The Flow of Ground Water



Water Use



Wastewater

- The Flow of Wastewater - *Chart*



Best Management Practices

- The Well
 - Well Construction
 - Location and Maintenance
 - Abandoned and Unused Wells
 - Water Testing: Detecting Water Quality Problems - *Chart*



The Septic System

- Location, Care, Maintenance and Use

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Water Management

The Barn and Other Farm Buildings

The water you use around farm buildings can directly affect the quality and quantity of your water supply.

Nearly 34,500 Ontario farms water livestock. This accounts for 57% of agricultural well water use. Keeping surface and groundwater clean is beneficial to:

- family health
- livestock health
- neighbours, community, and all downstream water users
- aquatic environment and wildlife
- public perception of agriculture
- your bottom line: nutrients and pesticides are most cost-effective when they remain on their target crop

You should expect the same regard for water protection from other water users.

Here are some excerpts of the Best Management Practices presented in this book:

Mixing and Loading Practices

Here are some tips and considerations:

- locate the area where you mix and load as far away as is practical from any water source - the Ontario Environmental Farm Plan Worksheets recommend a distance of 91 metres (300 ft) from any well or other water source
- a mixing/loading area with a curbed concrete pad and runoff containment will contain any spilled chemical or rinsate

- use a separate water tank as the water supply
- use an anti-backflow device and/or a 15-centimetre (6-in) air gap above the sprayer tank when drawing water - it will prevent water in the spray tank from draining back into the water source.

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Silage Storage

Storage Location



- store your silage away from any water source, at least 91 metres (300 ft) from a well and at least 152 metres (500 ft) from surface water
- impermeable surface soil (heavy clay) around the storage will help to prevent seepage to ground water.

Silage acids will deteriorate the concrete in silos. Both concrete pre-cast stave silos and cast-in-place silos will be affected by acids in silage. Careful inspection, maintenance, and repair are necessary to protect the silo's structural stability.

Fuel Storage

Maintenance and Safety Precautions

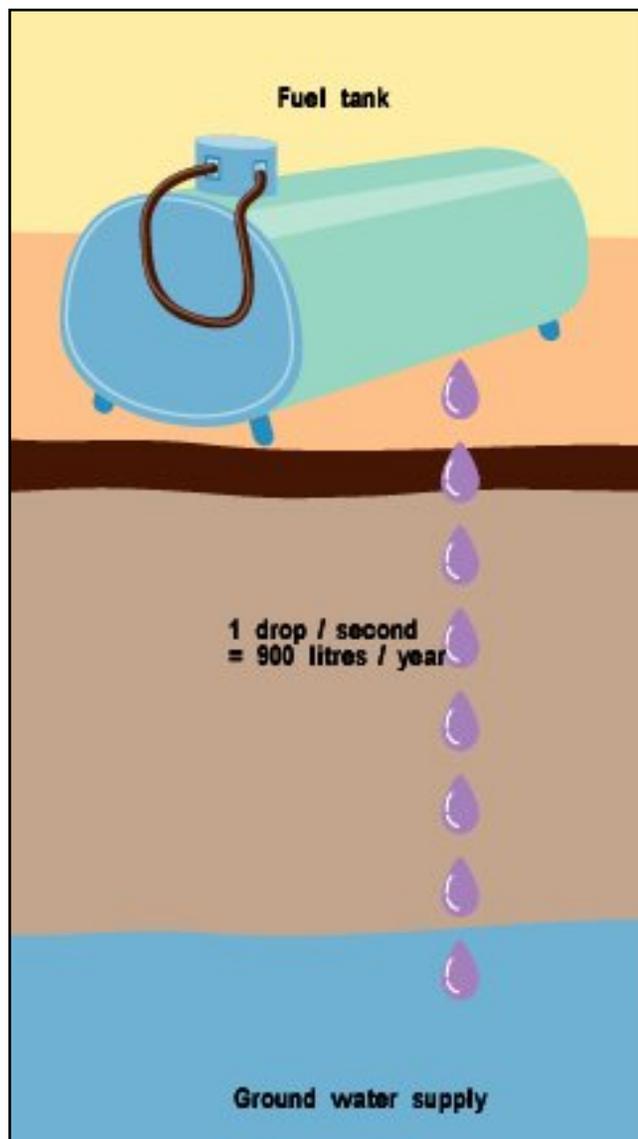
Regular annual servicing should be done by a registered contractor. Also,

- for security, the fuel nozzle should be locked when not in use
- fuel nozzle should automatically shut off either when it's released or the tank is full (ULC-approved nozzles). There should be constant supervision while pumping
- rainwater should be removed from diked areas
- above-ground and underground tanks require inventory control
- you must have an emergency plan readily available at the storage site
- check all equipment regularly to ensure that it is in good working order. Hoses, nozzle valves, and fittings should be properly tightened
- post warning signs, and have a fire extinguisher readily available.



A chemical mixing/loading area should be designed to contain any spillage.

A small fuel leak of one drop per second can mean a loss of 900 litres of fuel in a year. Your farm's water supply can be polluted by just a few litres of gasoline in the ground water.



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Fertilizer Storage and Handling



Use a mixing/loading area with a curbed solid pad and runoff containment to contain spilled fertilizer.

Storage

- store only small amounts of fertilizers for short periods, prior to application
- make sure containers are clearly labelled and well-maintained with no holes, tears, or punctures
- restrict access to the storage area
- protect stored dry fertilizer (bulk or bagged) from the weather. Cover and store on a solid surface such as sealed concrete
- contain and store liquid fertilizer on a solid surface with a separate, adequately-sized runoff containment area. This will prevent water contamination if a spill occurs.

Farm Water Efficiency

Efficient water use means achieving the same or better level of production with less water.

Make water efficiency efforts part of your overall farm plan. Make sure any action you plan is feasible. Common sense remains one of your best resources.

Here are some additional tips:

- monitor water needs, water use, and water waste throughout your operation, and target areas where efficiency can be improved
- plan your water use to ensure adequate water supplies for your own operation, while taking into account others using the same water source
- ensure that your water use is not harming the quality or quantity of water for downstream water users
- understand the legal requirements for water use and obtain any permits required.

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Manure Storage and Handling

Refer to the Best Management Practices book, *Livestock and Poultry Waste Management (for update by 2003, becomes Manure Management)* for a guide to manure handling, storage, and application on your farm.



Diverting clean water away from stored manure will reduce the amount of contaminated water.

Milkhouse Waste Management



For a guide to milkhouse waste management on your farm, refer to the Best Management Practices book, *Livestock and Poultry Waste Management*.

Many dairy farmers have installed a treatment/disposal system to prevent milkhouse washwater from directly polluting streams.

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Greenhouse Waste

You can reduce greenhouse waste through reducing, recycling, and proper disposal to protect ground and surface water supplies.

Refer to the Best Management Practices book, [Horticultural Crops](#), for practical advice in greenhouse production.

Deadstock and Other Farm Waste Disposal

Proper disposal of dead animals is extremely important to protect the health of both people and livestock. An animal carcass can contain harmful bacteria and other disease organisms that can contaminate you or others directly, or through leaching to your water supply.

Deadstock must be disposed of within 48 hours - either buried under 0.6 metres (2 ft) of earth or picked up by a licensed Dead Animal Collector. This is a requirement under the *Dead Animal Disposal Act*.

No hazardous substances should be disposed of on the farm, and farm waste material should be reused or recycled wherever appropriate.

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Pathways of Water

- The Water Cycle Around Your Barn



Water Sources



Water Use



Wastewater

- Sources of Contaminants - *Chart*



Pesticide Storage and Handling

- Safety Concerns
- Storage
- Emergency Plans

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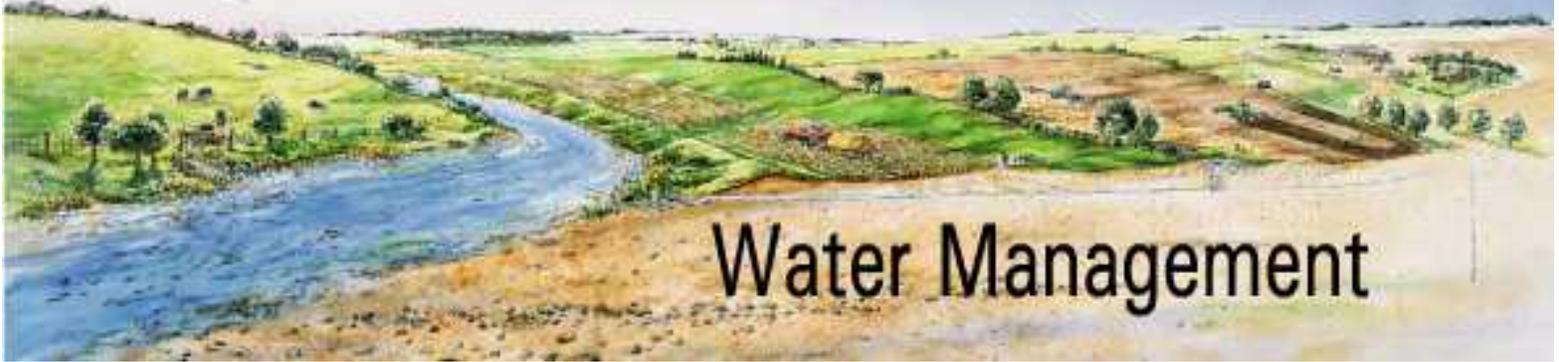
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The Field

How you manage crops in the field directly affects water quantity and quality. This section will help you develop a water management plan that:

- will help sustain ideal soil moisture levels
- keeps ground water impacts to a minimum
- reduces soil erosion, by managing overland runoff.

But first, back to basics: how water moves (or doesn't move) through a field, and the influences of soil types, seasons, cropping practices, and drainage on its movement. You need to be aware of these interrelationships before you can develop an effective plan.

Throughout the next sections, we'll be referring you to other books in the Best Management Practices series that address related topics - soil, nutrient, crop, manure, and woodlot and wildlife habitat management. In them are more background and best management practices to help you protect your soil and water resources.

Nutrient Management



A sound nutrient management program will maintain or increase yields while saving you money and protecting the environment. We urge you to read *Nutrient Management*, *Nutrient Management Planning*, and *Livestock and Poultry Waste Management* for more details.

Over application of atrazine can reduce crop yields.

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Pest Management

Adopting an Integrated Pest Management system for your operation will help you use chemicals efficiently and effectively, while protecting your water quality. The IPM program considers weed, insect, and disease control.

See the Best Management Practices book, *Integrated Pest Management and Pesticide Storage, Handling, and Application* for more details on what's involved, and see 'The Barn' section in this book for more information about pesticide mixing, storage and disposal.

Always remember to evaluate the types of soils on your property, and assess the vulnerability of your water supplies.



Pest-control products, such as pesticides, are designed to kill specific pests. They can also be toxic to people.

Irrigation Management



Choose an irrigation system that gets as much water back to the plant as is needed and minimizes water losses to evaporation and/or runoff.

Some best management practices for irrigation include:

- scheduling irrigation to maximize energy and water conservation
- being conscious of water table levels, and your effect on them
- moisture-testing soil to ensure crops do need water
- if fertilizers are being applied, make sure the job is necessary and done safely
- installing an anti-backflow device, such as a check valve.

See the Best Management Practices book [Irrigation Management](#) for further information.

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Drainage Management

Drainage works are a large capital investment. Management of an artificial drainage system requires effective:

- planning of the system prior to construction, and
- maintenance, i.e. inspection and repair.

This section looks at the overall picture, then specifically tile outlets, surface inlets, tile lines, surface drainage systems, and runoff management. For more information read OMAF Factsheet, [Drain Problems](#).



Red organic matter, "iron ochre", is occasionally a problem in tile drains.

Available in Published Version of Water Management



Pathways of Water

- The Water Cycle Around Your Fields



Ground Water and Your Soil



Surface Water



Chemical Movement

- Solubility, Persistence and Adsorption Potential of Crop Protection Chemicals - *Chart*



Subsurface Drainage

- Tile Drainage



Drainage Management

- Troubleshooting Tile Lines - *Chart*
- Cropping and Tillage Management - *Chart*

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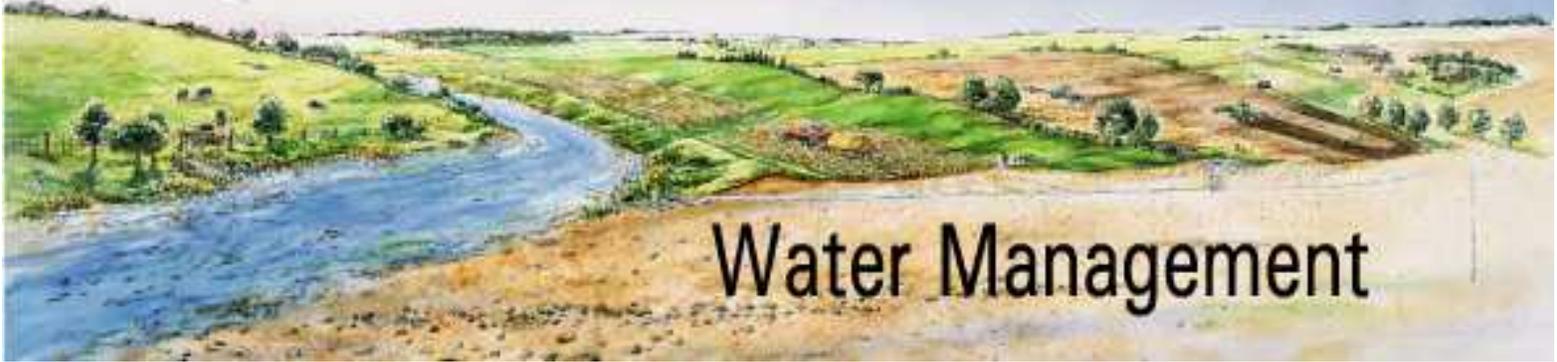
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BEST MANAGEMENT PRACTICES



Water Management

Natural Areas: Wetlands, Watercourses, Woodlots and Ponds

Whether they're natural or artificial, wetlands, watercourses, woodlots, and ponds play pivotal roles in the well-being of your farm and the local environment.

What were once seen as nuisances or of little value are now recognized for their benefits to agricultural production. Depending on the type of on-farm water body, it can benefit your operation by:



- limiting flooding by storing runoff and acting like reservoirs
- helping water flow continuously
- purifying water
 - vegetation in wetlands is very efficient in removing nutrients and sediment
- reducing soil erosion by acting as a buffer against flowing water, either into or through the system
- returning water to atmosphere, stream base, and ground water sources
- offering habitat for species that help control insect and rodent infestations
- providing fish habitat, including spawning, rearing, and feeding areas
- providing a source of water in case of fire
- providing recreational opportunities.

Wetlands

If you want to maintain and protect your wetland, often the best method is to do nothing. Don't burn, fill, or drain them - or do any of the other activities listed in other sections of this *Water Management* book.

Buffer strips are excellent filters around wetlands. If you have a buffer strip, maintain it. If there is none, create one. Vegetated buffers will trap sediments and nutrients, and stabilize and reduce erosion, thereby ensuring wetlands receive cleaner ground and surface water. They're usually made of grass, shrubs, and trees, or a combination of each.



Destroying wetlands can leave areas vulnerable to the invasion of noninvasive nuisance plants, such as purple loosestrife and garlic mustard.

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Watercourses and Lakes



Streams and watercourses on farms are sometimes widened, straightened, or deepened. These changes can detract from a stream's ability to move water and sediment. Generally, altering a natural watercourse is not recommended; any work involving stream channels or shorelines requires a work permit from the Ontario Ministry of Natural Resources.

A well-constructed and maintained open ditch. Grass buffers are left to provide stability to the drain bank and filter out soil moving in runoff.

Woodlots

Farm woodlots range from small woodlots of Southwestern Ontario to larger forests of Eastern and Northern Ontario. All of them benefit agriculture.

The *Farm Forestry and Habitat Management* Best Management Practices Book discusses woodlots, and best management practices, in detail. Also, your local Conservation Authority can be of assistance.

Forests vs. Fields

Item	Forested Area	Farming Area
Water Quality	<ul style="list-style-type: none"> streams run clear 	<ul style="list-style-type: none"> streams are forces to carry higher sediment and chemical loads
Water Quantity	<ul style="list-style-type: none"> more water infiltrates into forest floor floods are localized, and do not impact significantly downstream 	<ul style="list-style-type: none"> water runs off more quickly, offering less recharge to ground water sometimes create adverse downstream impacts, such as flooding rate of runoff is reduced
Habitat	<ul style="list-style-type: none"> aquatic life and wildlife will be plentiful 	<ul style="list-style-type: none"> reduced variety of aquatic life and wildlife

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Ponds

If you're constructing or altering a pond on or near a stream, you will probably need approval. Contact your Municipality, the local Conservation Authority, the Ontario Ministry of Natural Resources, and the Ontario Ministry of Environment and Energy before proceeding. A Permit to Take Water may be required to fill the pond.



A healthy, well-maintained pond offers benefits to all users.

Pond Maintenance

Pond Maintenance should include:

- inspecting periodically and immediately repairing any damage
- maintaining embankments, filling any rills, re-seeding or re-sodding as needed
- using best management practices described earlier to prevent bank erosion and seepage concerns
- keeping outlet structures operating as planned
- discouraging burrowing animals by placing a thick layer of sand, wire mesh, or rip rap 1 metre above and below the water line on the slope of the embankment dam
- planting shoreline vegetation to stabilize the banks and to provide shade, therefore enhancing fish habitat
- diverting contaminated surface and ground water flows away from the pond.

Available in Published Version of Water Management



Pathways of Water

- The Water Cycle Around Natural Areas



Wetlands

- Maintaining, Protecting, Enhancing, Restoring and Creating Wetlands



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BEST MANAGEMENT PRACTICES



Water Management

Some of the Legislation and Guidelines Protecting Water Resources

To protect your rights and the rights of future water users, federal, provincial, and local governments have created a number of laws and guidelines to ensure an abundant supply of clean water.

The large number of laws and guidelines protecting your water resources can be confusing. In part, this is the result of all three levels of government attempting to manage water or issues related to water. Control over water resources has never been clearly allocated to any one level of government in our constitution.

Other laws have developed as a response to specific pollution problems. The Pesticide Act evolved from a growing awareness of health risks and water pollution problems associated with the improper use of pesticides. Similarly, the Gasoline Handling Act was a response to problems of inadequate private fuel storage facilities.

This list describes some water-related laws and guidelines that can directly influence a farmer's operation. Please note: additional local zoning bylaws and other legislation may also have a bearing on what you do!**

If you have concerns or questions regarding water management on your property, be sure to contact relevant government agencies, and be aware of bylaws in your area. The [E-laws website](#) contains copies of all Ontario legislations. For more information on the Nutrient Management Act, 2002, visit <http://www.gov.on.ca/OMAF/english/agops/index.html>.

MNR: Ontario Ministry of Natural Resources

MOEE: Ontario Ministry of the Environment and Energy

OMAF: Ontario Ministry of Agriculture and Food

MCBS: Ontario Ministry of Consumer and Business Services

MOH: Ontario Ministry of Health and Long-Term Care

MMAH: Ontario Ministry of Municipal Affairs and Housing

Law/Guideline**Government Agency****Goal****Relevance to Landowner**

Agricultural Code of Practice (Certificate of Compliance)	OMAF, MOE, MMAH	To provide guidelines for livestock operations to minimize land, water, and air pollution potential.	Best management practices are described to reduce pollution potential associated with livestock operations. If requested by the landowner, an application for a Certificate of Compliance can be made and an inspection of the farming operation performed; if conditions outlined in the Code of Practice are satisfied, a Certificate of Compliance will be issued
Common Law	Provincial Courts	Generally, to protect the rights of the people.	All landowners bordering water are entitled to have water flow through in its natural state (this related to both water quality and quantity).
Conservation Authorities Act	MNR, Local Conservation Authority	To manage and conserve natural resources within watershed jurisdiction.	Regulations may be in place controlling construction or the placement of fill adjacent to a watercourse.
Dead Animal Disposal Act	OMAF	To provide for the safe disposal of deadstock.	Deadstock must be disposed of in accordance with regulations (i.e. within 48 hours, buried under 0.6 metres of earth, disposed of by a licensed collector).
Drainage Act	OMAF	To allow landowners to obtain an improved outlet for their land drainage.	Provides financial assistance for drain construction and maintenance. General prohibition against the discharge of polluting substances into a drain. Control activities in or near a drain and connections to a drain.
Environmental Protection Act	MOE	To protect Ontario's land, water, and air resources from pollution.	Contaminants are not allowed to be discharged into the environment in excess of regulatory limits. Farmers are exempt from requiring a Certificate of Approval for agricultural structures or equipment (i.e. manure storage).
Fisheries Act	MNR, on behalf of Dept. of Fisheries and Oceans, MOE, and Environment Canada	To protect fish and fisheries habitat.	General prohibitions against discharging pollutants to a watercourse that would harm fish or fish habitat. General prohibitions against stream alterations that would harm fish habitat.
Gasoline Handling Act	MCBS	To protect land, surface and ground water resources from damage by petroleum products.	Minimum standards are set regarding farm fuel storage.
Health Protection and Promotion Act	MOH	To minimize situations where human health may be threatened.	Landowners whose operations have created a health hazard, i.e. contaminated water, may be required to correct the situation or cease activities causing the contamination.
Lakes and Rivers Improvement Act	MNR	To ensure flow and water level characteristics of lakes and rivers are not altered to the point of disadvantaging other water users.	Any work forwarding, holding back, or diverting water must receive prior approval from MNR.
Ontario Water Resources Act	MOE	To protect the quality and quantity of Ontario's surface and ground water resources.	General prohibitions against discharging pollutants to surface or ground water. Permits are required for the taking of large amounts of surface or ground water, i.e. for irrigation.
Pesticides Act	MOE	To protect Ontario's land, and surface and ground water resources from damage due to improper use of pesticides.	Landowners involved in pesticide application as part of a business (farming) are required to take a Grower Pesticide Safety Course. Regulations are set regarding pesticide storage, e.g. warning sign identifying the storage site, proper ventilation, no floor drains, concrete impervious floors.

Planning Act	MMAH, Municipality	To reduce land use conflicts between neighbours within the township.	Minimum setbacks may be established between watercourses and structures. Minimum standards may be set for manure storage construction to reduce water pollution potential (check your local zoning by-laws).
Wetlands Policy Statement	MMAH/MNR	To protect wetlands.	Wetlands are protected under the authority of section 3 of the Planning Act.
Public Lands Act	MNR	To protect and perpetuate public lands and waters for the citizens of Ontario.	Requires a landowner to obtain a work permit for any activity on shorelands adjacent to a navigable water. Shore lands include public or private lands as well as areas that are seasonally inundated with water. The bed of a navigable water (below the high water mark) is considered to be public (Crown) land.

**Legislation as of publication date: 1994.

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