



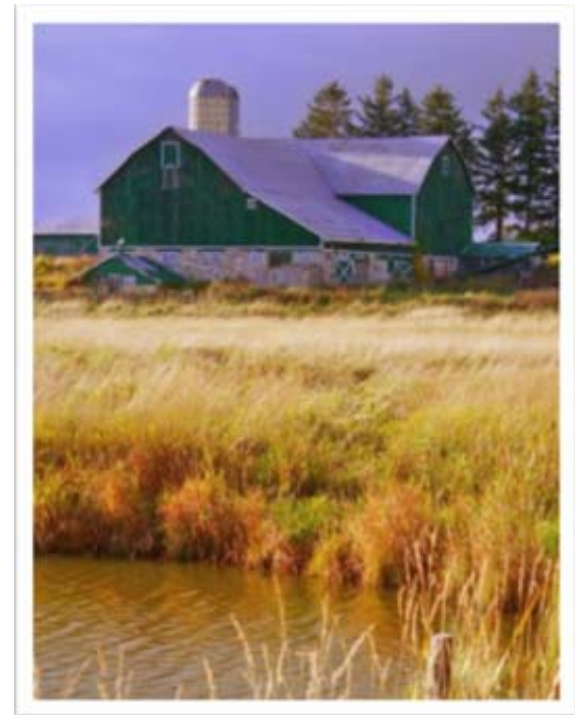
Nutrient Management for Source Water Protection

**Update to SWP Committee
Barrie, 23 April, 2009**

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OMAFRA**

Presentation Overview

- **Nutrient Management Fundamentals**
 - Risks associated with manure
 - Regulations
- **Policy & Programs**
 - Growing Forward
 - Environmental Farm Plan
 - Best Management Practices
 - Cost-Share Incentives
- **Future Considerations**
 - Research & Communications
 - Climate Change
 - Lake Simcoe



Manure and the Environment

- **Nitrogen**

- Mobile in the environment; converts to other forms, e.g. nitrate, ammonia
- Nitrate soluble in water; leaches to groundwater; can impact human and livestock health
- Ammonia can be toxic to aquatic life; contributes to acid rain



- **Phosphorous**

- binds to soil particles; reaches surface water through soil erosion
- Primary cause of eutrophication; impacts to aquatic life, tourism, rural development

- **Other**

- Pathogens (bacteria, micro-organisms)
- Pharmaceuticals and feed additives

Nutrient Management Regulations



- **Nutrient Management Act**
 - Enabling legislation
 - Prohibition on causing or permitting “**adverse effect**” s.18(3)
- **Nutrient Management Regulations:**
 - **Ban on use of high trajectory irrigation guns** capable of spraying liquid more than 10 metres - s. 49 (1)
 - **Ban on winter spreading of sewage biosolids** from December 1 to March 31 and any time the ground is frozen or snow covered - s. 47(3)
 - **Required setback of 20 metres** from the top of the nearest bank of the surface water for **biosolids and other non-agricultural source materials** - s. 45

NM Strategies & Plans



◆ NM Strategy focuses on generation of nutrients:

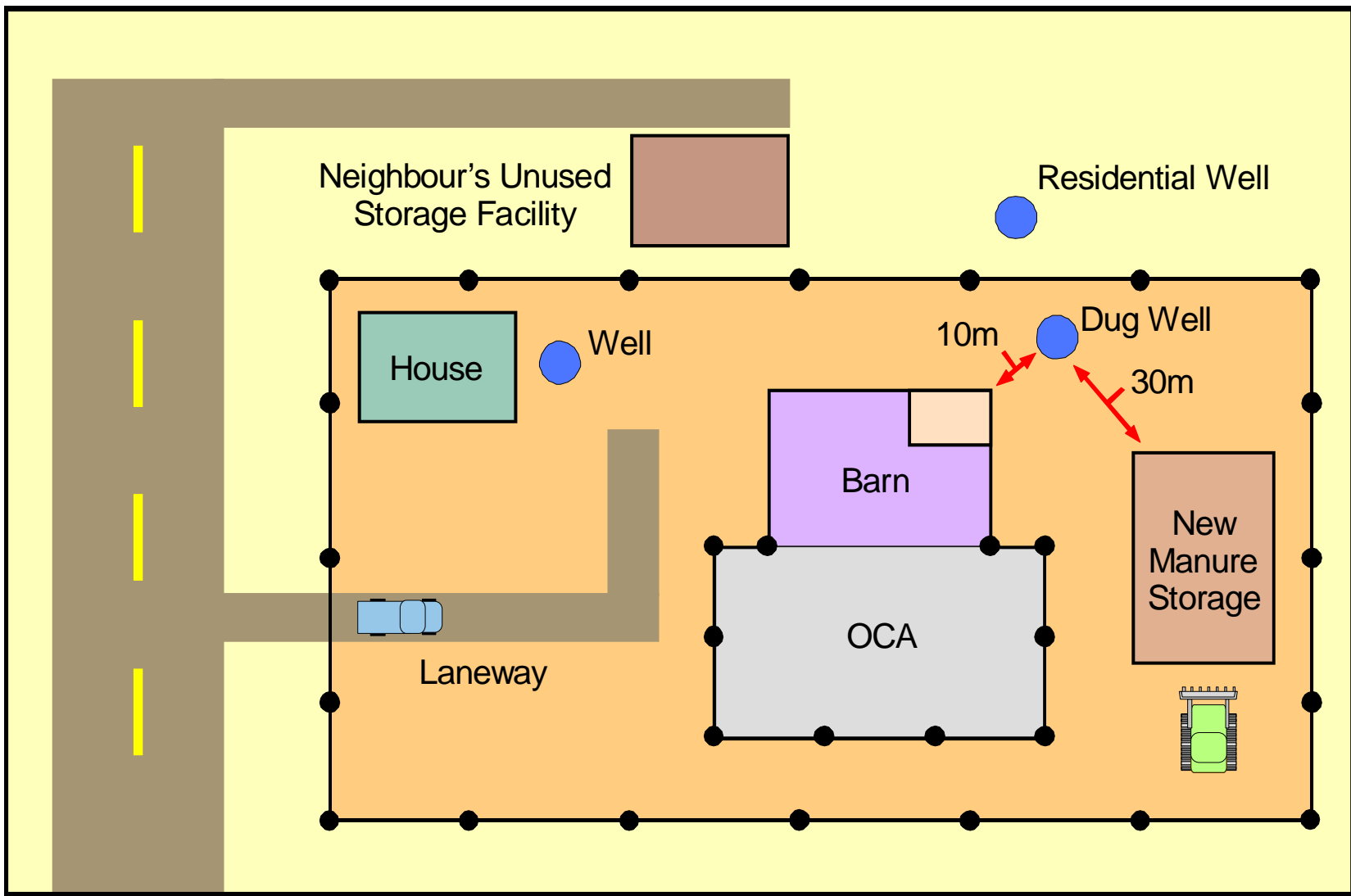
- Inventory and management of livestock
- Manure storage location and methods
- Destination(s) of nutrients

◆ NM Plan focuses on land application:

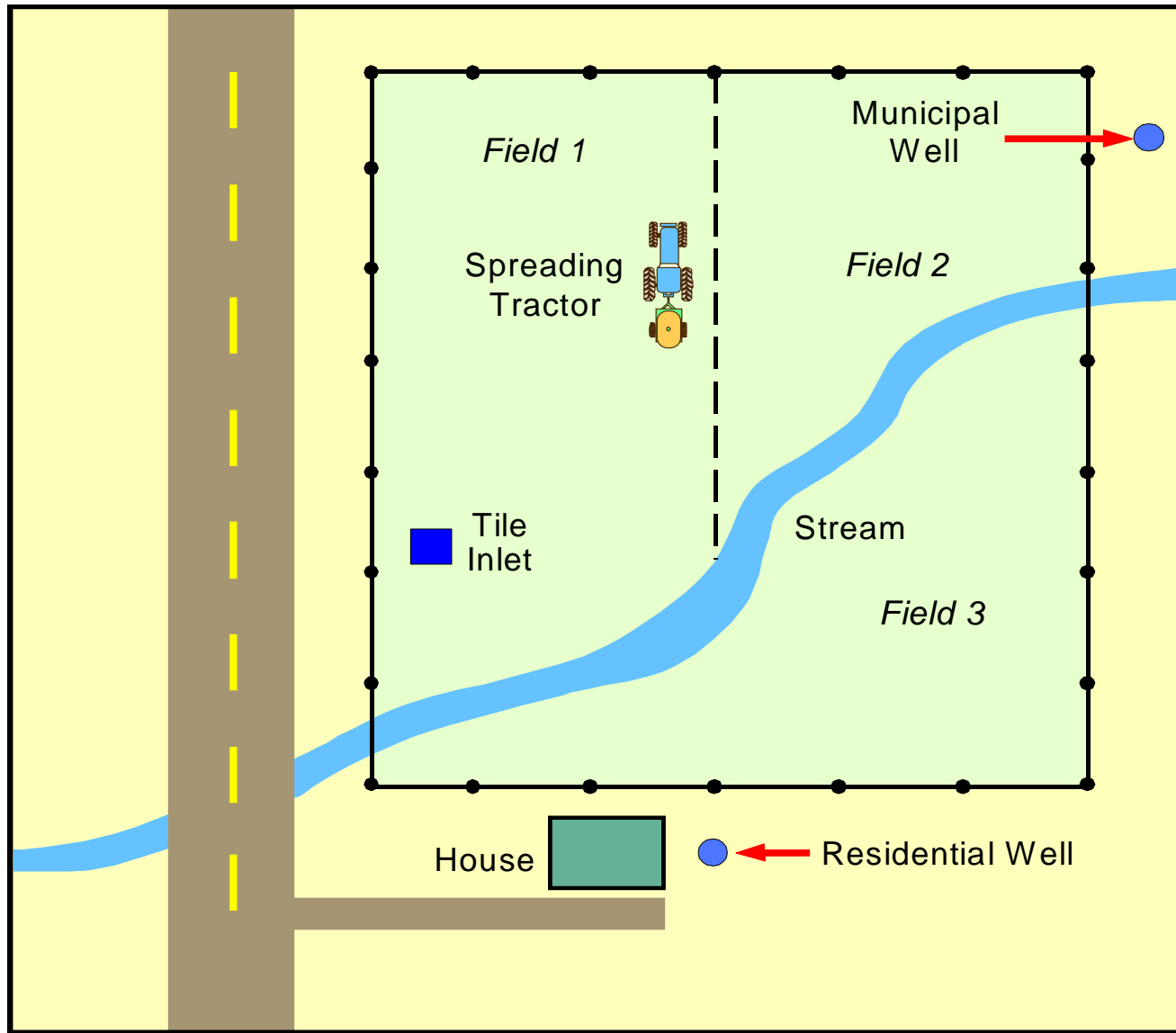
- Application, timing, rates
- Type of nutrients applied
- Field characteristics
 - e.g. soil types, slopes
- Risks
 - time of year, weather



Nutrient Management Strategy



Nutrient Management Plan



Phasing In

- Existing farms that generate ≥ 300 NU
- Farms expanding to generate ≥ 300 NU
- ANY building permit application for livestock housing or a manure storage facility with greater than 5 NU
- **Nutrient Unit:**
 - the amount of nutrients that give the fertilizer replacement value of the lower of 43 kilograms (95lbs.) of nitrogen, or 55 kilograms (121 lbs.) of phosphate



Livestock and Nutrient Units

To be Greater Than 5 NU or Equal to 300 NU, It Takes...

ANIMAL TYPE	Animals Per NU	# animals to be <u>MORE</u> than 5 NU	# animals to be EQUAL to 300 NU
Milking-aged cows (large frame)	0.7	4	210
Beef cows (includes calves to weaning)	1	6	300
Beef Feeders (7-16 months)	3	16	900
Sows with Litters (non-SEW)	3.5	18	1050

Livestock and Nutrient Units

ANIMAL TYPE	Animals Per NU	Greater than 5	Equal to 300
Chicken broilers (9 week cycle)	300	1501	90,000
Horses (medium-framed mature at 500 – 1500 lbs; inc. unweaned foal)	1	6	300
Sheep (meat ewes & rams including unweaned offspring and replacements)	8	41	2400
<i>For NU factors, refer to Table 3.1 in Nutrient Management Protocol</i>			

Preparing NMS or NMP – Options

- Certified Consultant
- Farmer can become certified to do their own NMS/P – require courses
- Equivalency Option
 - combination of a 3rd Edition EFP and the successful completion of a quiz (70%+); extended to June 30, 2009
- List of consultants and courses:
 - OMAFRA website:
www.omafra.gov.on.ca
 - or call NM Info-Line 866 242 4460



Licences required by NMA

Who	Certificate/Licence	To do what	When
*Brokers s.106	Broker certificate	Transport prescribed materials to a farm that is phased in with an NMP	Dec. 31, 2005
*Owner/managers of nutrient application businesses	Prescribed Materials Application Business Licence	To allow a business to land apply prescribed materials on phased in farm operations with a NMP	Dec. 31, 2005
*Technicians/operators from application businesses	Nutrient Application Technician Licence	To land apply (drive tractor or spreader) nutrients on phased in farm operations with an NMP	Dec. 31, 2006

* *Certificates and licences not required where a farmer or farm employee is transporting or land applying nutrients or prescribed materials on their own operation.*

MOE: Compliance & Enforcement

- **MOE Incident Reports**

- MOE receives ~ 500 incident reports regarding manure per year

- The number 1 complaint concerning manure is odour

- **Challenges**

- Winter spreading of manure
- Temporary field storage of manure/nutrients
- Runoff from livestock facilities and manure storage

- Generally between 20-30 confirmed manure spills per year in Ontario



Duty to Report Spills

- Spills must be reported to the Spills Action Centre (SAC) **1-800-268-6060** and the local municipality immediately
- Incidents may be reported anonymously to the MOE TIPS line 1-866-MOE-TIPS (1-866-663-8477) or to local District/Area offices
- **Help is available:**
 - **Nutrient Management Info Line:**
[1-866-242-4460](tel:1-866-242-4460)
 - **Nutrient Management Web site:**
www.omafra.gov.on.ca

Policy in Action

- Agri-environmental policy focused on improvements to quality of soil, air, water, biodiversity
 - National Agricultural Policy Framework
 - First APF (2003 – 2008) extended to March 31, 2009
 - New ag policy framework “**GROWING FORWARD**”
 - currently being finalized; builds on success of first APF
- **Programs focus on achieving policy objectives:**
 - **Education and Information Sharing** – provide farmers with the knowledge and tools to support risk assessment and land management decisions
 - **On-Farm Action** - support farmers to address specific environmental challenges using targeted cost-share funding
 - **Research** - undertake strategic studies where needed
 - **Measure Performance and Report Results** - report to Canadians using existing and new agri-environmental indicators

Growing Forward: Next Generation of AFP

- **Vision**

- A profitable and innovative agriculture and agri-food industry that seizes opportunities in responding to market demands and contributes to the health and well-being of Canadians

- **Three Overarching Policy Objectives**

- A competitive and innovative sector
- A sector that meets society's objectives
- A sector that is proactive in managing risks

EFP is a program that can satisfy all 3 new policy objectives:

- **meets society's objectives for environmental stewardship**
- **helps to manage the risks of agriculture on the environment**
- **promotes innovation and competitiveness in the marketplace**

Environmental Farm Plan

- Core is voluntary environmental stewardship

- Whole farm risk assessment
- Farmers helping farmers
- Technical assistance available
- Confidentiality



- Partnership Approach

- Agriculture and Agri-Food Canada
- Ministry of Agriculture, Food and Rural Affairs
- Ontario Federation of Agriculture
- Ontario Farm Environmental Coalition
- Ontario Soil and Crop Improvement
- Agricultural Adaptation Council
- Conservation Ontario & Conservation Authorities

Canada



OFA



Agricultural Adaptation Council



Ontario

BMP: Runoff Control Options

1. Eliminate runoff (roof)



BMP: Runoff Control Options

2. Contain in acceptable liquid storage facility



BMP: Runoff Control Options

3. Permanently Vegetated Area



BMP: Runoff Control Options

4. Vegetated Filter Strip



BMP: Soil Management & Erosion Control

Buffers – riparian areas;
windbreaks; odour control

Erosion Control – soil & water mgmt



Fencing



Communications & Research

- **Training, Education & Communications**

- Training for MOE staff re. SWP property assessments is taking place
 - working with OMAFRA and OFA
- Educating urban audiences
- Communicating with the ag sector about new opportunities



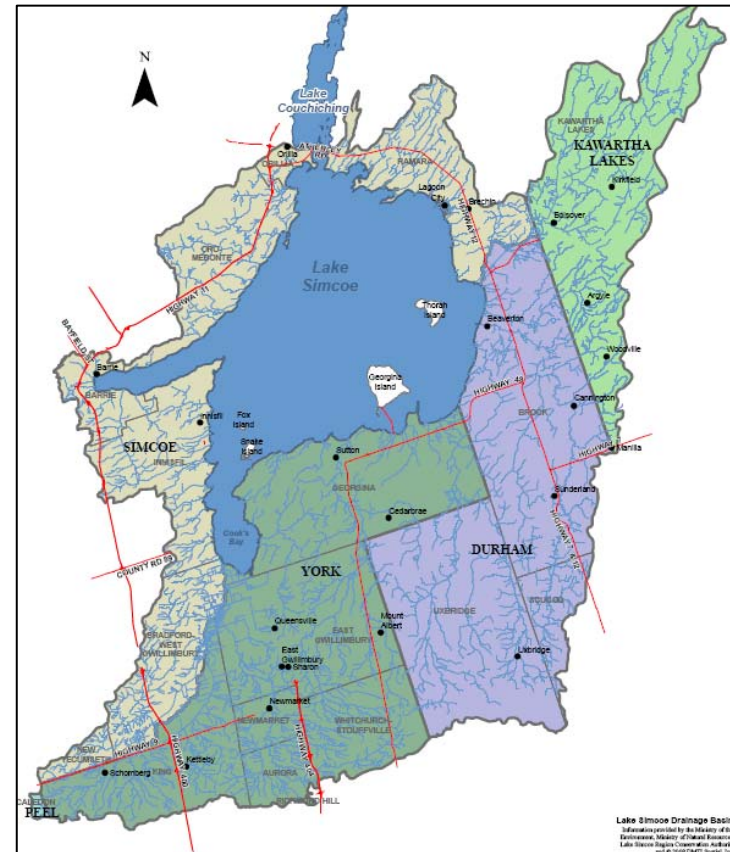
- **Need for targeted research**

- Nutrient Management and Best Management Practice effectiveness
- Opportunities for agriculture to address provincially important knowledge gaps in the sector
- Opportunities for cost-share incentives to participate in targeted research, monitoring, demos, pilots

Future Considerations

Climate Change: policy influences; risk management strategies

Lake Simcoe Watershed: place based approaches; societal objectives; cumulative impacts driving practice changes



Thank you for your attention!

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