

OSRA Conference - May 22nd, 2003



IMPROVE YOUR ENVIRONMENTAL PERFORMANCE AND YOUR BOTTOM LINE!

Presenters:

Tania Del Matto, Canadian Centre for Pollution Prevention

Lori Fryzuk, Environment Canada – Ontario Region

-AGENDA-

- ❧ Terminology & Introduction
- ❧ Trends and Opportunities
- ❧ Case Studies and Benefits
- ❧ Other Programs and Resources
- ❧ Brainstorming Potential Projects



POLLUTION PREVENTION AND SKI AREAS

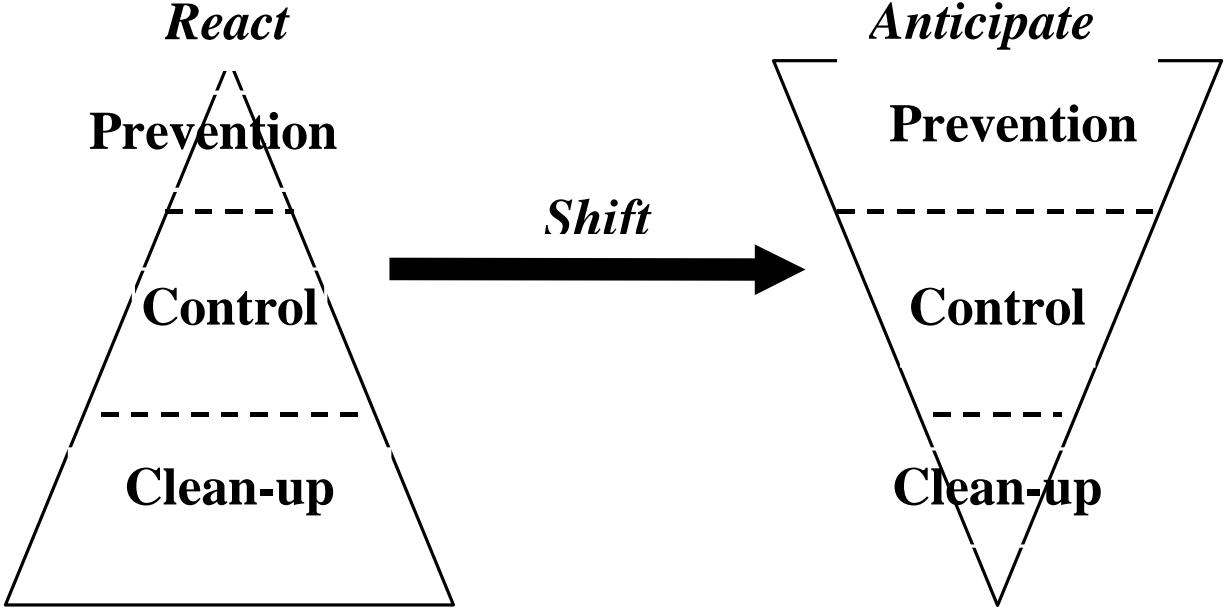
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-TERMINOLOGY-

Pollution prevention is defined as “the use of processes, practices, materials, products, substances or energy that avoid or minimize the creation of pollutants and waste, and reduce the overall risk to the environment and human health.”

Canadian Environmental Protection Act, 1999

Pollution Prevention Entails A Shift In Emphasis



Workplace H & S And Environmental Management: Synergies

- Worker Exposure
 - Recognize
 - Assess
 - Control of Hazard
 - at WORKER
 - ALONG the PATH
 - at the SOURCE

POLLUTION
PREVENTION

The diagram consists of two blue ovals. The top oval contains the text 'POLLUTION PREVENTION'. The bottom oval contains the text 'at the SOURCE'. A blue arrow points from the bottom oval up to the top oval, and another blue arrow points from the top oval down to the bottom oval, indicating a reciprocal relationship between the two concepts.

at the SOURCE

-TERMINOLOGY-

✚ Proactive versus Reactive Approach

-Pollution Prevention (P2) vs. Pollution Control

✚ Environmental management system (EMS)

-Environmental improvement must be continual

✚ Measurements motivate and demonstrate...

-Cost/benefit analyses

-Show progress and successes

✚ Sustainability...



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Canadian Centre
for Pollution Prevention

 **Who are we?**

 **What do we do?**

 **Why are we involved?**

 **How can we help?**



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-POLLUTION PREVENTION AT ENVIRONMENT CANADA-

❧ Voluntary P2 Partnerships and Projects

- Environmental Performance Agreements
- Best management practices, clean processes and green technologies

❧ Environmental Choice Program

- Eco Logo Certification and Rating program

❧ Reward and Recognition Programs

- Canadian Pollution Prevention Clearinghouse
- CCME Pollution Prevention Award Program



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-TRENDS AND OPPORTUNITIES-

 **Sustainable Slopes**

 **Environmental Charter**

 **Keep Winter Cool**



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-TRENDS AND OPPORTUNITIES-

Energy Reduction Programs

 NRCan's Energy Innovators Initiative

<http://oee.nrcan.gc.ca/eii/>

Example: Ski Martock (Nova Scotia)



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-TRENDS AND OPPORTUNITIES-

Colorado's Ski Industry

**Greening Your Ski
Area**

**A Pollution
Prevention
Handbook**

January 2002



<http://peakstoprairies.org/p2bande/skigreen/>

On-Mountain Operations

LIFT
OPERATIONS

VEHICLE
MANTENANCE

SNOWMAKING

GROUNDS

BUILDINGS

LODGING

CONSTRUCTION

FOOD
SERVICE

COMPLIANCE

PLANNING

PURCHASING

ACCOUNTING

ENVIRONMENTAL
PERFORMANCE
MEASUREMENT

OFF-SITE
IMPACTS

CUSTOMER,
STAFF, AND
COMMUNITY
PROGRAMS

POLICY AND
SYSTEMS

-CASE STUDIES-

Pollution Prevention Opportunities and Benefits



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CASE STUDY #1: ENERGY

Geothermal System (Snow Trails Ski Resort, Ohio)

=savings on heating and cooling costs and snow-making

=cost to heat 11,000 square foot lodge now costs \$490 a month compared to \$960 a month with fuel oil

New Lights for Night Time Skiing (Wachusett Mountain Ski Area, MA)

=400-watt pulse start metal halide fixtures for nighttime skiing



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CASE STUDY #2: WATER USE

Wastewater for snowmaking (Bear Creek Ski Area, Pennsylvania)

=wastewater treatment facility that will recycle 100 percent of the mountain's wastewater for snowmaking use

Water Collection for Re-Use (Williams Ski Area, Arizona)

=collects water for non-potable water uses

=reduction of potable water use to less than 2 gallons per skier visit



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CASE STUDY #3: SNOWMAKING

Efficient Snowmaking Guns & Grooming System (Boston Mills/Brandywine Ski Resort, Ohio)

= 70 new guns, 58% increase in production

= 69.5% energy use savings / annual savings of \$165,026

= less grooming required, save 46.7% of diesel fuel

= payback of less than two years



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CASE STUDY #4: TRANSPORTATION

Bikes for mobility (Mont Tremblant, Quebec)

=for use by site operation supervisors (May – September)

“Get on the Bus...Guss” (Blue Mountain, Ontario)

=encourage staff to take bus, car-pool or walk to work (winter months)



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CASE STUDY #5: SNOWMOBILES

Ethanol-blend fuel and low-emissions lube oil (Yellowstone National Park)

= cut maintenance by at least 60%; cleaner engines and less engine wear, higher resale on machines

= increased engine life, reduced fuel consumption, increases power by 5%

Cleaner, four-stroke snowmobiles (Yellowstone National Park)

= increase in fuel economy from the 9 to 13 mile per gallon average to the 25 to 35 miles per gallon



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MORE CASE STUDIES

Focus is on large scale ski resorts:

➤ **Greening Your Ski Area – A Pollution Prevention Handbook**

(<http://peakstoprairies.org/p2bande/skigreen/>)

➤ **The National Ski Areas Association’s ‘Green Room’**

(http://www.nsaa.org/nsaa2002/_environmental_charter.asp)



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→ OTHER PROGRAMS AND RESOURCES →



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-OTHER PROGRAMS AND RESOURCES-

Golf Courses

(Certification and Rating Systems)

 Audubon Cooperative Sanctuary System of Canada (<http://www.acssc.ca/golf.htm>)

 Greenlinks
(<http://www.greenlinks.net>)



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-OTHER PROGRAMS AND RESOURCES-

Hospitality

 Hotel Green Leaf Eco-Rating Program

(<http://www.terrachoice.ca/hotelwebsite/indexcanada.htm>)

Meetings and Conferences

 Eco-Meet: Fairmount Hotels

 Greening Meetings Manual

(<http://www.atl.ec.gc.ca/greenman/index.html>)



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Pollution Prevention for Small Business

delivers access to information, tools and networks for the purposes of improving the environmental performance of [small businesses](#)



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Pollution Prevention for Small Business services are possible through the generous support of:



Environment
Canada

Environnement
Canada

• Ontario Region

BRAINSTORMING SESSION

Issues

(e.g.: building maintenance, vehicle & equipment, food & beverage)

Project Type

(e.g.: training, recognition program, audits, information exchange on Best Management Practices)

Scale

(e.g.: Association, individual/ownership basis, partnership with neighboring ski hills)



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-THANK-YOU!-

HOW TO BECOME INVOLVED:

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