

Northern Research Field Safety Workshop

Workshop Summary Report - 2016-05-10

Prepared by: Derek Mueller and Zoe Panchen with input from all presenters

On March 11, 2016, we held the first workshop at Carleton University on northern research field safety and risk management. There were approximately 2 dozen participants. Most were students from the departments of Biology, and Geography and Environmental Studies. This document provides a brief summary of what was presented and discussed at that meeting to be used as a resource and to encourage further discussion on the topic. The presentations that each speaker gave are appended to this document. Readers are also referred to the field safety section of the Northern Research Committee website which provides resources for Carleton's northern research community:
<http://carleton.ca/northernresearch/safety>

Derek Mueller (Chair of the Northern Research Committee at Carleton) started off with some words of welcome. He stressed that this short workshop was meant to *start* the conversation about safety and risk management between students, other team members and supervisors as well as those at Carleton who deal with safety, risk and insurance issues at the university. He said we would not be able to cover all these topics in depth but the purpose of this meeting is to raise awareness about these issues.

Grant Gilchrist presented on lessons learned from an accident on sea cliffs on a remote island in Nunavut while doing field work on nesting Arctic seabirds. The field work is conducted in what Grant termed a “catastrophic work environment” hence a culture of safety is stressed by him and his team. They prepare a binder with medical and insurance information on each team member and designate someone on 24 hour call in Ottawa to help co-ordinate any issues and rescues. However, through this rescue, gaps in insurance were revealed, even though there were 6 policies applicable in this case. Follow-up care was lacking such as disability insurance to cover pay and long term living costs as well as medivac travel from hospital in Winnipeg to home. An advocate for patients is important to work with insurance companies, medical personnel and family to help ensure the injured party receives all the support they require. Communication was key in the rescue and having the most up to date communications equipment (e.g., phones, radios, personal locator beacons) and backups enabled the rescue to proceed quickly and in an organized manner.

Leaders must say 'safety before science' often and create a culture of safety that permeates from the seasoned grad student to the newbie field assistants. Grad students and researchers must acknowledge they are under pressure to get data and hence the psychology of risk comes into play with data-driven field scientists. Decisions often get sloppy and safety protocols get lax after a while. Group dynamics can also derail risk management. We must all be able to request a pause in activities that we consider unsafe even if we just realize this. As well, many of us work with Northerners who have different skills and risk tolerance, so it is important to have strategies to deal with this.

We must realize that NSERC/tricouncil are focused on academic results, not safety. This means that we cannot rely on funders to solve our risk management problems. Also, students that have NSERC or OGS (and are remunerated via stipend only) are not covered by workers compensation as they do not receive pay with benefits and, hence, are not considered employees. In summing up, Grant stressed the need for continuous improvement by reviewing and adopting the latest in technology and training and to strive for safety first and continuous, cautious decisions.

Nancy Delcellier from Carleton's Environment Health and Safety team took us through regulation in Ontario that addresses health and safety. Some key points were:

- For Occupational Health and Safety (OHS) legislation, workers are anyone who has a placement, paid or unpaid.
- For Workplace Safety Insurance Board (WSIB) coverage a worker must be paid with deductions to qualify (i.e., no stipend-paid students qualify).
- The 'Green Book' reviews OHS acts and regulations, including rights and responsibilities of workers and supervisors
- Risk assessment as critical tool
- We could get a field safety video on culearn at some point.
- Many don't know that under the regulations there is a duty to report accidents or near misses to regulators in a timely manner, including accidents while on field activities, in or out of province.
- Discussion that OHS Regulations are only one of several regulations to follow (e.g., Transportation of Dangerous Goods (TDG) regulations for shipping equipment or materials)

Tony Lackey, Carleton's risk and insurance manager, walked us through insurance at Carleton, key points were:

- Look at the psychology of risk and the likelihood and impact.
- Practice due diligence, we are all risk managers.
- Insurance is a last resort, prevent the accident from happening by managing the risks.
- There is a risk management manual online. <http://carleton.ca/financialservices/wp-content/uploads/Risk-Management-Manual-posted-July-26-2009.pdf>
- Canadian University Reciprocal Insurance Exchange (CURIE) is a group of 61 universities in an arrangement to insure each member for property, commercial liability and educational issues.
- Carleton also has automotive and non-automotive insurance and it is possible to pay for a miscellaneous property floater for individual equipment – with a lower deductible than the \$100k university standard deductible.
- Carleton's general liability insurance covers students, employees, volunteers but only within the scope of work for Carleton (not accidents after hours for example).
- When buying travel emergency health insurance, check the time you are away and get coverage for entire period. Some plans automatically cover you up to a certain number of days, so it is important to know what this coverage is and add to it as required – especially if your plans change and your return home is delayed.

- You may have more insurance than you think – credit card, employer, CUSA, GSA, parent’s health plan, Carleton also has a plan for unpaid work placement.
- Always look at the policies you buy and remember you get what you pay for. “All risk” insurance is a misnomer since there is no such thing. – always check the policies for exclusions (typically war, terrorism, suicide, etc., but there may be others – per-existing injuries, mountaineering, scuba diving, flights in small aircraft).
- Independent contractors are not covered under the university policies.
- Examine the benefits carefully. For example, weekly indemnity typically only lasts 2 years.
- Also consider the bigger picture - workers compensation, employee coverage, Ministry of Training Colleges and University coverage.
- It is highly recommended that students conducting their undergrad or graduate thesis work in the field are hired by their supervisor as a field assistant so they are then covered by workers compensation and Carleton University insurance plans.

Greg Crocker took us through how industry does Health, Safety and Environment (HSE) plans. Private industry takes these matters very seriously (and, in most cases, is far ahead of university norms). There are many aspects to an HSE Plan but he focused on what he considers the most critical – the HAZID or hazard identification process. This is an exercise where your team discusses all the activities that are to be carried out and considers the risk associated with each of them in turn. Activities can have multiple risks and they are all categorized on a matrix (see below in the appendix) through discussion and consent in a team. The team then proposes mitigation steps to reduce the risk and then re-evaluates the risk on the matrix. If the mitigation will not reduce the risk to an acceptable level, that activity should not be undertaken. Greg stressed that going through the HAZID process is a great way to inculcate a culture of safety and allow all team members to contribute. Having new team members or those with varied background strengthens this process since different perspectives are important to consider. The result of the HAZID process is subjective (since there is no way to objectively assign risks to categories); however, the act of discussing these issues in an open forum helps arrive at a consensus as to what risks are acceptable among the team.

Derek Mueller closed the workshop by thanking all who presented and participated as well as Zoe who helped organize the workshop. He reminded everyone that the field safety form is online (<http://carleton.ca/northernresearch/safety/field-safety-form/>) and that this must be filled out for any Carleton field activity. As well, for NSTP students, NSTP funds will not be provided to students who don't complete the form *prior to leaving* for the field.

Future plans: Feedback on the workshop was very positive and most people we spoke to wanted to see this dialogue continue in the future. EHS and Risk Management appreciated being invited to this event and are glad to be of service to help provide resources for northern research in the future. Some ideas were:

- To provide more resources on Shipment of Dangerous Goods (e.g., info sheets on the rules for lithium batteries).
- Training resources such as online videos and culearn courses.
- Hosting more workshops like this.

List of presenters and contact info:

Derek Mueller

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Grant Gilchrist

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Nancy Delcellier

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Tony Lackey

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Greg Crocker

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ANNEX

- A) Workshop Agenda
- B) Presentations

Northern Research Field Safety Workshop

When: 11th March 2016

Time: 11:30 am-2:00 pm

Where: Loeb Building, Room A211

Agenda

- | | | |
|---------------|---|-------------------------------|
| 11:30 – 11:40 | Welcome | Derek Mueller |
| 11:40 – 11:55 | Presentation:
<i>Lessons learned following an accident in the remote Canadian Arctic</i> | Grant Gilchrist |
| 11:55 – 12:10 | Presentation:
<i>Roles and responsibilities – occupational health and safety and the law</i> | Tina Preseau/Nancy Delcellier |
| 12:10 – 12:40 | Breakout session and catered sandwiches:
<i>Towards a culture of safety</i> | Zoe Panchen |
| 12:40 – 1:00 | Presentation:
<i>Medical insurance, disability insurance, worker's compensation</i> | Tony Lackey/Grant Gilchrist |
| 1:00 – 1:10 | Questions and discussion | |
| 1:10 – 1:30 | Presentation:
<i>Planning for safety (identify hazards / safety plans / training)</i> | Greg Crocker |
| 1:30 – 1:50 | Breakout session
<i>Identify hazards and mitigations for your field work</i> | Greg Crocker |
| 1:50 – 2:00 | Presentation:
<i>The Carleton field safety form</i> | Derek Mueller |

We all have responsibilities

What are yours?









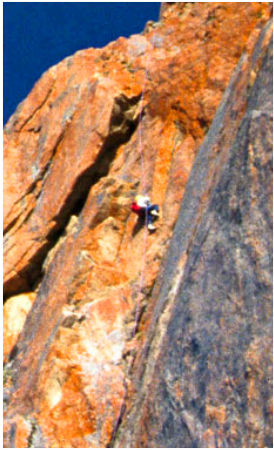
Hand Identification List

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49	20.0
50	20.0



Poul needs to call
Esper
@ dinner time!







“Catastrophic work environment”



“Here, experience excels: situations are complex, goals are conflicting (safety versus speed), there are high-stake consequences, and decisions must be made quickly.

By contrast, seat of the pants decisions based on unfounded intuition can be disastrous. Catastrophic environments are very poor places to learn through trial-and-error.

“Here, experience excels: situations are complex, goals are conflicting (safety versus speed), there are high-stakes consequences, and decisions must be made quickly.

By contrast, seat of the pants decisions based on unfounded intuition can be disastrous. Catastrophic environments are very poor places to learn through trial-and-error.

Dead people can't learn”



Medevaced researcher struck by boulder, says helicopter pilot

CBC News Posted: Aug 06, 2014 1:18 PM CT | Last Updated: Aug 06, 2014 1:18 PM CT



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A member of a research team studying murres on Digges Island near Ivujivik, Que., is medevaced after being struck by a refrigerator-sized boulder. (Canadian Forces)







Two people in high-visibility gear (yellow and purple) are standing on a small ledge on the left side of the cliff, observing the birds.

A single white bird is in flight near the top center of the cliff.

A single dark bird is in flight in the middle of the cliff.

A single dark bird is in flight in the lower right section of the cliff.

A single dark bird is in flight in the bottom right corner of the image.





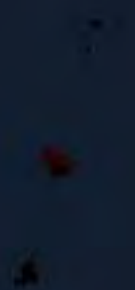






















What went well?

The Right People are in the Right Place at the Right Time





Communications



**International
Emergency Response
Coordination Center**

**Ivujivik
Police**

Camp

**CFB
Trenton**

**Environment Canada
Ottawa**

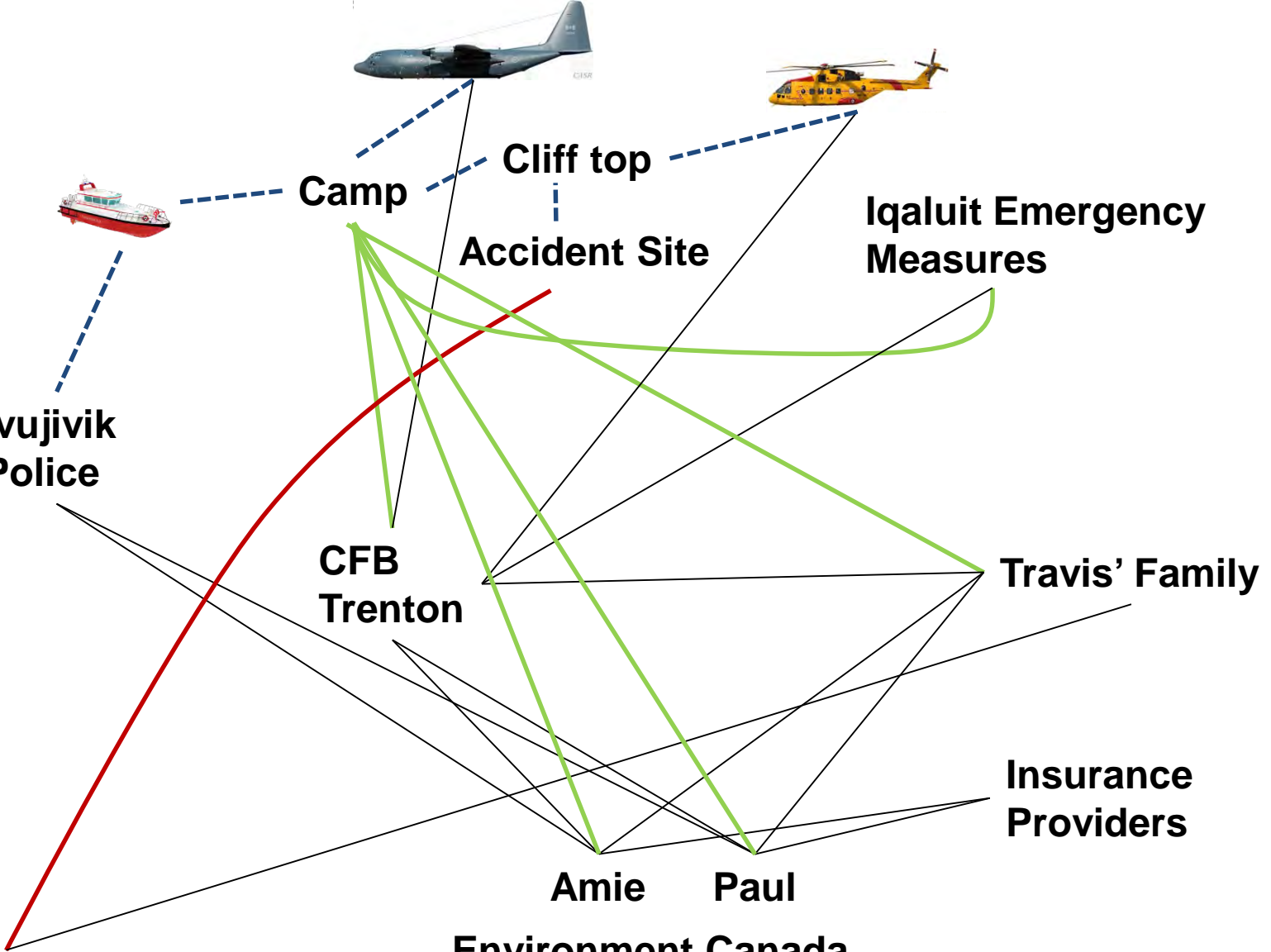
Amie Paul

**Cliff top
Accident Site**

**Iqaluit Emergency
Measures**

Travis' Family

**Insurance
Providers**





Safety Culture

Safety before science

Written field protocols

Well trained and equipped



NSERC
CRSNG

Communication flow

Consistent cautious decisions

Continual improvement

Safety before science

Graduate Student Data Drive

We all have responsibilities



Roles and Responsibilities – Occupational Health and Safety and the Law

Nancy Delcellier, MBA, BSc, CRSP
Tina Preseau, MSc, RBP

Health and Safety at 10,000 feet - and in 15 minutes!

1. Legislation
2. The Law Protects
3. Safety at CU



**'I was new and afraid
to ask.'**

>> commercial-archive.com

- **The OHSA provides the basic framework for making Ontario's workplaces safe and healthy.**
- **The Act:**
 - Fosters the Internal Responsibility System
 - Imposes duties on the workplace parties to protect health and safety
 - Gives workers three basic rights
 - Sets out penalties for contraventions and provides inspectors with broad powers to inspect workplaces, investigate accidents or complaints and issue orders for compliance.
- **A copy of the Act is posted on the Health and Safety Notice boards across campus or can be accessed from EHS website:**

www.carleton.ca/ehs



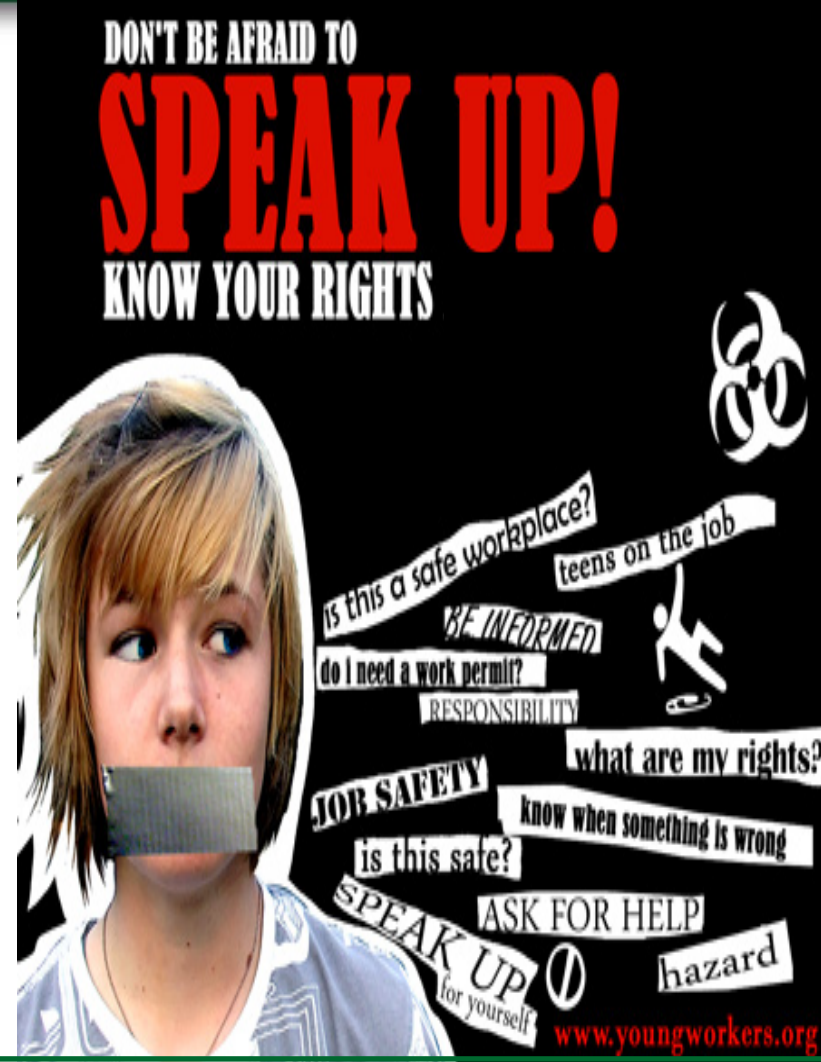
Other Acts and Regulations

Workplace Safety and Insurance Act (Ontario)	Hazardous Products Act (Canada)
First-aid requirements (WSIB Reg. 1101)	Atomic Energy Control Act (Canada)
Environmental Protection Act (Ontario and Canada)	Human Pathogen and Toxins Act (Canada)
Transportation of Dangerous Goods Act (Canada)	Pest Control Products Act (Canada)
Fire Protection and Prevention Act (Ontario)	Pesticides Act and Regulations (Ontario)
Workplace Hazardous Materials Information System Regulations (Canada)	City of Ottawa by-laws
Fisheries Act (Canada)	Criminal Code of Canada...

Worker Rights

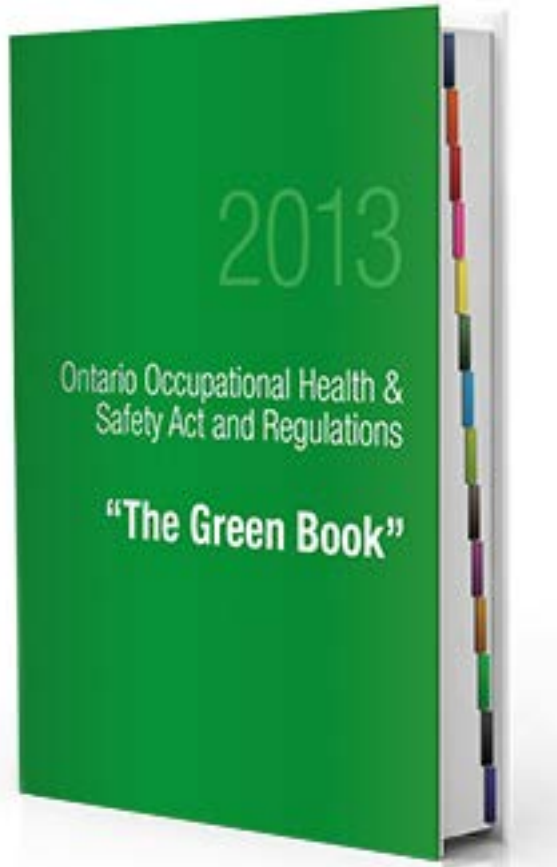
As a worker, the law also gives you 3 important rights:

1. The Right to Know
2. The Right to Participate
3. The Right to Refuse



2. THE LAW PROTECTS

Safety Roles



- All employees are responsible for complying with all applicable health and safety requirements
- Supervisors are responsible for ensuring that safe and healthy work conditions are maintained and that safe work practices are followed. Supervisors will inform workers of all health and safety requirements and enforce such requirements.
- Failure to be informed, to comply, and/or to supervise may result in injuries, MOL orders, fines, and jail time.

2. THE LAW PROTECTS

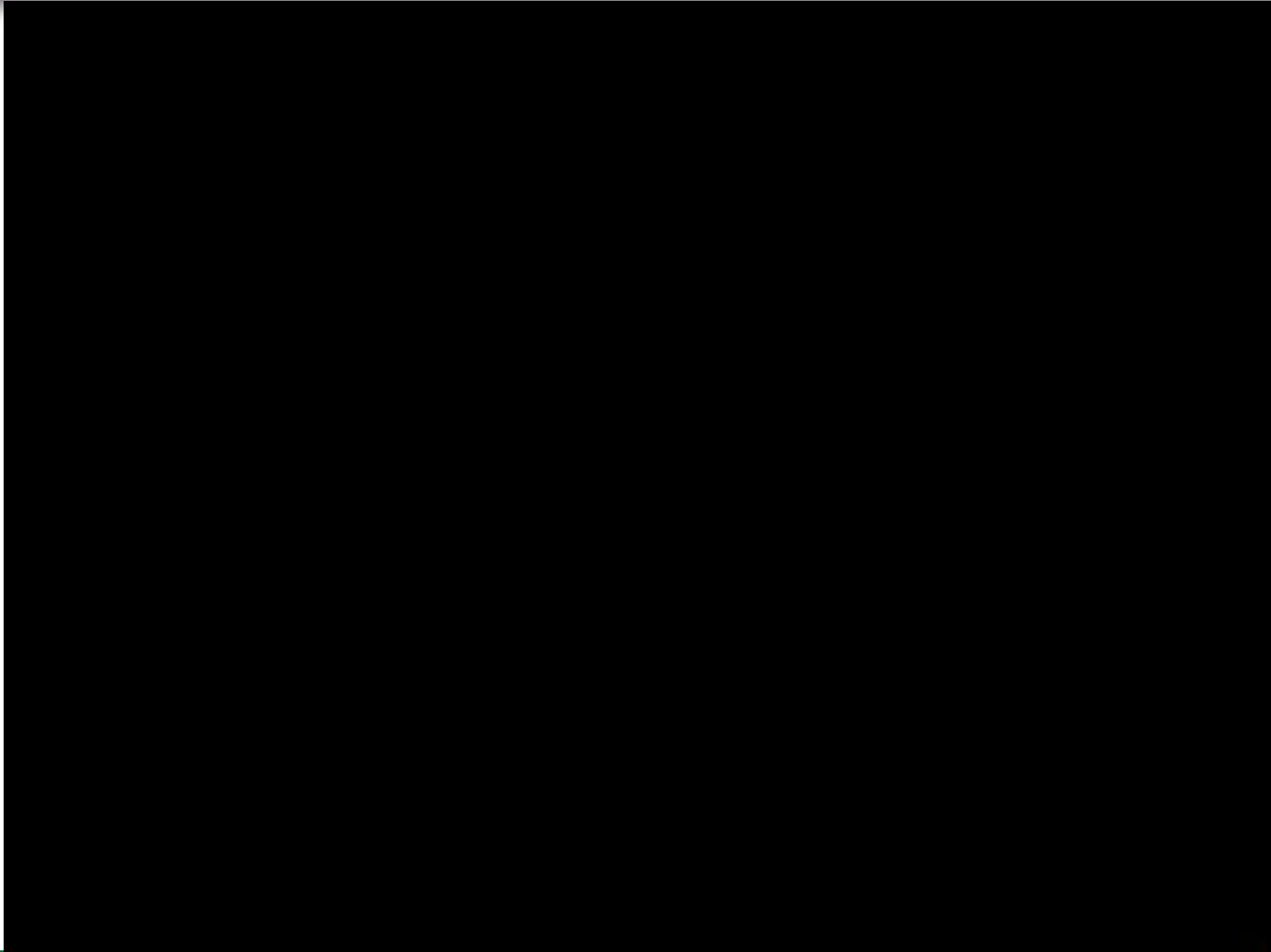
- **The University is committed to providing a healthy and safe work environment for all staff, students and visitors**
- **Policies:**
 - ✓ Environmental Health and Safety policy
 - ✓ Workplace Violence Prevention policy
 - ✓ Workplace Harassment Policy
 - ✓ Hazard Reporting Policy
 - ✓ Working Alone Procedures
- Everyone in the workplace has responsibilities under the OHSA
- EHS provides leadership and guidance to the University community in all aspects of environmental and occupational health and safety



- This system includes various components that form the chain of responsibilities to make the IRS effective. These include:
 - ✓ Management, leadership, and organizational commitment to a safe workplace
 - ✓ **Hazard identification and assessment**
 - ✓ Hazard control
 - ✓ Ongoing inspections
 - ✓ Orientation and training
 - ✓ Emergency response
 - ✓ Incident investigation
 - ✓ Cyclical review of programs



Is the system working?



Identifying/Reporting

- OSHA requires that any hazard must be reported to the employer and/or supervisor
- Only if a hazard is identified can actions be taken to reduce the risk to you and the CU community
- When a hazard presents imminent danger, immediate notification of the supervisor is required.



The CU Hazard Reporting Policy has been established which states all hazards in the workplace shall be reported and appropriate corrective action shall be taken to control these hazards.



Resolution and Response

When notified of a hazard, supervisors must:

- Verify the hazard
- Assess the hazard
- Take appropriate corrective action
- Document the corrective action taken and advise workers
- Respond to any concerns regarding the corrective action

EH&S can assist with resolution!

- All injuries in the workplace must be reported to the supervisor **immediately** – includes students, visitors and contractors
- Work-related injuries/illnesses are caused by hazards in the workplace and can include acute psychological trauma.
- All injuries/illnesses resulting in provision of health care and loss of earnings must be reported to the Workplace Safety and Insurance Board (WSIB) through HR.
- Incidents resulting in death or critical injury must immediately be reported to the Ministry of Labour and JHSC through EH&S

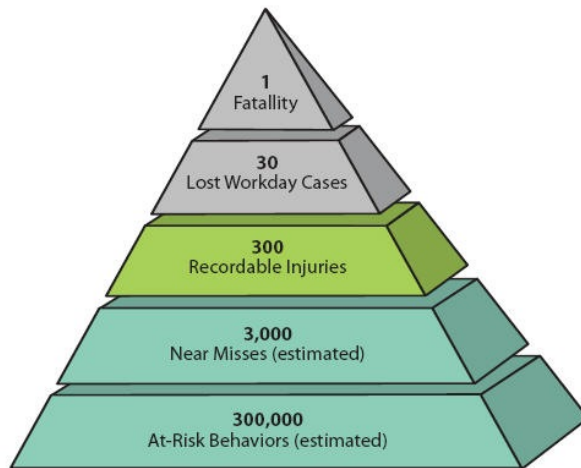


DUS at ext 4444

Not an injury... YET

What if no one has gotten hurt yet but see something that might cause an injury/illness: should I report it?

YES! This is the perfect time to be proactive and prevent the injury



'Good Catch' Reporting Form

A 'Good Catch' is a situation where there is a potential for injury or occupational illness in the workplace; however, at this point in time no injury or illness has occurred yet. The intent of this 'Good Catch' Reporting Form is to catch any situation that may cause an injury or illness **BEFORE IT HAPPENS**, report the concern, and to find a solution to reduce the risk of any future injuries or illnesses.

Complete the 'Good Catch' Reporting Form and submit it to ehs@carleton.ca. If a worker/student has been injured, **DO NOT USE THIS FORM**. Use the Supervisor Incident/Injury and Investigation Form. For more information on Hazard Reporting you may review the Carleton University Hazard Reporting Policy (*MK if needed* - <http://www6.carleton.ca/secretariat/ccms/wp-content/ccms-files/Hazard-Reporting.pdf>).

Where a hazard presents an imminent danger, immediate and direct notification to the supervisor is required. When the immediate supervisor is not available, the worker shall report the hazard to the next level of supervision or to another supervisor who has the authority to act.

Where a hazard presents an emergency situation, immediate notification to the Department of University Safety at 613-520-2600 x 4444 (or 4444 from a Carleton University land line) is required.

+ 'Good Catch' Details:

Date and Time of Near Miss?	Location of Near Miss?
Was this reported to anyone else (i.e., supervisor, FMP, DUS)?	
Describe what happened:	
Describe what dangers (i.e., unsafe condition(s)) existed that could have led to an injury/illness:	

- Respect and Safety (workplace violence and harassment prevention)
- WHMIS
- First Aid *
- Laboratory Safety
- Worker H&S Awareness
- Supervisor H&S Awareness
- Inspection checklists
- First Aid kits
- Safety Manuals
- Safety talks
- Risk Management Manual (field trips)



Environmental Health and Safety (EHS) Office:

613-520-2600 x 3000
www.carleton.ca/ehs

**Work Safe.
Be Safe.
Stay Safe.**



Risk Management and Insurance



By

Tony Lackey BA, FCIP, CRM

Manager, Risk and Insurance

603 Robertson Hall

ext.. 1473

Agenda

1. Introduction
2. Insurance
 1. Property
 2. General Liability/ Umbrella Liability
 3. Errors and Omission
 4. Travel Insurance/ Auto Insurance/ Rental Cars
3. Independent Contractors

What is Risk

- Risk refers to the uncertainty that surrounds future events and outcomes.
- It is the expression of the likelihood (frequency) and impact (severity) of an event with the potential to influence the achievement of an organization's objectives
- Treasury Board "Integrated Risk Management Framework"



Risk Management

- Simply put is part of the decision making process
- It is the development and implementation of standard policies and procedures which eliminate or reduce the negative affects of taking a risk

Steps in Developing a Risk Management Program

- 1 Identifying Exposures to Loss
- 2 Examine Alternative Risk Management Techniques
- 3 Select best possible technique
- 4 Implement the chosen Risk Management technique
- 5 Monitor and Improve the Risk Management Program

Remember

- Due Diligence
- Every member of Carleton community is risk manager
- Insurance should be last resort.

Risk Management Manual

- <http://carleton.ca/financialservices/wp-content/uploads/Risk-Management-Manual-posted-July-26-2009.pdf>

Types of Insurance

- **PROPERTY**
- **COMMERCIAL GENERAL LIABILITY**
- **EDUCATIONAL INSTITUTIONS ERRORS AND OMISSIONS LIABILITY**
- **UMBRELLA LIABILITY**



Types of Insurance

- **AUTOMOBILE**
- **NON-OWNED AUTO**

Insurance Providers

- Canadian Universities Reciprocal Insurance Exchange (C.U.R.IE.)
- Insurance Brokers - AON and Marsh
- Companies - ING, CGU, ENCON

Property Insurance

- Insured Values 1.7 Billion
- What is Covered - Property of Every Description
- Where is it covered - Anywhere in the world Limit off campus \$1m
- All Risk Policy with exclusions - war aircraft automobiles

Deductible



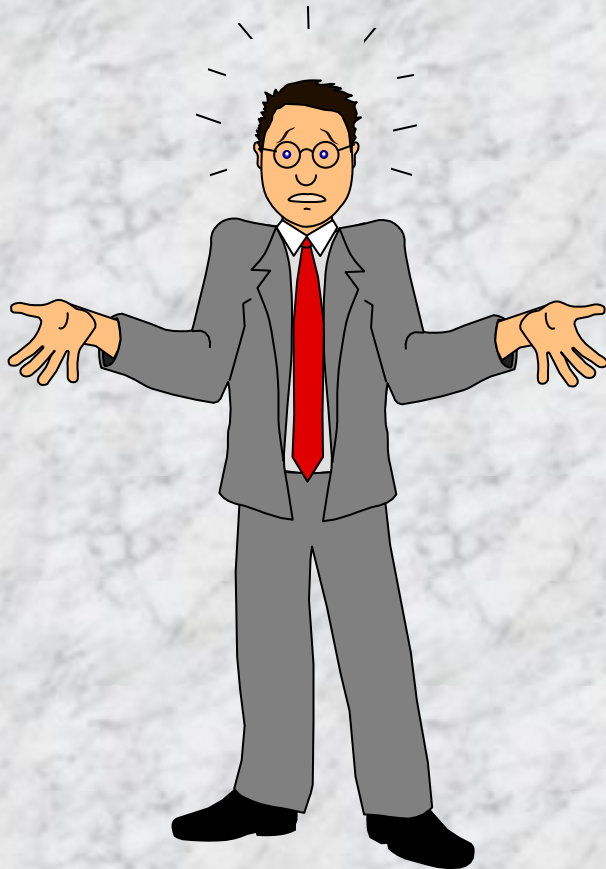
100,000

Misc. Property Floater

Misc. Property Floater

- Property described all risks
- Researcher charged back
- Need equipment details, model number, replacement costs
- **Exclusions**
 - **Wear and tear**
 - **Standard exclusions**

Comprehensive General Liability



- Who is covered?
- Carleton University
- Additional Insureds
- Officers Directors
Governors
- Employee and
Volunteers acting on
behalf of the Insured
- Students

Who Is **NOT** Covered

- Student Groups
- CUSA
- GSA
- Engineering Society
- Commerce Society
- Professors or other employees acting outside the scope of their employment



Coverages

- Pay on behalf of the Insured all sums the Insured is legally obligated to pay as damages because of
 - 1 Bodily Injury sustained by any person
 - 2 Personal Injury sustained by any person
 - 3 Property Damage caused by an Occurrence
 - 4 Property Damage to Leased Premises
 - 5 Damages arising out of Malpractice or error or omission -related to medical treatment or other professional services

Examples

- Student Trips and breaks leg on improperly maintained sidewalk
- Failure to educate
- Assistance to an injured student or fellow employee

Additional Coverages

- Defense- Settlement
- Medical Expenses
- others



Exclusions

- Workers Comp
- Poor Workmanship
- Narcotics Hypnotics and Intoxicants -
Medical Malpractice
- Employment Related Practices
- Liability arising out of the use of
 - Automobiles
 - watercraft over 1000 tons
 - aircraft

Limits

- \$50,000,000
- 5,000,000 Terrorism and Cyber risk

Errors and Omission Liability

- Coverages - “To pay on behalf of the Insured all sums which the Insured shall become legally obligated to pay against the Insured for
 - 1 Wrongful Acts
 - 2 Because of error or omission in the rendering or failure to render professional services

Additional Coverages

- Defense- Settlement
- Suit Cost Interest Expense
- others



Exclusions

- Fines, Uninsurable Matters
- Personal Advantage
- Illegal Remuneration
- Dishonesty
- Violation of Statute
- Employee Benefits
- Breach of Contract
- Intellectual Property
- Employment Related Practices

\$

Limits

50,000,000

except 3,000,000 for Terrorism

Umbrella Insurance

- Limits \$20,0000
- Mirrors all other liability policies

Travel Insurance

For Employees

- Employee Benefits
- Credit Card
- Banks/Insurance Brokers

Travel Students

- CUSA/GSA Plan
- Parents Plans
- Banks/Brokers
- CU plan

Workers Comp

- Employee coverage
- MTCU coverage

Coverage Checklist

- **Key questions to ask your insurance provider BEFORE purchasing travel insurance**
 - What is NOT covered in the plan? (These are called "exclusions".)
 - Is coverage still in place for injuries caused in war zone, terrorist act or as a result of athletic activities
 - Does the plan have a deductible that you must pay for each claim?
 - Is repatriation in case of illness or injury

Coverage Check List

- Does your insurer co ordinate benefits for you
- Does the plan require you to determine – by yourself – whether you meet the insurance company's health standards before you can buy? Pre existing injury
- Support financing
- **Search and Rescue?**

Automobile

- University vehicles
- Non University vehicles

Independent Contractors

- Not covered under University insurance
- Nor are students employed by independent contractors unless part of co op or work placement

The background is a light-colored marbled paper with a complex, organic pattern of grey and white swirls. A thin white rectangular border is centered on the page, framing the text. On the left side of this border, there are two vertical white bars: a shorter one at the top and a longer one below it, resembling a page margin or a decorative element.

Questions

HSE Plans

- Health
- Safety
- Environment
- (Security)

Safety Plan Contents

- Project overview
- Roles and responsibilities
- Communications
- Management of Change
- Competencies
- Wx and Ice Condition Limitations
- Survival and 1st Aid
- Pre-Mob Action Plan
- Daily Implementation
- **Field Safety Practices (HAZID)**
- Emergency Response Plan/Procedures
- Annexes (more detailed info here to streamline the document)

HAZID Process

- List all activities that are required as part of the field program.
- Discuss and document all of the risks associated with each activity.
- Categorize all risks using Risk Assessment Matrix.
- Establish procedures to move risk from the 'red zone'.

Consequences							Likelihood			
Severity		People	Environment	A	B	C	D			
				Rare	Unlikely	Possible	Likely			
1	Low	No medical treatment required	Minimal impact							
2	Moderate	First aid or medical attention required	Slight impact with on-site remediation							
3	High	Injury requiring medivac	Significant impact causing work stoppage							
4	Extreme	Permanent injury or death	Major impact requiring 3 rd party remediation							

Activity	Risks	Risk Code	Mitigating Procedures	Revised Code
Drilling with power auger	Sharp blade - <i>lacerations</i>	2C	-keep covered when not in use -wear gloves when handling -caution when starting hole	2A
	Moving parts - <i>loose clothing & crushing trauma</i>	3C	-no loose clothing while drilling -no loose boots/laces -do not kick show away while drilling -do not handle drill flights while engine is on	3B
	Engine Noise - <i>ear damage</i>	1D	-wear hearing protection	1A
	Hot muffler - <i>burns</i>	2B	-wear gloves when handling power head	2A
	Gasoline - <i>burns from fire</i>	3B	-never fuel while muffler is hot -use funnel or pump for fuelling -check fuel cap is functional -check for fuel leaks	3A
	Gasoline - <i>damage to eyes</i>	3B	-wear safety goggles while fuelling	3A