Risk Management at the National Outdoor Leadership School  
November 2015

BACKGROUND

The National Outdoor Leadership School (NOLS) was founded in 1965. From its start as a summer outdoor program located in Lander, Wyoming, NOLS is now a year-round wilderness education school that operates globally. We have operations based in Wyoming, Utah, Alaska, Arizona, Washington, Idaho, New York, Mexico, Chile, Yukon Territory and British Columbia Canada, Australia, New Zealand, Tanzania, India, and Sweden. On average, 4200 students enroll each year on wilderness expedition courses, amassing more than 168,000 field program days.

The NOLS mission is to be the leading source and teacher of wilderness skills and leadership that serve people and the environment. Since our inception the NOLS educational goals have been to learn and practice judgment, leadership, and wilderness skills.

NOLS Risk Management Mission Statement

To be the leading source and teacher of risk management practices in wilderness education.

Risk Management Goals

1. To prevent fatalities, disabling or disfiguring injuries and serious illness.
2. To reduce all injuries and illnesses.
3. To anticipate emergency response and crisis management needs and design suitable protocols and plans.
4. To identify the accepted NOLS field practices for managing life threatening risks and hazards and the expectations for their consistent use.
5. To be a leader and resource of wilderness risk management practices and outdoor education curricula.

Priority Statement

To promote the health and well-being of students and staff as one of our highest priorities and to be the leading source and teacher of risk management practices in wilderness education.

Risk management at NOLS is based on the philosophy laid down by our founder, Paul Petzoldt. Risk remains a core element of our curriculum and pedagogy and gives our education relevancy and practicality. Risk is inherent in the remote locations through which we travel and our approach to risk is one of respect gained through knowledge, skill, experience, and expertise. We value critical thinking, reflection on experiences, and resiliency in difficult times. We have a strong commitment to our students and we continually seek to enhance our systems of risk management.

Risk Management program at NOLS is organized into the following categories.

1. Risk Management Oversight  
2. NOLS Core Curriculum  
3. Instructor Training  
4. Administrative Processes  
5. Field Support Services

Risk Management Definition

a. Risk Management at NOLS supports educational experiences by integrating all aspects of the organization to promote the health and well-being of students and staff.

b. NOLS Expedition risk management is the process of understanding and anticipating the risks of leading groups in remote wilderness environments and applying appropriate responses to reduce the likelihood of an injury, illness, fatality, or close call (aka near miss).
RISK MANAGEMENT OVERSIGHT

The NOLS Risk Management Committee:
The NOLS risk management committee monitors the NOLS risk management program and performance and assists in formulating risk management goals, strategies, and standards. Committee membership is comprised of representatives from the NOLS board of trustees, special advisors, and the risk management director. School directors, field instructors and other support staff often participate in committee meetings. The committee meets regularly three times per year and meetings are generally open to all staff.

Executive Director and Executive Director Team
The executive director is an ex-officio member of the risk management committee. The executive director consults regularly with the risk management director. The director establishes risk management as an institutional priority. The six-member executive director team provides guidance and leadership for NOLS risk management programs.

Director of Risk Management
The director of risk management provides oversight and guidance of risk management at the school wide level. The risk management director monitors and investigates injury, illness and near miss incidents, manages the NOLS risk management incident database, establishes risk management policy, maintains the NOLS Accepted Field Practices, collaborates with the curriculum department, and reviews marketing materials for accurate description and disclosure of risks inherent to NOLS courses. The risk management director consults with loss control experts, physicians, attorneys, other outdoor education professionals, and NOLS field instructors for insight into ways to improve risk management for all NOLS operations.

Human Resource Department
This department selects and hires individuals to fill field instructor positions. Personnel in the human resource department monitor field instructor performance, compliance with required certifications, and career and skill development. Field instructors are selected for positions based on experience, qualifications, competency, and interest.

NOLS Campus Directors and Program Supervisors
Each NOLS campus director is responsible for the risk management program at the field level. Program supervisors address risk management policies with field instructors during pre-course briefings and post course debriefings. Campus management formulates specific risk management emphasis for particular courses. Campus directors and program supervisors provide periodic reports to the risk management director, monitor risk management concerns from field instructors, design and implement emergency procedures, and provide input and review to the NOLS Accepted Field Practices. Program supervisors oversee the evaluation process of instructor performance and make recommendations for promotion.

Field instructors
   Course Leader position
   Course leaders are experienced field instructors that have supervisory responsibility for their course while in the field. Field instructors are promoted to this position in an orderly advancement, having demonstrated requisite levels of skill, judgment, risk management, expertise, and experience.
**Patrol Leader and Instructor positions**
Field instructors in these positions directly influence the health and welfare of students in the field through their training, leadership, expertise, and experience.

**Our Students**
The students have key responsibilities for risk management in the field.

- Students read the enrollment information on the NOLS website [www.nols.edu](http://www.nols.edu) to determine if he or she meets the general requirements of a NOLS course and understands the rigors, risks, and remoteness of the particular course.

- Students read the detailed course descriptions and other enrollment information sent after he or she is enrolled including the physical conditioning information.

- Students and/or parents or guardians read and sign the NOLS Student Agreement that describes hazards, perils, and the inherent and other risks of participating on a NOLS course.

- Students and their health care providers complete the health history form and honestly describes their physical and psychological health.

Prior to the course departing for the field instructors conduct an orientation with students that addresses various aspects of the course including travel conditions, living conditions, course environment, student and instructor responsibilities, the NOLS policy on alcohol and other drugs, and the course goals and learning objectives. There is particular emphasis on student’s individual responsibilities for risk management for themselves and the group.

This entire process is intended to alert and inform the student that risks do exist and that risk management is a priority on a NOLS course.

Once in the field, the student has responsibility for managing risk and is expected, under the direct and indirect supervision of the instructors, to learn and practice leadership, judgment, decision-making, and use the risk management practices taught on the course.

**NOLS CORE CURRICULUM**

**The NOLS Core Curriculum**
Each course provides fundamental knowledge, skills and experience essential for successful wilderness expeditions and use and enjoyment of a wilderness environment.

- **Risk Management**: Learn hazard identification and risk assessment; develop sound judgment and practice decision-making skills; develop situational awareness; learn injury and illness prevention, first aid/wilderness medicine, and emergency procedures.

- **Leadership**: Independent student group travel, "leader of the day" opportunities, and leadership skills with particular emphasis on communication and decision-making, expedition planning, teamwork, and group dynamics.

- **Wilderness Skills**: Campsite selection, shelter and stove use, fire-building, sanitation and waste disposal, cooking, nutrition and rations, equipment care, keeping warm and dry, route-finding/navigation, and the skills of the particular course such as backpacking, kayaking, horse
packing, sailing, fishing, skiing, snowboarding, caving, or climbing.

- **Environmental Studies**: Minimum impact camping and resource protection, understanding ecosystems, flora and fauna identification, geology, weather, astronomy, land management strategies, cultural issues, public service, and wilderness ethics.

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### FIELD INSTRUCTOR TRAINING AND DEVELOPMENT

#### The NOLS Instructor Course

The NOLS Instructor Course, with curricula for mountain, river, sea kayak, and sailing programs, is required for all field instructors. There is a rigorous application and review process to be selected for the instructor course. Approximately 95% of instructor candidates attend the 35-day version of the course while the other 5% attend a shorter two-week version designed for candidates with extensive previous professional experience. The curriculum of the instructor course covers the NOLS core curriculum, and students are observed and evaluated on their teaching and leadership abilities, their wilderness living and travel skills, and their hazard identification and risk assessment skills.

#### NOLS Field Instructor Qualifications and Performance Expectations

A document with the above title describes NOLS' expectations and lists specific qualifications for field instructors to work specific course types and to advance in their positions. Supervisors of field instructors refer to this document when recommending promotion or advancement.

#### Staff Training and Development

NOLS believes a key component to risk management is the continued development of a professional, experienced, and skilled instructor body. To this end NOLS offers and financially supports a variety of opportunities to further instructors development as well-rounded outdoor leaders and teachers. These are as follows:

- **Field Instructor Levels of Responsibility**: There are three levels field instructors; instructor, patrol leader and course leader. The instructor position is considered entry level. After demonstrating competence in skills, judgment, and risk management in their position (under the supervision of a course leader) the instructor can be promoted to the next level. Course leader is the highest level.

- **Technical Skill Development Seminars**: NOLS has extensive in-house training programs in the following skill areas such as; avalanche awareness and forecasting, winter camping and travel, wilderness first responder, rock climbing, mountaineering, caving, glacier travel, natural history, horse packing, canyoneering, sailing, rafting, canoeing, and sea and whitewater kayaking.

- **Personal Skill Development Seminars**: NOLS provides in-house training in leadership, communication, group/expedition dynamics, educational techniques, ethical and legal issues, safe learning environments, sexual harassment, and evaluation techniques.

- **Instructor Development Fund (IDF)**: NOLS offers funding to field instructors for personal expeditions or to attend non-NOLS seminars and conferences. The IDF provides approximately $18,000 in funds annually. Through this funding it is expected that faculty will gain additional knowledge and experience in wilderness travel settings and technical situations, further develop judgment, gain greater experience and decision-making skills, and challenge personal abilities.
Wilderness Medicine Requirements
Each NOLS field instructor must hold, at a minimum, a wilderness first responder (WFR) certification and current CPR certification.

The NOLS Wilderness Medicine Institute (WMI) provides training for field instructors and the general public. The books, NOLS Wilderness Medicine and The NOLS Wilderness Medicine Field Guide by WMI Curriculum Director Tod Schimelpfenig are used as field texts and first aid resources for NOLS courses.

NOLS maintains wilderness medical protocols that are co-authored by the NOLS medical advisor. These protocols provide medical direction for field instructors if they face specific medical emergencies while in the wilderness.

NOLS as a Risk Management Resource for Other Programs
NOLS shares its risk management expertise with other outdoor organizations through various seminars and programs. NOLS has sponsored wilderness education conferences and NOLS staff frequently speak at conferences on risk management and wilderness medicine.

In 1994 NOLS, in collaboration with other outdoor education organizations, created the Wilderness Risk Management Conference (WRMC) and the conference has since been held annually. NOLS is the lead sponsor of the conference, which attracts approximately 400 attendees each year.

The NOLS Risk Management Services offers risk management training seminars, program audit and consulting services, and produces the WRMC.

Data from the NOLS risk management incident database is periodically analyzed, and published in peer reviewed journals to contribute to the fields of wilderness medicine and wilderness risk management.

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<th>ADMINISTRATIVE PROCESSES</th>
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Admissions
The admissions department is often a student's first experience with the NOLS risk management program. Our pre-course information strives to accurately describe the format, curriculum, and risks associated with our courses. The admissions staff reviews the applicant's registration forms including the health form. The purpose of this review is to gather information to determine if the applicant is physically and mentally capable of participating on a course. If additional evaluation is required, the director of risk management reviews the medical form. If necessary, outside medical advice is sought from the NOLS medical advisor or the applicant’s health care provider.

By determining that applicants are healthy and are informed about the course the admissions department participates in an important step in risk management.

Risk Management Audits
NOLS audits its risk management performance on a regular basis through the use of post course debriefings, written evaluations by students, and instructors and through the risk management incident reporting process. NOLS also periodically enlists outside expertise to perform risk management audits on specific field programs.

NOLS is accredited by the Association for Experiential Education, Outdoors New Zealand, and the
American Gap Year Association. The process for accreditation requires NOLS to periodically perform an extensive self-assessment and external review of systems, policies, and procedures that are measured against standards set for adventure programming. These accreditations are renewed on an established schedule.

**Risk Management Incident Review Process**
The risk management incident database and incident review process are used to analyze and understand field injuries, illnesses, and near miss incidents to learn from these experiences and inform and, if necessary, revise our field risk management practices.

**Evaluations**
Evaluations examining all aspects of each course and the risk management program in particular are routine at NOLS. We constantly work on improving this process. Performance evaluations of field instructors and students include the areas of risk management and leadership. Students complete a Course Quality Survey and each instructor team evaluates their course and the operational support systems. The director of risk management writes an annual risk management report.

**Course Paperwork**
The instructors on each course are required to keep a detailed course log that includes daily weather conditions, activities, names of student leaders, and any student challenges along with action taken. A class checklist is used to record the date a particular class was taught and by whom it was taught. Camp location information is recorded. Field injury, illness and near miss reports and evacuation reports are used to record risk management incidents.

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<th>FIELD SUPPORT SERVICES</th>
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Robust field support services—equipment, rations, transportation, and emergency management systems—are essential to support our mission, manage risk, and achieve our educational goals.

**Equipment**
NOLS maintains a complete inventory of course equipment, and each student goes into the field well equipped. NOLS equipment is selected and/or designed to hold up under rugged conditions, setting a standard for functional expedition equipment. Students may bring their own equipment; however, it must meet NOLS standards.

**Rations**
In order to function at an optimal level in a wilderness setting and in the variety of conditions encountered on a course, students and instructors must eat well to stay warm, be comfortable, and stay healthy. NOLS prides itself on providing an ample amount and variety of nutritious, high-energy foods to courses as well as on teaching students the skill and science of maintaining nutrition on extended expeditions.

**Transportation**
NOLS operates its own fleet of vans, pick up trucks, busses and utility trailers to transport students and equipment to and from the wilderness. Vehicles are selected for their durability and are maintained regularly either by trained NOLS staff or reputable service centers. NOLS has developed a comprehensive driver-training course for its drivers, which includes state licensing requirements, vehicle service/maintenance procedures, and defensive driving. All staff members who drive vehicles with NOLS students must have completed a defensive driving course.
Emergency Support and Management

Should a student become injured or sick during a course NOLS has developed an efficient and well-organized emergency response system to provide first aid and if necessary evacuate the student to medical care. However, the remoteness of our course areas creates complex emergency situations that have few simple solutions. It is not uncommon to be 24 hours or more from advanced medical care. Weather and other variables can also complicate evacuation response resulting in longer delays in reaching medical care. Each course carries a communication device for emergency notification. Almost all courses carry a satellite phone and personal locator beacons (PLBs) and some courses also carry two-way radios, and cellular phones. These devices work well, but face limitations due to the remoteness and topography of our course areas so they are not 100% reliable. Rapid evacuation from remote locations cannot be guaranteed.

- Field instructors prepare a written field evacuation report to detail their evacuation plan including contingencies and back-up plans.
- There are NOLS staff on duty 24 hours a day and are ready to receive emergency or evacuation calls at all NOLS locations. NOLS has access to extensive evacuation resources both internally and through other agencies and can arrange evacuations.
- NOLS can respond to the student’s needs once he or she are out of the field including phone calls to parents/guardians and supporting access to medical care.

RISK MANAGEMENT STATISTICS

The NOLS risk management incident database hold records of injuries, illnesses and other related incidents that occur on courses. This database provides a valuable tool for analyzing the effectiveness of our risk management systems and procedures. The following table and graph is a summary of our risk management data.

**NOLS Injury and Illness Statistics**

*For period of fiscal years 2011–2015*

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<th>Injuries:</th>
<th>Illnesses:</th>
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<tr>
<td>• 5% of students are injured</td>
<td>• 5% of students become ill</td>
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<td>• 42% of injured students are evacuated</td>
<td>• 31% of ill students are evacuated</td>
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<td>• 51% of field medical incidents are injuries</td>
<td>• 49% of field medical incidents are illnesses</td>
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<tr>
<td>• 41% of injuries are sprains, strains, tendon injuries</td>
<td>• 53% of illnesses are communicable, i.e. flu</td>
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<td>• 40% of injuries are soft tissue injuries</td>
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<tr>
<td>• 6% of injuries are fractures and dislocations</td>
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We average 232 reportable injuries and 220 reportable illnesses per year. Most injuries are minor and include sprains and strains of knees and ankles and minor wounds and contusions. Most illnesses are gastrointestinal illnesses. It is rare for an injury or illness to be serious enough to require a night in the hospital.

Less than half of the students with injuries or illnesses are evacuated from the field. We track these evacuations and other events to gauge our risk management performance and to gain insight as to where we may need to focus our attention. The following chart displays our average evacuation rates.
FATALITIES AT NOLS

Since NOLS was founded in 1965, twelve people have died on NOLS courses. No fatality is acceptable, but NOLS courses involve the pursuit of adventurous activities in rugged terrain in which there are real dangers. Wilderness adventure involves risk, which, can become dangerous and potentially life-threatening due to the unpredictable forces of nature or an error in judgment.

NOLS fatality statistics:
• 98,500 students, 4,229,366 program days, and 5 fatalities since 1985—the year we began to keep detailed risk management statistics.¹
• Fatality rate over 31 years per 1000 program days = 0.001
• Odds of a student dying on a NOLS course: 1:19,716
• 5 fatalities per 98,500 students

For context the following statistics are from various sources.

Turner (2011)² American Public Health Association
• 254 deaths among 1,361,304 college students age 18–24 at 4-year institutions
• Odds of a student dying at college: 1:5,359
• 18.66 deaths per 100,000 students

National Ski Area Association³
• Fatality rate winter 2014/2015 per 1000 skier/snowboarder days = 0.001

National Safety Council⁴ (statistical averages over the entire U.S. population)
• 1:112 = lifetime odds of dying in a motor vehicle incident
• 1:704 = lifetime odds of dying as a pedestrian
• 1:1,113 = lifetime odds of dying from accidental drowning and submersion

¹ Program day is 1 person on a course for 1 day, e.g. 10 students and 2 instructors on a 30-day course is 360 program days
The following is a complete list of fatal incidents at NOLS:


4–6. January 1974: One instructor and two students were killed in an avalanche in the Teton Range, Wyoming.

7. July 1979: A student was killed in an unroped fall in the North Cascade Mountains, Washington.

8. July 1989: A student was killed by rock fall in the Wind River Mountains, Wyoming.

9. December 1992: A student was killed by an avalanche in the Absaroka Mountains, Wyoming.

10. June 1996: A student was killed from a head injury during a river crossing in the Absaroka Mountains, Wyoming.


12. September 2011: A student slipped and fell down a steep slope while backpacking in India.

Periodically NOLS risk management data is analyzed and published. The following published papers are available on request:


**Conclusion**

There is a risk management consciousness that pervades the National Outdoor Leadership School and indeed, guides every step of the school's operations. Risk management has always been and will continue to be a priority at NOLS. Nevertheless, no matter how many systems an organization employs, and no matter how stringently those systems are followed, incidents will happen. We cannot—nor can anyone—reduce that possibility to zero. We accept risk as an integral part of the learning process and of the environments through which we travel, but we do not seek risk for the sake of risk. Our wilderness classrooms have no handrails, and no simple solutions for complex emergency situations and participants on our courses must accept the fact that risk of injury or death may be unavoidable during travel and recreation in remote areas.