

Course Descriptions

Yukon Instructor Course

Features Of This Course:

- Remote backpacking and canoe expedition in the Yukon Territory, Canada
- Travel approximately 60-80 kilometers backpacking, 250-350 km canoeing.
- Rapids class I-IV, portages and lining often necessary
- Minimum Age: 21
- Average Age: 27
- Relatively dry climate with potential for prolonged periods of wet, cold weather
- Emphasis on teaching the NOLS curriculum: Core leadership skills, navigation, whitewater canoe skills, river rescue and wilderness skills, risk management, wilderness medicine.
- Trip Duration: 35 Days
- Group Size: 8-12 Students/2-3 Instructors
- Typical Male/Female ratio: 55/45
- Expedition may be in sections (Hike, river rescue, then canoe) or one self-supported expedition – depending on early season access to specific rivers.

The Expedition

This course takes place above the 60th parallel. For 35 days you'll explore this wild, remote and beautiful place on foot and in tandem canoes. Course area is dependent on snow/water levels and early season access. Course area selection will prioritize curriculum emphasis and the ability to practice skills in the most variety of terrain possible. The mountains will have areas of snow cover and the river levels will be high during this time of season. These factors will challenge you to practice and learn new skills of managing yourself while leading groups through challenging wilderness terrain of extended periods of time.

Traveling in the Yukon is an amazing experience. Your backpacking section will begin with discussing the fundamentals of beginning a NOLS course as you head up into the Yukon alpine environments and learn to travel in this remote land. You will cross, icy glacial fed rivers, negotiate technical terrain, and likely travel on sections of snow.

You may transition from backpacking to canoeing with a base-camp style river rescue section (depending on the river selected, this curriculum may be integrated into the travel section). This section is designed to give formal, industry standard river rescue instruction to individuals without a prior certification and provide practice and new techniques for those who have taken a course prior to NOLS.

Finally the river section will provide participants with an overview of the NOLS river program progressions, challenging whitewater, and individual coaching, to take you to a higher level of skill. There will be much time dedicated to risk management techniques, decision-making, and the transfer of these skills to beginner students.

The specific route of your course will be determined closer to the start date of your course, due to different start dates, unknowns in weather, snow pack, river levels, and road closures – the Yukon is a wild and unpredictable place. Flexibility and adaptability are the nature of a NOLS course and this does not exclude the planning stage of your expedition. With such vast wilderness areas in the Yukon, we are constantly exploring new travel routes and promising backcountry classrooms. You may find yourself along a route never before traveled by a NOLS group, learning valuable expedition skills in dealing with the unknown, or working your way through a region already proven to provide excellent learning opportunities.

You'll probably spend 1-2 days in town prior to leaving for the field. During this time, you'll be issued equipment, bag food, and pack up while becoming familiar with NOLS outfitting and ration procedures. You'll also have time to research and prepare classes. There will be presentations about NOLS from NOLS Yukon administration. We will be flexible with class scheduling and use the time efficiently and prepare ourselves for the field component.

In the field, you will be responsible for teaching basic and advanced classes. A class list will be handed out with time made available for teaching preparation. You'll be challenged to experiment with different teaching styles while polishing your skills, judgment, leadership, and supervisory abilities. Peer and staff feedback of class content, teaching techniques, and effectiveness is an essential part of the learning process of this course type.



Risk management awareness in wilderness situations is a critical element of outdoor leadership. Your instructors will teach some of the risk management-related classes such as emergency procedures, and river rescue. Hazard evaluation, accident prevention, group management, and evacuation procedures are thoroughly discussed and practiced on the course. Students will be evaluated on their first aid skills and knowledge. Practical scenarios will be used during the course.

NOTE: Students must pass the NOLS Wilderness First Aid test, given at the start of your instructor's course, to work at NOLS. It is your responsibility to be prepared to take this multiple-choice test at the start of your course. Go to www.nols.edu/wmi for a practice test.

Student Independence

On all NOLS courses students will be independent (unaccompanied by instructors) at various times. This will include time in and around camp, such as while cooking or performing camp chores. Instructors may allow students to travel away from camp. Students often have independent unsupervised time, usually in town, before and after their course starts or between sections or semesters.

Evaluations and Future Employment

Instructors evaluate students on the following areas: Risk management and judgment, teaching, communication, expedition behavior, leadership, conservation practices, group river management, paddling skills, and outdoor skills. At the conclusion of the course, each student receives a written evaluation documenting his or her abilities. Those who complete the course, and do well, are eligible to work a backpacking and/or whitewater canoe course as an instructor at NOLS. It is possible, depending on prior experience and performance to be eligible to work in both, one or none of the course types. Currently, about 80 percent of those passing eventually work for NOLS, but job opportunities cannot be guaranteed.

We look for initiative, creativity, and potential for growth as a wilderness educator. We operate on the premise that there is always more to learn and areas in which to grow no matter what the skill level, knowledge, or experience. The instructor course is a demanding learning experience, and there is little free time. Those who do well bring a positive attitude toward learning and growing, an attitude of respect and support for others, and an attitude of care and enjoyment of the natural environment.

Weather, Remoteness and Other Challenges

It is important to emphasize the nature of this wilderness experience. The following descriptions are intended to have you mentally and physically prepared to get the most out of your course.

Identifying and managing the hazards of steep terrain, river crossings, avalanche slopes, retaining holes, strainers, logjams, shallow water, broaching, hypothermia, sun exposure, athletic injury, and foul weather will be constant themes in our instruction. Risk management in wilderness settings is a critical element of outdoor education. NOLS courses emphasize safety related topics; hazard evaluation, accident prevention, group management, first aid, rescue, and evacuation procedures are thoroughly discussed and practiced on the course. The inaccessibility of this remote course area necessitates conservative judgment, a positive attitude and flexible planning.

Backpacking and canoeing in the Yukon Territory is physically and mentally demanding. The Yukon is a very remote region with large distances from medical facilities once in the field. While the Yukon Territory of Canada is fully functional with all the emergency services available to most North American centres, even in ideal conditions, an evacuation would take several hours. Add the likely element of poor weather, outside help might be several days away. Your expedition must be prepared to deal with almost any event self-sufficiently.

While average humidity and precipitation in this area are moderate, the weather can change quickly from hot sunshine to rain, sleet and hail, and from dead calm to fierce winds. In a wet year it could be rainy and cold every day. It is not uncommon for a hiking group to be soaked to the skin while bushwhacking! Light snow is always a possibility.

This is bear country (grizzly and black) and all travel and camping practices emphasize bear risk management and awareness. Some examples include making noise while traveling and never leaving food in tents. One basic bear country practice is to never leave camp on one's own. Students should not expect to have much time alone on this course.



There are plenty of insects in northern Canada, and we'll deal with them in good expeditionary style. Mosquitoes, black flies and no-see-ums are at their worst through early July, as they maximize their activity in the short summer.

While prerequisites for this course have participants beginning this course with wilderness and instructional experience, there will be variance in levels and type of experience. As this is a combination Instructor Course, there will be individuals with experiences weighing heavier on the mountain, river, or instructional sides. This will offer its own challenges to you and your expedition as a balance is sought to learn the curriculum as well as work with individuals to increase and round out their skills to be a effective Wilderness Educators. Humility, an open mind, and willingness to work with your peers to give and receive feedback will lead to success for all.

Group Dynamics

You'll be living and working in a small community of diverse individuals (be that age, outdoor experience, occupation, or other standard measures of diversity). Instructor courses, although not set up to be competitive, can cause stress as individuals push their mental, physical and emotional boundaries. Whether it's pushing through dwarf birch feet from one another, or camped in a confined campsite, living and working quarters are tight, necessitating the utmost in cooperation, patience and tolerance. Please consider the ramifications of this prior to committing to the expedition, and recognize that the success of the expedition as a whole is entirely dependent on the ability of its members to support one another in trying circumstances.

Some of the course routes may involve exploration into new areas. Consequently, a willingness to change plans and the desire to be challenged are both paramount.

Medical Issues

Please be aware that chronic knee or ankle ailments have been a source of problems in the past. If you have a history of such problems, please contact us to discuss it. It is important that the admissions office is advised of any updates to your medical records.

Medications

It is important that you have a current diphtheria-tetanus immunization. We need to know if you have had an adverse reaction to Erythromycin, Vicodin, Keflex, Ibuprofen, or Aspirin. If you plan to take any medication during the course, please be sure you are aware of possible side effects and discuss it with your expedition leaders.

Personal Electronics

A key element to a NOLS education is time spent in wilderness. The benefits of this include being closer to nature, time away from society and civilization, and being in an environment where natural forces predominate and students have the opportunity to develop good judgment and practice self-reliance. NOLS does not permit students to use personal cell or satellite phones or other communication devices including personal tracking devices (e.g. SPOT), while in the field. Additionally, students are not permitted to take personal music players (iPods, MP3 players, CD players, etc). Instructors will be carrying sufficient communication equipment (usually a satellite phone) to handle any emergencies that may arise.

Fitness Recommendations

Past students and instructors agree that arriving physically fit and with an open mind will enhance your experience and ability to do well on the course. Almost continual sunlight provides for long, busy days. Your fitness goals should focus on being able to sustain a moderate level of exertion for hours on end rather than "quick sprint" fitness. A healthy fitness level also reduces the chance of injury.

Focus on a well-rounded routine that emphasizes stamina, flexibility and strength. Finally, don't ignore the need for balance; this will serve you well in the mountains and rivers where the ability to quickly find your center of balance as you move from one step to the next will enable you to dance, rather than stumble your way through. For more information, please refer to the Physical Conditioning page of your enrollment packet.



Yukon Canoe Instructor Course Objectives

As an overall course objective, we expect Instructor Course graduates to be capable of responsibly leading groups of novices through educational experiences in the wilderness. Each course will be unique due to variables such as route, group dynamics, fitness levels, and environmental conditions. Working with these variables, it is our intent to accomplish the following outcomes.

Risk Management and Judgment

NOLS prepares instructors to teach and practice responsible habits that promote the health and well being of self and others. We expect each student to accomplish the following:

- Demonstrate knowledge of the hazards in mountain, river and northern Canada environments and of your limitations
- Describe and consistently perform specific techniques to reduce or avoid hazards
- Describe emergency plans for groups in the outdoors in a variety of settings and circumstances
- Demonstrate the ability to provide emergency and extended medical care for a remote wilderness setting using the available resources
- Use experience and judgment to implement sound decisions and follow them through to completion
- Understand and work within NOLS risk management policies and procedures

Leadership and Expedition Behavior

Students are exposed to the theory and practice of outdoor leadership, teamwork, and expedition behavior. At NOLS, expedition behavior involves commitment to the group, a positive attitude, and cooperation to achieve goals. We expect each student to accomplish the following:

- Work effectively as members of a team
- Appropriately communicate ideas and concerns on individual and group levels
- Accurately identify strengths, skills and areas for growth in developing outdoor leadership styles in self and others
- Display an appropriate initiative in a teaching/leadership role with peers
- Demonstrate effective problem-solving and planning skills
- Provide effective oral and written feedback
- Display an awareness of group strengths and limitations

Outdoor Skills

Students are expected to live, travel, and guide others in the outdoors within a framework of risk management and care of the environment. We expect each student to accomplish the following

- Live comfortably in a northern (sub-arctic) environment: camping, cooking, and dressing for varied conditions
- Travel competently in wilderness terrain using off-trail navigation, hazard evaluation, and river-crossing techniques
- Travel competently on rivers using appropriate navigation, controlled descent, hazard evaluation, risk management, and rescue techniques
- Demonstrate proficiency in use and a thorough understanding of paddling techniques and boat control
- Be able to supervise novices in Class II/III water
- Display effective rescue and evacuation techniques for environments that include both rivers and mountains
- Display proficiency in utilizing various methods of descending rivers in canoes: lining, portaging and paddling
- Accurately assess skills, strengths and endurance in self and others and conservatively apply those limits to given situations
- Display the skills necessary to teach spin and fly fishing techniques to novices

Environmental Studies

Students develop an awareness of how to apply minimum impact ideas to their lives beyond the course. We expect each student to accomplish the following:

- Show an understanding, appreciation, and respect for the natural world; know characteristic flora and fauna of the Yukon; understand significant ecological principles
- Develop a sense of place and relationship to the land, recognition of the inherent value in wilderness and sense of responsibility to protect the environment
- Consistently perform sound *Leave No Trace* living and travel skills; be able to extrapolate knowledge to new environments
- Demonstrate knowledge of public land management and discuss means to be involved in issues of interest in the North and elsewhere
- Demonstrate awareness and understanding of the Yukon's current and historic resource use



- Demonstrate awareness and understanding of the Yukon First Nation's culture, social issues and land claims

Wilderness Education Skills

The Instructor Course prepares students to be wilderness educators as well as wilderness leaders. We expect each student to accomplish the following:

- Demonstrate the ability to effectively teach basic outdoor living skills
- Demonstrate knowledge of environmental and risk management concerns and their influence on learning in the wilderness
- Be an exemplary model of a safe and effective wilderness educator
- Demonstrate motivation and enthusiasm in the pursuit of learning
- Be able to evaluate the need for and design an appropriate teaching progression with technical skills curriculum.
- Be effective in the presentation and utilization of learning opportunities, adapting to the variables of the course

Student Classes On The Yukon Instructor Course

Students are expected to teach many of the classes on this course to their peers. Topics will be decided before leaving town. Try to select subjects you are already familiar with. Instructors will advise you on preparation and content, and the NOLS Yukon staff library will be available to you. Feel free to bring resources with you. You should try to prepare as thoroughly as possible before leaving town. Doing so will help your classes be clear, concise, and relevant, as well as effective and fun. NOLS is known for creative and effective use of impromptu teaching aids whether they are anatomical diagrams on bodies, or "blackboards" on ensolites or sandbars.

Critiques of classes can help everyone learn about education when done positively and constructively. After some warm-up "mini-classes," feedback may become more formal and possibly begin with a self-critique.

On any NOLS course, the classes support the activities, but the activities are the heart of the course. Instructors constantly adjust plans with changing conditions, especially as "teachable moments" arise. This makes the scheduling of your classes tentative. It also means that NOLS instructors routinely plan for many different alternatives, only using the most fitting ones. It is possible that one or two prepared classes will not even be presented. We also hope that you will point out teachable moments as you experience them. Guided discovery is what experiential education is all about. Helping you to develop your skills to both model and guide others in this discovery is the foundation of the NOLS instructor course.

Please be prepared to teach any of these basic topics on short notice:

- Stove Use and Care
- Pack Packing and Carrying
- First Day Hiking Tips
- Campsite Selection
- Keeping Warm and Dry
- Tent and Fly Pitching
- Blister Prevention and Treatment
- Dry Bag Packing
- First Day Paddling Tips
- Basic Strokes and Maneuvers
- Canoe Transport and Rigging
- *Leave No Trace* Techniques
- Fire Building
- Basic Map Reading
- Stretching/ warming up for paddling
- Basic Cooking
- Sanitation and Hygiene
- Food Identification
- Personal Whitewater Gear
- Basic Whitewater Safety/ Hydrology
- Group Travel on a River

Expect to teach at least one of these more advanced classes. You can prepare them at the start of your course. It will also help throughout your NOLS experience if you arrive with a basic understanding of each of these topics as they relate to wilderness education.

- Expedition Planning
- Advanced Cooking and Baking
- Fly and Spin Fishing
- Compass Use
- Advanced Map Reading
- Wilderness Ethics and Land Use
- Expedition Behavior
- Athletic Injuries (paddling related)
- Astronomy/Constellations
- Boreal Forest Ecology Topics
- Plant/ Flower ID
- Gender-Specific Medical Concerns
- Northern Mammals
- Weather/Lightning
- Glaciology
- Yukon Geology



- Extended patient Care
- Environmental Injuries
- Risk Management
- Advanced River Hydrology
- Advanced Paddle Strokes/ Maneuvers
- River Rescue Concepts and Equipment
- Throw Ropes
- Nutrition
- Gold Rush /Fur Trade History
- Yukon Land Management
- Ornithology
- Leadership & Group Dynamics Topics
- Rocky Mountain History
- Stove Repair
- Canoes Design and Construction
- Canoe History
- Rapid Scouting
- River Classification
- Yukon First Nations
- Bear Camping Practices

Expect To Also Teach A Mini-Class On A Local Animal And A Local Plant (1-5 Minutes).

NOLS Instructor Course (IC) Reading List

NOLS instructor courses are stepping-stones for outdoor professionals who already have extensive experience in the terrain and skills of their course. We expect each participant to have a broad experience base and be in shape physically and mentally. Staying well read is a given part of continuing education for any professional. You should already be familiar with many of the titles on this list. We expect you to have a working knowledge of at least one book from each relevant category before beginning your course. Your familiarity with these books can only enhance your experience on your NOLS Instructor Course. Your preparation before the course often determines whether you are learning basic material on your course, or better yet, learning how to teach it. And most of all, we hope you enjoy these books.

Got suggestions? Just email recommended titles to curriculum@nols.edu

Key

* Books we routinely use as references in the field

** NOLS instructor notebooks will be supplied to IC students on specific IC course types.

BSIC= Baja Sailing Instructor Course

KIC= Sea Kayak Instructor Course

RIC-U/Y = River Instructor Course: raft/kayak/canoe in **Utah** or canoeing in the **Yukon**

SIC = Summer Instructor Course: the original "IC" has been run in Wyoming's mountains since 1971.

Some of these have a separate climbing camp: some are 35-day expeditions.

ICS = Southwest Instructor Course: a mountain instructor course run in Arizona

AKIC= Alaska Instructor Course: a mountain instructor course with glacier travel but no rock camp

PNIC= Pacific Northwest Instructor Course: a mountain instructor course with glacier travel but no rock camp

Wilderness Education (all ICs)

Drury, Jack, et al (2005). *The Backcountry Classroom (2nd ed.)*.

**Gookin, John (2006). *The NOLS Wilderness Educator Notebook, (10th ed.)*.

Priest, Simon (2005). *Effective Leadership In Adventure Programming (2nd ed.)*.

Risk Management (all ICs) Recommended focus list:

**Gookin, John (2006). *The NOLS Wilderness Educator Notebook, (10th ed.)*. chapter 11

**Leemon, Drew & Tod Schimelpfenig (2005). *Risk Management For Outdoor Leaders*.

Priest, Simon (2005). *Effective Leadership In Adventure Programming (2nd ed.)*. chapter 7

These publications document common accidents and supplement the above comprehensive titles.

American Caving Accidents (annual). National Speleological Society.

Broze, Matt, and George Gronseth (1997). *Sea Kayaker's Deep Trouble*.

Gonzales, Laurence (2004). *Deep Survival: Who Lives, Who Dies, And Why*.

Walbridge, Charlie (1996). *The ACA's River Safety Anthology*.

Williamson, Jed (annual). *Accidents In North American Mountaineering*.



Living in the Wilderness (all ICs)

- *Harvey, Mark (1999) *The NOLS Wilderness Guide*.
- Howley Ryan, Mary (2008) *NOLS Backcountry Nutrition*.
- *Pearson, Claudia (2004). *The NOLS Cookery*.

Minimum Impact Camping (all ICs)

- *Hampton, Bruce, and David Cole (2003). *Soft Paths* (3rd ed.).
- Harmon, Will (1994). *Wild Country Companion*.
- Hart, John (1998). *Walking Softly in the Wilderness*.
- *Regional Leave No Trace “skills & ethics” booklets www.lnt.org

Climbing & Mountaineering (SIC, ICS, AKIC)

- **Anderson, Dave (2008). *NOLS Rock Climbing Instructor Notebook* (4th ed.).
- Chouinard, Yvon (1978). *Climbing Ice*.
- Cox, Steven (2003). *Mountaineering: The Freedom of the Hills* (7th ed.).
- DaSilva, Rachel (1998). *Leading Out: Mountaineering stories of adventurous women*.
- Long, John (2006). *Climbing Anchors*, (2nd ed.).
- Long, John (2003). *How To Rock Climb* (4th ed.).
- *Powers, Phil (2008). *NOLS Wilderness Mountaineering* (3rd ed.)
- *Tyson, Andy (2005). *Glacier Mountaineering*.
- Vause, Mikel (2002). *Rock and Roses* (2nd ed.).

Whitewater Paddling (RIC)

- American Canoe Association (2005). *ACA Instructor's Manual*.
- *Gullion, Laurie (1987). *Canoeing & Kayaking- Instruction Manual*. American Canoe Association.
- Jackson, Eric (1999). Whitewater paddling strokes and concepts. Stackpole.
- Mason, Bill (1999). *The path of the paddle*. Firefly Books.
- Ostis, Nate (2010). *NOLS River Rescue*. PA: Stackpole.
- **Ostis, Nate (2006). *NOLS River Educator Notebook*.
- ACA books: we generally use the ACA curriculum for whitewater instruction (with their blessings).

River Rescue (RIC)

- Ostis, Nate (2010) *NOLS River Rescue Booklet* (in press)
- *Ray, Slim & Les Bechdel (1997). *River Rescue* (3rd ed.).
- Walbridge, Charlie (1995). *Whitewater Rescue Manual*.

Sea Kayaking (KIC)

- Burch, David (2005). *Fundamentals of Kayak Navigation* (4th ed.).
- *Dowd, John (2004). *Sea Kayaking- A Manual For Long Distance Touring* (5th ed.).
- *Hutchinson, Derek (2004). *The Complete Book Of Sea Kayaking* (5th ed.).
- Ince, John, and Hedi Kottner (1992). *Sea Kayaking Canada's West Coast*.
- Schumann, Roger & Jan Shriner (2001). *Sea Kayak Rescue*.
- Seidman, David (2000). *The Essential Sea Kayaker* (2nd ed.).
- **Smithhammer, Bruce (2005). *The NOLS Sea Kayak Instructor Notebook* (2nd ed.).
- Washburne, Randall (1998). *The Coastal Kayaker's Manual* (3rd ed.).

Sailing (BSIC)

- **NOLS Sailing Instructor Notebook
- Fries, Derrick (1997). *Start Sailing Right*. US Sailing Assn.
- Rousmaniere, John (1999). *The Annapolis Book of Seamanship* (3rd ed.).
- Seidman, David (1995). *The Complete Sailor: learning the art of sailing*.

Oceanography & Marine Biology (KIC & BSIC)

- Carson, Rachel (1998). *The Edge Of The Sea*.
- *Fox, William (1992). *At The Sea's Edge: Coastal Oceanography for the Amateur Naturalist*.



Greenlaw, Linda (1999). *The Hungry Ocean*.
Pojar, Jim, and Andy MacKinnon (1994). *Plants of Coastal British Columbia*.
Steinbeck, John (2001). *The Log from the Sea of Cortez*.

Bluewater Expeditions (KIC & BSIC)

Brower, Kenneth (1983). *The Starship and the Canoe*.
Callahan, Steve (2002). *Adrift*.
Fredston, Jill (2001). *Rowing To Latitude*.
Junger, Sebastian (1997). *The Perfect Storm*.
Lansing, Alfred (1999). *Endurance: Shackleton's Incredible Voyage (2nd ed.)*.

Wilderness Medicine (All ICs)

Auerbach, Paul (2007). *Wilderness Medicine: Mgmt of Wilderness and Env. Medicine (5th ed.)*. (reference book)
Forgey, W (1999). *Wilderness Medicine (5th ed.)*
Giesbrecht, Gordon & James Wilkerson (2006). *Hypothermia, Frostbite and Other Cold Injuries. (2nd ed.)*.
*Houston, Charles (2005). *Going Higher: Oxygen, man and mountains (5th ed.)*
Johe, David & Warren Bowman (2002). *Outdoor Emergency Care (4th ed.)*.
*Schimelpfenig, Tod (2006). *NOLS Wilderness Medicine*.
*Schimelpfenig Tod, Padgett Justin. *Wilderness Medicine Field Guide. 2ed Ed 2009*
Setnicka, Tim (1981). *Wilderness Search and Rescue*.
Tilton, Buck (2004). *Wilderness First Responder (2nd ed.)*.
Wilkerson, James A. (2001). *Medicine for Mountaineering (5th ed.)*.

Wildland Ethics (All ICs)

Brower, David (1995). *Let The Mountains Talk, Let The Rivers Run*.
Callicott, J. Baird, and Michael P. Nelson, eds. (1998). *The Great New Wilderness Debate*.
Cordell, HK, et al (2005). *The Multiple Values Of Wilderness*.
**Gookin, John & Darran Wells (2002). *NOLS Environmental Education Notebook*.
*Goodrich, Glenn (2006). *NOLS Wilderness Ethics: Valuing and Managing Wild Places*.
Hendee, John, et al. (1990). *Wilderness Management (2nd ed.)*.
Nash, Roderick (2001). *Wilderness and The American Mind (4th ed.)*.
Oelschlaeger, Max (1993). *The Idea of Wilderness*.
Waterman, Laura & Guy (1993). *Wilderness Ethics: Preserving the Spirit of Wildness*.
The Wilderness Act of 1964 www.wilderness.net/index.cfm?fuse=nlwps&sec=legisact also in Goodrich (2006).
Zaslowsky, Dyan (1994). *These American Lands*.

Environmental Studies & Sustainability

Brower, Michael (1998). *The Consumer's Guide To Effective Environmental Choices*.
Edwards, Andres (2005). *The Sustainability Revolution*.
**Gookin, John & Darran Wells (2002). *NOLS Environmental Education Notebook*.
Leopold, Aldo (1966). *Sand County Almanac*.
Light, Andrew & Holmes Ralston, III (2003). *Environmental Ethics*.
Lorbiecki, Marybeth (1996). *Aldo Leopold: A Fierce Green Fire*.
McKenzie-Mohr, Doug (1999). *Fostering sustainable behavior: an introduction to community-based social marketing*.
Miller, Char (2001). *Gifford Pinchot and the Making of Modern Environmentalism*.
Orr, David (2004). *Earth In Mind: On education, environment and the human prospect*.
Reisner, Marc (1993). *Cadillac Desert: The American West and Its Disappearing Water (2nd ed.)*.

Leadership (All ICs)

Bennis, Warren (1985). *Leaders*.
**Gookin, John & Shari Leach (2009). *NOLS Leadership Educator Notebook*.
Graham, John (1997). *Outdoor Leadership: Techniques, Common Sense And Self Confidence*.
Heifetz, Ronald (2002). *Leadership On The Line: Staying Alive Through The Dangers Of Leading*. Harvard Business School.
Huntford, Roland (1986). *The Last Place on Earth*.
Heider, John (1986). *The Tao of Leadership*.



Roberts, Wess and Bill Ross (1995). *Make it So: leadership lessons from Star Trek*.
Roberts, Wess (1990). *Leadership Secrets Of Attila The Hun*.
Siebert, Al (1996). *The Survivor Personality*.
Siebert, Al (2005). *The Resiliency Advantage: Master change, thrive under pressure, and bounce back from setbacks*.
Taylor, Rob (1981). *The Breach*.

Rocky Mountain History (SIC)

Blevins, Winfred (1973). *Give Your Heart to the Hawks*.
DeVoto, Bernard (1947). *Across the Wide Missouri*.
Guthrie, A.B. (1947). *The Big Sky*.

Earth Sciences (All ICs)

Day, John (1998). *A Field Guide To The Atmosphere*.
*Link, Paul (1977). *Geology of the Wind River Range*. NOLS.
McPhee, John (1981). *Basin and Range*.
McPhee, John (1983). *In Suspect Terrain*.
*McPhee, John (1986). *Rising from the Plains*.
Renner, Jeff (2005). *Mountain Weather*.
*Rey, H.A. (1975). *The Stars*.
Woodmency, Jim (1998). *Reading Weather: where will you be when the storm hits?*

Fly Fishing (SIC only)

*Anderson, Sheridan (1978). *Curtis Creek Manifesto*.
Bergman, Ray (1983). *Trout*.
Brooks, Joe (1972). *Trout Fishing*.
Gierach, John (1984). *Fly Fishing the High Country*.

Mountain Expeditions (SIC, ICS, PNIC, AKIC)

Allison, Stacy (1999). *Beyond the limits*.
Blum, Arlene (1998). *Annapurna: A Woman's Place*.
Craig, Robert (1980). *Storm and Sorrow in the High Pamirs*. (Out of print: see Chessler Books or Abebooks).
Davidson, Art (1999). *Minus 148 Degrees*.
Herzog, Maurice (1952). *Annapurna*. (various printings)
Hornbein, Tom (1998). *Everest: The West Ridge*.
Jones, Chris (1997). *Climbing in North America*.
Roberts, David (1986). *Moments of Doubt*.
Roper, Steve (1979). *Fifty Classic Climbs of North America*.
Waterman, Jon (1991). *Surviving Denali (2nd ed.)*
Wilson, Ken (1981). *The Games Climbers Play*.

Flora and Fauna (All ICs)

Colinvaux, Paul (1978). *Why Big Fierce Animals are Rare*. (out of print: see Abebooks)
Ehrlich, Paul (1988). *The Birders Handbook*.
*Gookin, John & Tom Reed (2009). *Bear essentials: hiking and camping in bear country*. Stackpole.
*Halfpenny, James (2001). *Scats and Tracks of the Rocky Mountains (2nd ed.)*.
*Halfpenny, James (2000). *Scats and Tracks of the Desert Southwest*.
*Herrero, Stephen (2002). *Bear Attacks: Their Causes and Avoidance (2nd ed.)*.
Lopez, Barry (1979). *Of Wolves and Men*.
*Mathews, Daniel (2003). *Rocky Mountain Natural History*.
*Nelson, Ruth (1992). *Handbook of Rocky Mountain Plants*.
Smith, David (1997). *Backcountry Bear Basics*.
Zwinger, Ann (1972). *Land Above the Trees*.
Zwinger, Ann (2002). *Beyond the Aspen Grove*.



Wilderness Literature (All ICs)

Abbey, Ed (1968). *Desert Solitaire*.

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