

Course Description

River Instructor Course

Features of This Course:

- River route: ~366 river miles
- Travel by kayak, oar-raft, paddle-raft & canoe
- Minimum age: 21
- Average group size: 8-15 students & 3 instructors
- Trip duration: 36 Days
- Average age: 26
- Waterways include: Desolation/Gray Canyon, Yampa River Canyon and the gates of the Lodore on the Green River

The Expedition

This course is conducted in Utah's canyon country, a beautiful and colorful region of rich human and geological history. This expedition will travel in crafts, which include rafts, kayaks and canoes. The route travels through limestone, shale and sandstone river canyons. These are desert or dry mountain canyons, yet the river corridors you'll be traveling in are relatively lush, riparian zones. The canyons make a perfect classroom for wilderness river travel, outdoor living, kayaking, canoeing and rafting skills. On this course, you'll develop and refine the teaching and leadership skills needed to prepare you for professional positions at NOLS or other wilderness programs. The Utah River Instructor Course is conducted once each year, in the spring when the rivers are high and the whitewater is challenging.

You'll spend the first day at the NOLS Rocky Mountain River Base in Vernal, Utah. During this time, you'll be issued equipment, have a short discussion on varied topics and then head to the local lake with a session to cover kayak and tandem canoe strokes and maneuvering. A kayak roll session is also included. The second day you will attend a Utah Food Handler's class, receiving a certificate. This certificate is required of all river guides in the State of Utah. This class will be followed by lunch. You will then have time to research and prepare classes in the afternoon. 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.

The morning of the third day you will drive to Sand Wash boat ramp where you will begin a self-supported canoe trip on Desolation/Gray Canyon of the Green river. You will cook in small groups of three or four students during this portion of the course.

During the next portion of the course you will also travel down Desolation/ Gray Canyon. However, your craft will change from canoes to oar rigs and kayaks. During this section students take on more responsibility for logistics, risk management, decision-making and curriculum of the course. You will then return to the NOLS River Base. Over the next two days you will purchase and pack food for your next three river sections, and participate in a Defensive Driving class. During this time you will camp at the NOLS River Base in Vernal. The expedition resumes with multi-day floats of the Gates of Lodore canyons on the Green River, and the Yampa River Canyon. During this portion of the course you will travel in rafts and kayaks and will utilize the traditional group kitchen. The course will not return to the NOLS River Base until after your last section of the Yampa River. During these sections you can expect lots of river rescue curriculum including scenarios and hands on experience. The course will finish with a few days at the International Headquarters in Lander, Wyoming. During the time in Lander you may attend classes that were not covered during your time in Utah. Classes may include: Communication Training, Risk Management and a Harassment Workshop, concluding with meeting managers at NOLS Rocky Mountain and the staffing coordinators in the Human Resources Department.

In the field, you'll be responsible for teaching certain basic and advanced classes. A class list will be handed out with time made available for preparation. Classes include formal and informal discourse on a wide range of subjects, beginning with basic wilderness living skills such as cooking, tent pitching, stove use, and *Leave No Trace* practices. Later instruction includes expedition behavior, communication/evaluation skills, first aid, weather, leadership, natural history and advanced travel techniques. You will also have the opportunity to teach various elements of kayaking, canoeing and rafting (eddy turns, peel-outs, ferries, etc.) as well as raft rigging. Management of students in whitewater and river rescue is a significant part of the curriculum.



You are encouraged to experiment with teaching styles and techniques while polishing your skills, judgment, leadership and supervisory abilities. Peer and staff feedback of class content, teaching, and effectiveness are essential parts of the learning process.

Strength, stamina and excellent health are essential for paddling and full participation in the numerous classes and activities. You should expect an intense learning experience that includes academic study as well as a demonstration of skills.

Student Independence

On all NOLS courses students will be independent (that is 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. Away from the field, students often have independent unsupervised time, usually in town, before and after their course starts. *There is no independent student travel on NOLS Utah river sections. This is due to the Permit regulations set by the State of Utah and Dinosaur National Monument.*

Fasting is an optional part of the curriculum on this course. If the instructors think fasting is appropriate for the conditions and determine that it is consistent with your abilities, you may choose to fast during a portion of the expedition. Rations will be carried to allow students to eat in the event of an emergency.

Evaluations and Future Employment

Instructors evaluate students on the following areas: risk management/judgment and decision-making, teaching, communication, expedition behavior, leadership, conservation, paddling and outdoor skills. At the conclusion of the course, each student receives a written evaluation of his or her abilities. This documentation is helpful if the candidate wishes to seek employment with NOLS or other outdoor programs. Those who complete the course with strong performances, and potential, are eligible to instruct water-based courses at NOLS, though job opportunities cannot be guaranteed. Those who wish to work the same summer as their RICU are advised to bring a driver's license and social security card (or equivalents as described in INS form I-9). Employment opportunities often hinge upon an individual's availability. Full instructor certification is based on evaluation at the end of the first course, as an instructor.

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 River Instructor Course is a demanding learning experience where 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 and Other Challenges

Given the mountainous headwaters of these rivers, you should expect cold-water temperatures. The highly variable weather can change quickly from hot sunshine to rain and from dead calm to fierce headwinds. Afternoon thunderstorms, with lightning and thunder, can arise suddenly and drive you to seek shelter. There are times when you will be cold, wet, and tired, but you will learn to manage these situations and maybe even smile while you do.

Identifying and managing the hazards of holes, strainers, shallow water, broaching, hypothermia, sun exposure, and weather will be constant themes in our instruction. Risk management in wilderness settings is a critical element of outdoor leadership. NOLS instructors teach risk management related topics; hazard evaluation, accident prevention, group management, first aid, rescue, and evacuation procedures. These topics are thoroughly discussed and practiced on the course. After completing a careful progression of instruction in kayaking/canoeing/rafting techniques and awareness, you are expected to teach a majority of the skills presented and be able to supervise novices in various situations. The inaccessibility of these remote areas necessitates conservative judgment, a positive attitude and flexible planning. The consistent practice of risk management and assumption of responsibility for yourself and other group members will help make your expedition on these rivers healthy and enjoyable.

Bear avoidance techniques will be integrated into this course. Precautions against bear encounters will decrease the opportunities for solitude and privacy on this course. Steps will be taken to not have food or food odors at sleeping sites. Other bear avoidance tactics include meticulously maintaining cleanliness at the cooking sites and having bear spray available



as a deterrent.

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.

River Instructor Course Objectives

As an overall course objective, we expect Instructor Course graduates to be capable of responsibly leading novice groups through educational experiences on wilderness waters. The 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/Judgment and Decision Making

NOLS prepares instructors to teach and practice responsible habits that promote the health and well being of self and others. Each student is expected to accomplish the following:

- Demonstrate knowledge of the hazards in river 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 appropriate to a remote wilderness setting using 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 Communication

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 member 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 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 concern and care of the environment. Each student is expected to accomplish the following:

- Live comfortably in a Western river environment: camping, cooking and dressing for varied conditions
- Travel competently on rivers using appropriate navigation, hazard evaluation, and rescue techniques
- Accurately assess skills, strengths and endurance in self and others and conservatively apply those limits to given situations.
- Demonstrate an understanding of paddling techniques for kayaks, canoes, paddle rafts and oar rigs
- Demonstrate the ability to supervise novice paddlers in Class III water.
- Display effective rescue and evacuation techniques for environments that include both rivers and mountains
- Display basic natural history observation and interpretation skills



Environmental Studies and Ethics

Students develop awareness of how to apply *Leave No Trace* ideas to their lives beyond the course. We expect each student to accomplish the following:

- Consistently practice and teach sound *Leave No Trace* living and traveling skills
- Use basic observation and interpretive skills to develop an understanding and respect for natural systems
- Demonstrate and convey an understanding, appreciation and respect for the natural world on the water and land
- Describe how to facilitate the transference of wilderness ethics and practices to daily life

Wilderness Education Skills

The River Instructor Course prepares students to be wilderness educators as well as wilderness leaders. Each student is expected to accomplish the following outcomes:

- 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
- Demonstrate the characteristics, an exemplary role model, of a responsible and effective wilderness educator
- Demonstrate motivation and enthusiasm in the pursuit of learning
- Be effective in presentation and utilization of learning opportunities, adapting to the variables of the course

Student Classes On the River Instructor Course

Students are expected to teach many of the classes on the course. Instructors can advise you on content and some references will be available. We expect thorough preparation prior to leaving for the field so that each of your classes is concise, timely, enjoyable, and relates directly to the experiences of the course.

You will be teaching to peers. Some may be novices in your areas of instruction; some may be pros. As in any situation, you are expected to teach to the actual audience. In the more elementary areas you may only need to explain how you would address the topic to beginners. NOLS is known for creative and effective use of impromptu teaching aids whether they are anatomical diagrams on bodies or "blackboards" on sleeping pads or sandbars. You will only get to teach a few classes, but with thorough preparation they can be very good.

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 very possible that one or two prepared classes will not even be presented. We also hope you will point out teachable moments as folks experience them. Guided discovery of the world is a big part of experiential education. Helping you to further develop your skills to both model for, and guide others, in this discovery is what the NOLS Instructors Course is all about.

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

- Anatomy of a Kayak and Canoe
- Canoe Packing
- First Day Paddling Tips
- Basic Strokes
- Water Treatment
- Basic Hydrology
- Basic River Maneuver (eddy turns, etc.)
- Paddle Raft Orientation
- Keeping Warm and Dry
- Whitewater Risk Assessment
- Advanced Hydrology
- Introduction to Oar Rafts and Rigging
- Stove Use and Care
- Campsite Selection
- Tent and Fly Pitching
- *Leave No Trace*
- Advanced Strokes
- Sanitation and Hygiene
- Time Control Planning (Time Management)
- Food Identification
- Basic Cooking
- Baking
- Stretching
- Dry Bag Packing
- Personal Whitewater Gear



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

- Expedition Planning
- Advanced Cooking and Baking
- Navigating on Rivers
- River Hydrology
- History of Kayaking and Canoeing
- Advanced Map Reading
- Wilderness Ethics and Land Use
- Expedition Behavior
- Field Expedient Splints
- Extended Patient Care
- Environmental Injuries (Heat, Cold, Sun)
- Athletic Injuries
- Gender-Specific Medical Concerns
- "I" Rescues
- Advanced Strokes
- Group Management on the River
- Introduction to River Rescue Equipment
- River Classification
- Concepts of Paddling
- Ecological Concepts/Topics
- Flora of Desert River Corridors
- Kayak and Canoe Design
- River Politics/Water Issues
- Fauna/Animal Signs/Tracks
- Weather/Lightning
- Geology/Tectonics/Rocks and Minerals
- Ecological Concepts
- Ornithology
- Leadership and Group Dynamics
- Stove Repair
- Nutrition
- Paddling Related Injuries
- Kayak Roll Progression
- Rescue Swimming
- Advanced Hydrology
- Rapid Scouting
- Use of Throw Ropes
- Wild and Scenic Rivers
- Human History: Fremont and Ute Indians, Outlaws, Powell Expedition
- Astronomy/Constellations

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 Wilderness*.
The Wilderness Act of 1964 www.wilderness.net/index.cfm?fuse=nlwps&sec=legisact also in Goodrich (2006).
Zaslowky, 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*.
Anderson, Lorraine (1991). *Sisters of the Earth*.
Burgess, Vicky (1973). *Everett Ruess: A Vagabond for Beauty*.
Daumal, Rene (2004). *Mount Analogue*.
Dillard, Annie (1998). *A Pilgrim at Tinker Creek*.
Dillard, Annie (1988). *Teaching A Stone To Talk*.
Gookin, John (2004). *NOLS Wilderness Wisdom*.
Lopez, Barry (1986). *Arctic Dreams*.
Nelson, Richard K. (1989). *The Island Within*.
Sessions, George (1995). *Deep Ecology for the Twenty-First Century*.
Turner, Jack (1996). *The Abstract Wild*.

Book Sources

NOLS books are available at: www.nols.edu/store 1-888-332-3636

Most titles are available at www.amazon.com

Out of print books are often findable at www.abebooks.com

Antiquarian mountaineering titles are often available at www.chesslerbooks.com 1-800-654-8502

