

Course Description

Sea Kayaking Instructor Course

Features Of This Course:

- Paddling Route: ~ 120-175 miles
- Emphasis on technical kayaking skills and rescues, leadership and teaching
- Skills clinics: flat water, rolling, sculling etc.
- Average Group Size: 9 Students/2 Instructors
- Varied coastal environment; fjords, tidal lagoons, island archipelagos, beaches
- Passages of open ocean, currents, surf and inland waters
- Travel in both single and double sea kayaks

Course Purpose and Expectations

The primary purpose of this course is to train and evaluate potential NOLS sea kayak instructors. Each student's skills and abilities will be assessed and evaluated by the course instructors in determining their potential as an instructor. We look for initiative, creativity and potential for growth as a wilderness educator.

A NOLS instructor is capable of fulfilling a broad range of leadership roles, is a competent and effective teacher, and is competent living outdoors for extended periods (up to 30 days) in fair and inclement weather. They are exemplary expedition members and are able to perceive hazards and manage risk within the context of NOLS risk management strategies.

Equally important, the course will be an opportunity to learn new methods, exchange ideas and experiment with teaching and leading styles. Finding the balance between displaying your abilities and talents and learning new skills will require a commitment to communication. The course instructors will discuss expectations in detail, but it takes ongoing communication from every expedition member for a highly successful learning community on the NOLS Instructor Course.

The NOLS Sea Kayak Instructor Course is a demanding learning experience that includes academic study as well as demonstration of skills, 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. Strength, stamina and excellent health are essential for paddling and for full participation in the numerous classes and activities.

The Expedition

This course is a self-reliant expedition that travels by sea kayak along a temperate rain forest coastal area of British Columbia that has been occupied by the native Heiltsuk Nation for thousands of years. First the course will spend some time working with basic skills on nearby Clear Lake, and may include a pool session, before departure for the drive to Port Hardy. After taking the ferry from Port Hardy, on the northern tip of Vancouver Island, to Bella Bella, on Campbell Island, the course will gradually paddle south.

Coastal British Columbia offers a dramatic contrast between marine and terrestrial environments. Exposed ocean shoreline, island archipelagos, protected tidal lagoons and forested rolling hills backed by Coastal Mountains make this some of the most varied landscape on the North American coast. It's prime for observation, exploration and discovery. The diversity of habitat permits a wide range of flora and fauna to flourish. Courses commonly see porpoises, dolphins, eagles, murrelets, auklets, sea lions, seals, sea otters and occasionally, whales. The area's forests harbor black bear, (grizzly bear on the mainland only), fox, wolf, black-tailed deer, beaver, mink and river otter. Tidal pools and the intertidal waters are home to chitons, gooseneck barnacles, sea slugs, mollusks, crabs, starfish, anemones, urchins and much more.

The route will take us amongst the waterways surrounding Campbell Island, Goose Island, Hunter Island, and Calvert Island. Much of this portion of the course lies within the Hakai Recreation Area. The route will then take us across Fitz Hugh Sound from Cape Calvert, on the southern tip of Calvert Island, to Kelp Head, on the northern side of Smith Sound. The route then continues traveling along the mainland coast past Cape Caution before crossing Queen Charlotte Strait and returning to Port Hardy. From here, the course will drive back to Conway.



There is a chance to catch fish if you purchase a fishing license. NOLS provides the equipment and our instructors will teach you how use it, but you have to land the fish yourself and keep the eagles from snatching it. Canadian non-resident fishing licenses in B.C. are a little expensive, \$40 CDN for 5-days or \$100 annually. Anyone who desires a license can purchase one prior to departing Port Hardy. There are rockfish, lingcod and halibut available throughout the paddling season.

Throughout the course, students live outdoors, prepare their own meals and care for themselves. The expedition format emphasizes hands-on learning and the application of skills ranging from navigation and boat handling to leadership and teaching. Cooperation and teamwork are a must and all members are expected to participate fully in daily requirements of living comfortably in the out-of-doors.

Your group will divide into small "tent groups" of 3-4, who will cook and camp together. Each tent group shares the responsibilities of cooking and camping chores. At times the whole group will travel together. Other times, we split up and travel in smaller "pods". Students will be leading these groups with an instructor observing and coaching as needed.

The initial pace of the course will be slow to allow you to get familiar with the environment, to become acquainted with your group and to practice basic skills. As the course progresses, you may travel from 10 to 28 miles per day and when necessary make open-water crossings of six miles or more. On some days we'll spend two nights at a camp location to allow time for class preparation and student presentations, skill practice, fishing and exploration. Severe weather may also prohibit travelling. Being flexible with our schedule will allow us to complete our busy agenda while making the most of experiential opportunities.

Risk management in wilderness situations is a critical element of outdoor leadership. NOLS instructors teach risk management-related classes including rescues and emergency procedures. Hazard evaluation, accident prevention, group management, first aid and evacuation procedures are thoroughly discussed and practiced on the course. Wilderness living skills and travel techniques are also an important part of the curriculum as are natural history, expedition behavior and communication/evaluation skills.

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.

Student Independence

An emphasis of this course is the development of skills that permit you to be self-sufficient in remote backcountry areas. Our teaching progression for accomplishing this is carefully planned and executed. Initially travel groups, usually of four to six students, will include an instructor who will teach travel skills and leadership. Gradually, as you gain proficiency, the instructor will allow you to take on more responsibility and make more of the decisions. When you have demonstrated the necessary competency to the instructors, you may travel in student-led groups without instructors for a day at a time as you hike from camp to camp. We call this daily independent student travel and it is an effective educational tool. It allows you to practice travel skills and leadership and gives you responsibility for the outcome while still having indirect supervision by instructors and the benefit of the NOLS support systems.

This course may culminate in a Student Expedition. After successful practice with daily independent student travel and if your instructors think your group is ready, the instructors will help you divide into student expedition groups (usually three to six students each). With instructor oversight, each group will then select a leader and carefully plan and execute a multi-day independent student led expedition. This part of the course builds on the skills you've learned and practiced and allows you to travel without instructors for up to four days. Students are aware of where the instructors and the other student groups are planning to travel and camp. Each Student Expedition group will carry an emergency locator beacon that when activated in the event of a serious emergency will initiate a response from local search and rescue agencies. The instructors with a satellite phone may be up to 24 hours away from the students. Our students often say the student expedition was the highlight of their course.

Fasting is an optional part of the curriculum for the student expedition (or optional solo if applicable) on this course. If the instructors think fasting is appropriate for the conditions and student abilities the students may chose to fast during the student expedition (or optional solo). Rations will be carried to allow students to eat in the event of an emergency.



Behavior On The Expedition

Each person's values, beliefs and actions affect those of the rest of the group -- balancing these is an important part of expedition behavior. We want you to have a positive and healthy learning environment. Therefore we expect all students to respect the values and beliefs of other members of the expedition. The best expedition members have positive attitudes, apply new skills and ideas at the first opportunity and come motivated to work hard with people they have never seen before. They care about others, put the welfare of the group up equal to their own, and understand that an expedition succeeds when all its members complete each day successfully. To help ensure a healthy environment for all, we ask that people not smoke and NOLS will not tolerate harassment or the use of drugs and alcohol on any course. If you feel your values or beliefs are not being respected, by NOLS' staff or students, it is essential that you speak up so the issues are addressed.

Weather and Other Challenges

British Columbia has a maritime climate and the weather will be variable. Poor weather and rough seas are not the norm. However storms can limit the travel for a number of days. It is a beautiful area, but it can also be harsh and demand respect. There are times when you may be wet, cold and tired; however, an objective of this course is to learn to manage these situations responsibly and with the minimum of discomfort.

Weather and sea conditions will determine whether the course takes a more exposed route on the outer islands or a more sheltered route along the inside.

Identifying and managing the hazards of wind and waves, rocky shore-lines, fog, surf, swell, currents, open crossings, animals, cold water and long stretches of exposed open coastline will be a constant theme in our instruction. The consistent practice of risk management techniques and assuming responsibility for yourself and other group members will help make your expedition in this coastal environment healthy and enjoyable.

Leadership and teamwork will be stressed on this course. You'll find that strong friendships can develop as you learn to work together and depend upon each other for support and comfort. Learning to be a contributing member of an expedition can be a challenge but it can also provide immense personal rewards and is an essential trait for good outdoor educators.

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.

Student Classes

Students are expected to teach many of the classes on the course. A class sign-up sheet will be handed out at the beginning of the course. Each student will be able to select which specific classes they would like to teach. You should pick topics you have personal experience in, so your content and delivery are good models for the group. Time will be available for preparation.

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 ensolite pads 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 very possible that one or two prepared classes will not even be presented. On the other hand you may point out teachable moments as folks experience them. Guided discovery of the world is what experiential education is all about. Helping you to further develop your skills to both model and guide others in this discovery is what the NOLS Instructor Course is all about.

Expect to teach mini-classes on native natural history.

Please refer to the suggested reading list.

Be prepared to teach any of these basic topics on short notice

Which classes you will teach will be decided at the beginning of the course:

- Anatomy of a Kayak
- Kayak Packing
- First Day Paddling Tips
- Basic Kayak Strokes
- Conservation & Leave No Trace
- Personal Kayaking Gear
- Basic Coastal Paddling
- Time Control Planning
- Keeping Warm and Dry
- Coastal Navigation
- Stove Use and Care
- Campsite Selection
- Tent and Fly Pitching
- Basic Cooking
- Stretching
- Sanitation and Hygiene
- Food Identification
- LNT Fire Building

Expect to teach one or more of these advanced classes

You can prepare for your classes 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.

- Expedition Planning
- Advanced Cooking and Baking
- Compass Use
- Tides and Currents
- History of Kayaking
- Advanced Chart Reading
- Wilderness Ethics and Land Use
- Expedition Behavior
- Leadership and Group Dynamics Topics
- Geology/Tectonics/Rocks and Minerals
- Field Expedient Splints
- Environmental Injuries (Heat, Cold, Sun)
- Paddle Float Rescues
- Assisted Rescues
- Towing Systems
- Concepts of Paddling
- Advanced Strokes
- British Columbia First Nations Culture
- Astronomy/Constellations
- Ecological Concepts/Topics
- Flower Keys and Taxonomy
- Kayak Design
- British Columbia Human History
- Fauna/Animal Signs/Tracks
- Weather/Lightning
- Ornithology
- Stove Repair
- Nutrition
- Extended Patient Care
- Athletic Injuries
- Paddling Related Injuries / Prevention
- Gender-Specific Medical Concerns
- Group Management on the Water
- Basic Ocean Kayaking Safety Equipment

Evaluations and Future Employment

Students will receive on-going feedback from peers and instructors and self-evaluate their leadership, inter-personal and teaching skills. Instructors evaluate students on the following areas: risk management and judgment, teaching, attitude towards education in the outdoors, communication, expedition behavior, leadership, conservation practices, paddling and outdoor skills. At the conclusion of the course, each student receives a written evaluation for documentation of their abilities when seeking 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 Instructors Course 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.

Course Objectives

As an overall course objective, we expect Instructor Course graduates to be capable of responsibly leading groups of novices 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 outcomes:

- Demonstrate knowledge of the hazards in kayak 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
- Be able 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 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 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 well being and care of the environment. Each student is expected to accomplish the following:

- Live comfortably in a coastal environment: camping, cooking and dressing for varied conditions
- Travel competently on ocean 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 sea kayaks
- Display effective rescue and evacuation techniques
- Display basic natural history observation and interpretation skills

Environmental Ethics

Students develop an 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

A NOLS 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
- Be an exemplary role model of a safe 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

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=nwps&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*.

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*.

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