1982 RR

The YELLOWSTONE Institute

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WELCOME
to the Yellowstone Institute!

The Yellowstone Institute was formed in 1976 in response to dramatically increased public interest in the natural history of the Yellowstone ecosystem, the largest intact ecosystem remaining in the continental United States.

In the first six years of its operation, the Yellowstone Institute, under the auspices of the Yellowstone Library and Museum Association and in cooperation with the National Park Service, has helped hundreds of people experience first-hand the natural wonders of this area — its abundant wildlife, fabulous geothermal features, rich history, and expansive wilderness.

Here in the world's first national park you will find an outdoor laboratory unexcelled anywhere on earth; study in such a setting is a unique and highly rewarding experience.

Join us for one of our 1982 seminars and learn more about the "real" Yellowstone this summer.

Rick Reese

RICK REESE
Director

Index To Courses

Zoology **10**

Grizzly Bear Biology, Ecology and Management
Large Mammals of Yellowstone
Birds of Yellowstone
Birds of Prey: The Ecology and Management of Raptors
Fresh Water Insects
Small Mammals of Yellowstone
Ecology of Thermal Aquatic Communities
Fishes of Yellowstone: Their Management and Ecology

Plant Life **12**

Introduction to Plant Identification
Rocky Mountain Wildflowers
Plant Ecology
Forest Vegetation of Yellowstone

Geology **14**

Geology of the Yellowstone Country
Geothermal Geology of Yellowstone
Calderas and Hydrothermal Systems

Ecology of Yellowstone and Its Neighbors 15
Greater Yellowstone: The Relationship Between Yellowstone Park and Surrounding National Forests
Introduction to the Ecology of Yellowstone National Park
The Yellowstone-Teton Connection: Two Parks, One Ecosystem

History and Literature 16
Following Yellowstone's First Winter Explorers
The Flight of Chief Joseph Through Yellowstone — 1877
American Conservation Literature and the National Parks
Early Exploration in Yellowstone

Experiencing Yellowstone 17
Outdoor and Wildlife Photography
Wilderness Horsepacking
Yellowstone on Foot: Backpacking the Parkland Wilderness
Canoeing the Lakes of Yellowstone
Fly Fishing the Catch-and-Release Way
Yellowstone in Watercolor

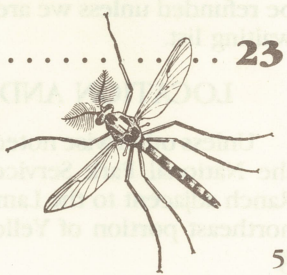
Environmental Education 20
Interpreting Yellowstone: Environmental Education with "Ranger Ted"
Environmental Education for Teachers

Children's Courses 21
One-Day Courses for Children
Three Days at the Buffalo Ranch
(See also "Ranger Ted" course under Environmental Education above.)

Weekend Courses 22
Hiking and Camping in Grizzly Country
Volcanoes and Fossil Forests
Introduction to Geysers and Hot Springs
(See also two-day history courses)

Winter Course 16
Following Yellowstone's First Winter Explorers (See Under History and Literature above.)

Registration Form 23



General Information

TUITION AND REGISTRATION

Tuition fees are listed in the description of each seminar and cover tuition only. Additional fees for cabin accommodations ($5 per night) and college credit ($20 per seminar) will be charged for persons who select those options. Unless otherwise specified, the tuition fee does not include lodging, meals, transportation or cost of course materials if any.

Registration is made by completing and mailing the attached registration form along with the tuition fee (and cabin fee if applicable) to the Yellowstone Institute. It is advantageous to register early, since upon receipt of registration forms and fees, the Yellowstone Institute will mail students a Yellowstone National Park entrance fee and campground waiver, a list of equipment to bring, and pre-course study materials and reading lists. All courses are limited to fifteen participants unless otherwise specified.

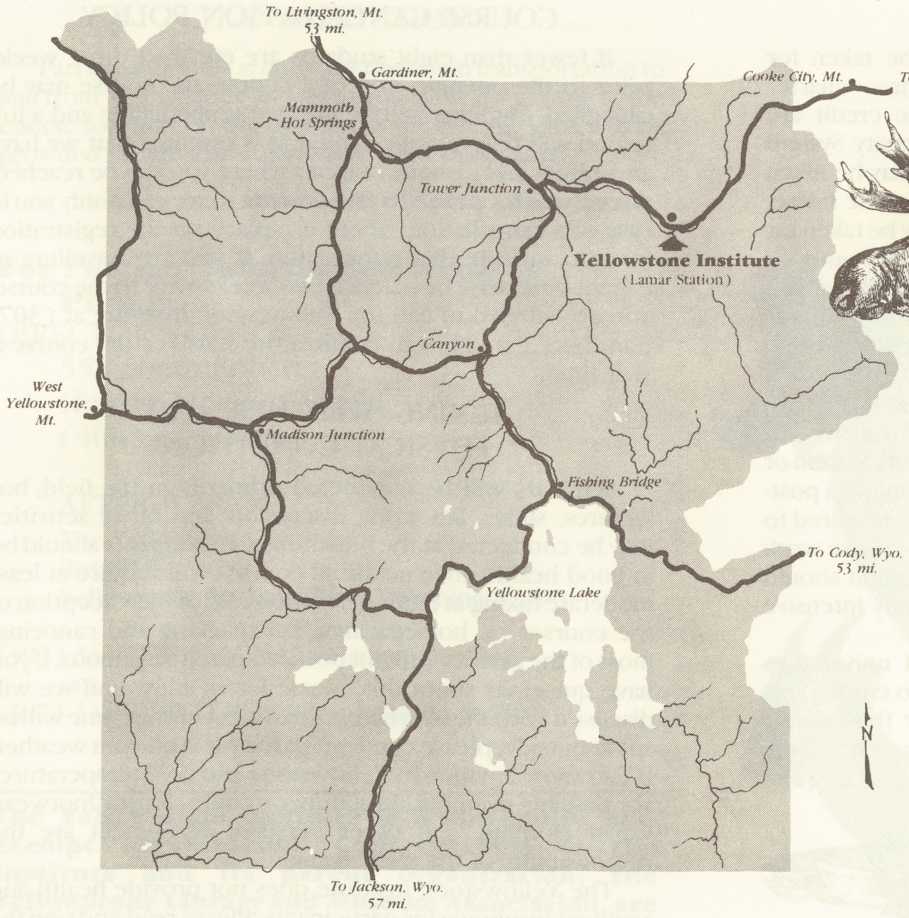
Students who cancel their registrations at least two weeks prior to the opening date of a course will receive an 80% refund of the tuition fee and a full cabin refund. Cancellations less than two weeks before the course will not be refunded unless we are able to fill the vacancy from our waiting list.

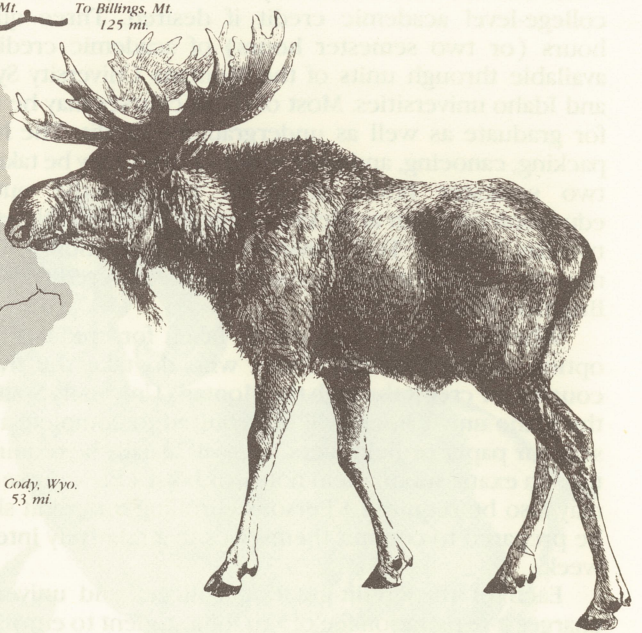
LOCATION AND ACCOMMODATIONS

Unless otherwise noted, all courses are conducted out of the National Park Service facility at the historic Buffalo Ranch adjacent to the Lamar Ranger Station in the beautiful northeast portion of Yellowstone National Park. (Sign on road says "Lamar Station", see map.) There are fourteen sleeping cabins and a separate building which contains kitchen facilities, classrooms, and bathrooms and showers. The facility, though clean and quite adequate, is fairly simple and life there has been affectionately described by former participants as "indoor camping." There are two beds in each cabin; they have no plumbing and are unheated. Each person must provide his own sleeping bag. The main building, located next to the cabins, is heated, has modern bathrooms and showers, and a modern kitchen where people do their own cooking. Please reserve cabin space when you register (including space for the night before and/or night after if desired). The cabin fee is $5 per night. For part of the season cabins may be available without reservations, but this cannot be guaranteed and will be on a first-come basis. Although residency at the bunkhouse is optional, students and instructors from past years have found that this living situation contributed significantly to their learning experience.

Unless otherwise specified, participants must provide their own food and cooking/eating utensils. There are stoves and refrigerators in the kitchen but space is limited and students are asked to keep meals fairly simple.

For those who choose not to stay at the bunkhouse, the closest motel or cabin facilities are at Roosevelt Lodge (11 miles), Cooke City (23 miles), and Mammoth and Canyon (both about 30 miles). Park campgrounds are also available at Pebble Creek (9 miles east) and Slough Creek (7 miles west). Seminar participants who stay in park campgrounds will have user fees waived, but campsites cannot be reserved and campgrounds often fill early each day. Camping and recreational vehicles are not allowed on the grounds at the Yellowstone Institute facility.


To Livingston, Mt.
53 mi.
Gardiner, Mt.
Cooke City, Mt.
To Billings, Mt.
125 mi.
Mammoth
Hot Springs
Tower Junction
Yellowstone Institute
(Lamar Station)
Canyon
West
Yellowstone,
Mt.
Madison Junction
Fishing Bridge
To Cody, Wyo.
53 mi.
Yellowstone Lake
To Jackson, Wyo.
57 mi.
N

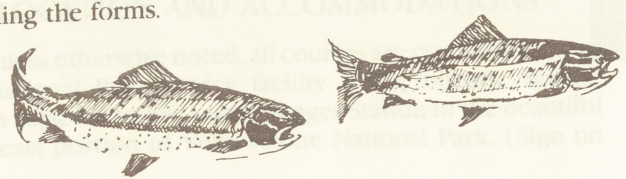


COLLEGE CREDIT

All but one of the five-day courses may be taken for college-level academic credit if desired. Three quarter hours (or two semester hours) of academic credit are available through units of the Montana University System and Idaho universities. Most of these courses may be taken for graduate as well as undergraduate credit. The horsepacking, canoeing, and watercolor courses may be taken for two semester hours of credit through the outdoor education program at Ricks College in Rexburg, Idaho. The two-day "Ranger Ted" environmental education seminars may be taken for one semester hour of credit through Brigham Young University.

Whether or not a course is taken for credit is at the option of the student. Those who do take the five-day courses for credit through the Montana University System or the Idaho universities, will be required to complete a post-seminar paper or field work and will usually be required to take an exam, submit field notes, or both. (Pre-course work may also be required.) Persons enrolling for credit should be prepared to commit themselves to a relatively intensive week.

Each of the credit-granting colleges and universities charges a registration fee of $20 for a student to enroll. This fee is in addition to the tuition charged for the course. Registration forms will be provided on the first day of the course and participants are responsible for completing and mailing the forms.



COURSE CANCELLATION POLICY

If fewer than eight students are enrolled three weeks prior to the opening date of a course, the course may be cancelled. Students will be notified immediately and a full refund will be promptly mailed. It is essential that we have an address and a phone number where you can be reached **three weeks prior to the course** so we can notify you in case of a cancellation. There is a place on the registration form to include that information. If you are travelling or cannot otherwise be reached two weeks prior to the course, you are advised to call the Yellowstone Institute at (307) 344-7381 Ext. 2349 to confirm the status of the course at that time.

HIKING, WEATHER, AND PHYSICAL CONDITION

Seminars will be conducted primarily in the field, but lectures, slides, lab work, discussion, and other activities may be conducted at the bunkhouse. Participants should be in good health since nearly all courses will require at least moderate hiking at higher elevations. With the exception of the courses on horsepacking, backpacking and canoeing, most of the activity will not be inordinately strenuous. If you have questions about this, please let us know and we will discuss it with the instructor. Since most of your time will be spent outside, please come prepared for mountain weather. It can snow anytime in Yellowstone and cold temperatures are possible even during summer months. Sturdy footwear, warm clothing, and other personal equipment are the responsibility of the participant.

The Yellowstone Institute does not provide health and accident insurance for participants. Please read and sign the liability waiver on the registration form.

TRANSPORTATION

Participants must arrange for their own transportation to and from Yellowstone and are responsible for getting to the course location on the first day of the course. Vans will be provided for all travel associated with the courses.

For Further Information Write or Phone:

DIRECTOR'S OFFICE:
555 South Roberts
Helena, Montana 59601
(406) 443-0861

AFTER JUNE 1:
The Yellowstone Institute
Box 515
Yellowstone National Park, Wyoming 82190

(307) 344-7381 Ext. 2349 (Mammoth office)
or
(307) 344-7749 (Yellowstone Institute facility)

The Yellowstone Institute is a non-profit, tax-exempt organization. Contributions to the Institute and its parent organization, the Yellowstone Library and Museum Association, are tax deductible.

ZOOLOGY

Grizzly Bear Biology, Ecology, and Management

June 14-18
$175
College credit available.

This course will deal with a variety of considerations relating to grizzly bears in the Yellowstone ecosystem including history, reproduction, behavior, population characteristics, food habits, home range, denning, habitat use, management guidelines, recovery plan, and bear-man conflicts. Approximately equal time will be spent in classroom and field studies.

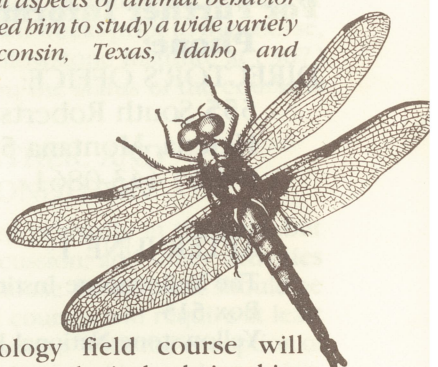
Steve Mealey *is a land management planning specialist with the U.S. Forest Service and holds degrees in forestry, fish and wildlife management, and political science. Since the mid-70's he has been deeply involved in grizzly habitat research including work on the Border Grizzly Project and the Grizzly Bear Recovery Plan. He has written and published a number of papers including* Habitat Criteria for Grizzly Bear Management, Food Habits of Free-Ranging Grizzly Bears in Yellowstone, *and* Guidelines for Management Involving Grizzly Bears in the Greater Yellowstone Area.

Large Mammals of Yellowstone

June 14-18
$175
College credit available.

The principles of animal behavior as they relate to the ungulates of the Yellowstone ecosystem will be investigated in this course. Elk, bison, bighorn sheep, moose, mule deer, and pronghorns will be observed. Emphasis will be placed on observing and recording behavior accurately, interpreting it properly, and analyzing its importance in ecology and management.

Ernest Ables, *Ph.D., is Professor of Wildlife Ecology at the University of Idaho. He has spent the past 12 years conducting research, directing graduate students, and teaching. Large mammal ecology and the ecological aspects of animal behavior are his special interests, which have led him to study a wide variety of species in East Africa, Wisconsin, Texas, Idaho and Yellowstone.*



Birds of Yellowstone

June 21-25
$175
College credit available.

This introductory ornithology field course will emphasize field identification and ecological relationships of birds in the Yellowstone ecosystem. Food chains, adaptations to hydrothermal environments, effects of fire on birds, and habitat selection will be among the many topics discussed during visits to a variety of habitats. Amateur birders as well as teachers, undergraduate and graduate students will find this course extremely informative. Participants must bring binoculars.

Richard F. Follett *is author of* Birds of Yellowstone and Grand Teton National Parks *and* Birds of Crater Lake National Park. *He is a specialist on the birds of Yellowstone where he worked seven years as a ranger-naturalist and compiled the park's bird checklist.*

Birds of Prey: The Ecology and Management of Raptors

June 28-July 2
$175
College credit available.

This course will examine the large avian predators of Yellowstone. Hunting strategies and success, functional and numeric responses to prey population fluctuations, the role of predation in regulating prey populations, habitat and environmental relations, the role of predation in communities, and the management problems unique to this group of birds will be among the topics addressed.

Michael N. Kochert *is Leader of the Snake River Birds of Prey Research Project for the U.S. Bureau of Land Management. He began his work on raptors in 1969 as a graduate student at the University of Idaho where he studied golden eagles. He has conducted and directed research in the Snake River Birds of Prey Area near Boise, Idaho since 1972.*

Fresh Water Insects of Yellowstone

July 5-10
$175
College credit available.

This course will explore the role played by aquatic macroinvertebrates in ecological systems. Topics covered will include numbers, kinds, identification, and distribution of insects in streams and ponds. The course will include both laboratory work and field work and is structured to accommodate a wide variety of backgrounds, from fly fisherman to biology graduate students.

George Roemhild, *Ph.D., is a professor of entomology at Montana State University. He has collected extensively in Yellowstone and in Montana for a number of years, and has major research interests in correlations of aquatic insect species with various water quality indicators.*

Small Mammals of Yellowstone

July 26-30
$175
College credit available.

This seminar will emphasize the identification, ecological function and role, and factors affecting the distribution and abundance of small mammals that are present in the Yellowstone ecosystem. Field work will include identification of small mammals and their "sign" as well as live trapping and census techniques. Small mammal behavior will be observed and studied systematically with emphasis on methods of observing, recording and interpreting behavior.

Donald P. Streubel, *Ph.D., is an associate professor of biology at Idaho State University. His teaching experience includes courses in zoology, mammalogy, ornithology, wildlife management and science education. Before receiving his doctorate he was a wildlife manager and instructor in Wisconsin. His research interests include ground squirrel behavior and ecology. He has taught courses for the National Audubon Society and conducts environmental education workshops for teachers.*

Ecology of Thermal Aquatic Communities

July 26-30
$175
College credit available.

This course will concentrate on the natural history and ecological interactions of organisms in thermal aquatic

communities ranging from acid to alkaline and from very hot to slightly warm. The unique features of the total community will be studied by field observation and simple measurements. Illustrations and comparisons of thermal communities from other areas will be included. For those with little or no background in biology, the course will provide a simple introduction to ecology; for those who are more experienced, it will serve to acquaint them with a new and fascinating part of nature.

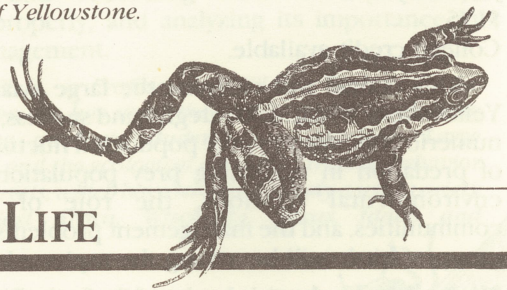
Richard G. Wiegert, *Ph.D., is a professor of zoology at the University of Georgia. His teaching and research endeavors include ecology, natural history, energy and material fluxes, and computer modeling of ecosystems in forests, tidal salt marshes, old fields and thermal springs. He has been studying the thermal communities of Yellowstone National Park since 1968.*

Fishes of Yellowstone: Their Management and Ecology

August 2-6
$175
College credit available.

This course will provide an introduction to the ecology and management of fishes within Yellowstone National Park through analysis of identification, natural history, and geographical distribution of fishes within the park; ecological characteristics of major waters within the park; natural and human-related alterations of aquatic habitats such as heated water from hot springs and effluents from mine tailings; and fishery management policies, practices, and projects.

Calvin Kaya, *Ph.D., is an associate professor of zoology at Montana State University where he teaches courses in aquatic ecology, biology of fishes, and aquatic pollution biology. He has conducted research on a variety of fishes, from North American sunfishes and trout, to tunas in the tropical Pacific. He recently conducted a study on the effects of heated water on trout in the Firehole River of Yellowstone.*



PLANT LIFE

Introduction to Plant Identification

July 2-4
$75

This course will introduce participants to the fundamentals of plant identification. Instruction regarding the parts of a flower, inflorescences, fruiting characteristics and the types of leaves, stems and underground parts will be provided. Instruction in the use of botanical keys and the identification of numerous trees, shrubs, and wildflowers will also be featured. There will be additional discussion on the Indian uses of plants and their edible, poisonous and medicinal properties. Persons wanting to expand their knowledge of wildflowers are encouraged to enroll in "Rocky Mountain Wildflowers" following this course.

Wayne Phillips *has a degree in forestry and is a range management specialist with the U.S. Forest Service on the Lewis and Clark National Forest in Great Falls, Montana. He is intimately familiar with the vegetation of the mountain West and has authored several botanical articles. Phillips is an avid wildflower photographer.*

Rocky Mountain Wildflowers

July 5-9
$175
College credit available.

Field trips to the northern and central portions of Yellowstone National Park will help students learn to recognize and name at least 75 species of flowering plants from intermountain deserts to alpine meadows. The ecology of flowering plants, floral morphology, and the use of floral keys will be taught. Teachers will appreciate coverage of effective teaching methods. Persons with no botany background are encouraged to take the three-day course on "Introduction to Plant Identification" (July 2-4) as preparation for this course.

Delbert W. Lindsay, *Ph.D., has spent a lifetime collecting, photographing, and teaching about flowering plants of the Rocky Mountains. Winters find him teaching botany and working on the 11,000-specimen herbarium at Ricks College in Rexburg, Idaho. He is presently preparing a floral manual for eastern Idaho.*

Plant Ecology

July 12-16
$175
College credit available.

This course will introduce contemporary concepts and techniques of plant ecology through the analysis of plant distributions along environmental gradients in the Yellowstone area. Techniques for assessing spatial patterns, species importance, and patterns of species abundance and diversity will be covered, with emphasis on providing experience with techniques that can be applied to the analysis of any plant community. New ideas concerning succession and the nature of plant communities will also be discussed.

Jay E. Anderson, *Ph.D., is Associate Professor of Biology at Idaho State University where he teaches courses in plant and forest/range ecology. His research has included studies of adaptation along environmental gradients, factors affecting transpiration and photosynthesis, and long-term trends in vegetation development. Anderson is a former high school teacher and was involved in the development of environmental curricula for several years after completing his doctorate at Syracuse University.*

Forest Vegetation of Yellowstone

July 12-16
$175
College credit available.

This course will focus on the identification and ecology of the woody plants of Yellowstone whose wide range encompasses everything from the montane Douglas fir forests to the timber-line Krumholz. Subject matter will include identification of indicator species of various habitat types, characteristics of trees and shrubs, factors affecting distribution, succession, competition, fire ecology and insect infestation.

Don Despain, *Ph.D., has been employed as a Yellowstone National Park research biologist since 1971. He is a plant ecologist and has specialized in vegetation mapping and fire behavior and ecology in Yellowstone.*

Richard Clark, *Ph.D., is a member of the biology faculty at Ricks College in Rexburg, Idaho. He has specialized in environmental education and has conducted studies in the upper Snake River Valley and in the southwest.*

GEOLOGY

Geology of the Yellowstone Country

June 21-25
$175
College credit available.

This course, conducted in the natural field laboratory of Yellowstone Park, will concentrate on the geological evolution of the area. Topics to be covered include volcanic rocks and processes, glaciation, earthquakes and faulting, hydrothermal features, sedimentary rocks and processes, metamorphism and tectonics. Completion of an introductory geology course is preferable but not required.

David Fountain, *Ph.D., is an associate professor of geology at the University of Montana. He has taught numerous field courses in Yellowstone and Glacier National Parks and has served as a co-instructor in a National Science Foundation course for science teachers. His research interests are crustol evolution and structure which he has studied in Europe, Canada and the South Pacific.*

Geothermal Geology of Yellowstone

August 19-23
$175
Enrollment limit: 18
College credit available.

Yellowstone's extensive hydrothermal systems are the focus of this seminar. Geologic, geochemical, and geophysical evidence at various sites is examined to help understand the origin, functioning, and detection of other geothermal systems which may be useful for alternate energy. Geothermal energy development and production are discussed. Some introductory-level geology background will be helpful for this course but is not required.

Clayton Nichols, *Ph.D., joined ERDA in 1975 and is currently Acting Director of the DOE office in Grand Junction, Colorado. He taught geology at Boise State University for five years and has been involved in research and program management related to geothermal energy for thirteen years.*

Roy Mink, *Ph.D., is Branch Chief for Geothermal Energy, Idaho Operations Office, Dept. of Energy. He has had extensive experience in hydrology and geothermal energy at both the state and national level and currently serves as head of resource assessment for geothermal energy projects throughout the United States.*

Calderas and Hydrothermal Systems

August 24-29
$175
Enrollment limit: 18
College credit available.

This seminar will be a technical discussion of ash flow tuff stratigraphy, caldera cycles, and hydrothermal convection systems, emphasizing the structural and age relationships of hydrothermal systems to calderas and the characteristics of water-dominated and vapor-dominated systems. A geologic background, equivalent to an undergraduate degree in geology, will be assumed. Completion of the course on "Geothermal Geology of Yellowstone" is a prerequisite for this course unless permission for enrollment is obtained from the instructors prior to the course. (Both instructors may be reached at 801-581-5283.)

Dennis L. Nielson *received his Ph.D. from Dartmouth College specializing in igneous and metamorphic petrology and structural geology. He had five years experience in massive sulfide and uranium exploration before joining the Earth Science Laboratory at the University of Utah Research Institute. There he has been involved in mapping geothermal resource areas and developing geothermal exploration techniques.*

Duncan Foley *received his Ph.D. from Ohio State University where he studied the igneous petrology, structural geology, geochemistry, and age dating of a volcanic center in western Nevada. He has done research in geologic aspects of land use planning. His specialty at the Earth Science Laboratory is regional assessment of geothermal resources.*

ECOLOGY OF YELLOWSTONE AND ITS NEIGHBORS

Greater Yellowstone: The Relationship Between Yellowstone Park and Surrounding National Forests

July 21-25
$175
College credit available.

Yellowstone National Park does not stand alone; geographically and biologically it is part of a much larger ecosystem extending across millions of acres of Montana, Wyoming and Idaho. This course will examine the nature and extent of this ecosystem, the human intrusions and resource management controversies which are currently affecting it, and the political, philosophical, and aesthetic considerations which will determine the future of the area.

Tim W. Clark, *Ph.D., has been conducting ecological research in the greater Yellowstone area for fifteen years. His special interests are mammals, endangered species, predator behavioral-ecology, and environmental ethics. Clark is president of a biological research consulting firm in Jackson, Wyoming and has worked closely with most of the resource management agencies in the greater Yellowstone area. He is a member of the adjunct biology faculty and the graduate faculty at Idaho State University.*

Introduction to the Ecology of Yellowstone National Park

August 2-6
$175
College credit available.

This course will introduce participants to the basic concepts of ecological science generally, and to Yellowstone specifically. Through field observation and exercises, discussion, and lecture, the course will examine the basic components of ecosystems and how these components interact in terms of energy flow and the cycling of water and nutrients. Unique aspects of Yellowstone ecology, such as geothermal features and large mammal populations, will be emphasized. The impact of outside influences such as acid rain or mineral development upon the integrity of undisturbed ecosystems will be discussed.

Rosemary Rowe *is an environmental chemist with the Montana Department of Health and Environmental Sciences. She holds degrees in biology and chemistry and did four years of graduate study at the Institute of Ecology, University of Georgia. She has authored technical articles on the soil ecology of forested ecosystems and popular articles on the Rocky Mountain Front and the lower Yellowstone River.*

The Yellowstone-Teton Connection: Two Parks, One Ecosystem

August 7-14
$375
Enrollment limit: 24

Though dramatically different in some aspects, these two parks are also intimately interrelated as we will see as we explore the natural history, geology, and human history of these two special areas. Participants will spend four days in Yellowstone at the Yellowstone Institute followed by four days in the heart of Jackson Hole at the Teton Science School. The course will be heavily field-oriented, combining the instructional expertise and resources of both organizations. Participants should be prepared to hike several miles each day. *Fee includes food, lodging and transportation.* (Write or call for more information about complete course agenda, topics and instructors.)

HISTORY AND LITERATURE

Following Yellowstone's First Winter Explorers

March 5-9
$275
Enrollment limit: 10

In January 1887 noted Arctic explorer Lt. Frederick Schwatka led the first winter expedition into Yellowstone National Park. The entourage, accompanied by photographer F. Jay Haynes, encountered the worst winter in the history of the northern Rockies but succeeded in completing a remarkable expedition. Now, nearly a century later, this course will follow portions of the 1887 expedition route. Course participants will be transported deep into Yellowstone by snow cat where camp will be established and four separate day trips on skis will be conducted. Evening lectures and discussions in a shelter heated by wood stove will include slides of the original Haynes photographs of the expedition. Other topics to be discussed include the history of Yellowstone in winter and winter ecology. Participants enrolling in this course should have at least moderate cross country skiing experience and be in good physical condition. In addition to the instructor, Rick Reese, Director of the Yellowstone Institute, and one other guide will accompany this group. *Price includes all food, transportation and group camping gear.*

Bill Lang, *Ph.D., is currently editor of* Montana the Magazine of Western History *in Helena, Montana. He has served on the history faculty of Carroll College, the University of Montana and Montana State University. He has written numerous journal articles on the history of Montana and is author of* Montana: Our Land and People. *Lang is an experienced skier and camper.*

The Flight of Chief Joseph Through Yellowstone — 1877

July 17-18
$50

This course will trace the path of the fleeing Nez Perce as they raced to sanctuary in Canada. Pursued by the army in the summer of 1877, they passed through some of the roughest terrain in Yellowstone Park. Readings, slides, and on-site visits to historic points along their route will be included in the course.

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American Conservation Literature and the National Parks

July 21-25
$175
College credit available.

The national debate over preservation versus resource development has raged in America for over a century and has generated a rich and enormous literature. It is a literature of controversy punctuated by scientific arguments, passionate appeals, bureaucratic explanations, heroic episodes and bizarre twists. This course will examine that literature through lectures, discussion, instructor synopses, group readings of articles and short essays, and field visits to sites in Yellowstone which are particularly relevant to the conservation, wilderness, and national park themes of the course. Participants will be expected to complete some reading prior to the beginning of the course. Several reading items will be sent to each participant upon registration.

Bill Lang, *Ph.D., is currently editor of* Montana the Magazine of Western History *in Helena, Montana. He has served on the history faculty of Carroll College, the University of Montana and Montana State University. He has written numerous journal articles on the history of Montana and is author of* Montana: Our Land and People. *He has recently completed a soon-to-be published bibliographical study on American conservation literature.*

Early Exploration in Yellowstone

July 31-August 1
$50

This course will review the earliest attempts to map and chart the Yellowstone wilderness, from James Stuart's trip in the 1860's to the famous Hayden Survey of 1871-72. Readings, maps, historic photographs, and on-site visits to areas first visited by explorers will be included in the course.

Bill Lang, *Ph.D., is currently editor of* Montana the Magazine of Western History *in Helena, Montana. He has served on the history faculty of Carroll College, the University of Montana and Montana State University. He has written numerous journal articles on the history of Montana and is author of* Montana: Our Land and People.

EXPERIENCING YELLOWSTONE

Outdoor and Wildlife Photography

June 28-July 1
August 30-Sept. 2
Sept. 19-Sept. 22
$140

This course will emphasize the practical applications of photography rather than technical theory. It will cover widely varying climatic and temperature zones and will approach outdoor photography as art. Techniques, use of light, equipment, composition, form, and development of the creative eye will be discussed. There will also be special emphasis on the ethics of, and various approaches to,

wildlife photography. Participants must provide their own camera, lenses, tripod, film and any other accessories, and should be familiar with the operation of their equipment.

Tom McBride *is recognized throughout the west as a photographer and multi-media producer. He has been commissioned by the Library of Congress for still photography; by United Artists for cinematography; and by Stephen Cross for films released by the British Broadcasting Corporation. His photographs have been featured in a number of national magazines and he was judged Photographer of the Year by the Montana Professional Photographers Association. He has taught many seminars in the United States and Canada and emphasizes environmental sensitivity along with photographic technique.*

Wilderness Horsepacking

July 26-30 (for less experienced persons)
August 2-6 (for more experienced persons)
$245
Enrollment limit: 12
College credit available.

The major theme of this course will be low-impact use of pack stock in the backcountry. In addition to instruction in the use and care of pack and riding horses, participants will also learn how to camp and travel in the wilderness without damaging the fragile country. A four-day ride through the Yellowstone backcountry will provide participants with experience handling packstock. *Fee includes horses, special equipment and food.* Participants must provide their own sleeping bags. Contact Richard Clark if you have questions about which of the two courses is most appropriate for you. (c/o Ricks College, Rexburg, Idaho 83440 — (208) 356-2510.)

Richard Clark, *Ph.D. is a native of the upper Snake River Valley and has spent ten years as a professional guide and outfitter in the Tetons and Yellowstone. He is a faculty member at Ricks College in Rexburg, Idaho. His wealth of outdoor experience has been augmented with academic preparation in biology and botany at Utah State University, the University of Oregon, and Brigham Young University.*

Yellowstone on Foot: Backpacking the Parkland Wilderness

July 25-29
$195
Enrollment limit: 10

This course, conducted by a husband-wife team, will provide participants with a thorough introduction to backpacking in Yellowstone. Items of discussion will include camping ethics, equipment, bear precautions, navigation and map reading, food selection and preparation, and sanitation. Participants will actively practice the skills they learn as they hike for five days through Yellowstone's backcountry. *Fee includes all food and group camping gear.* Participants must bring sleeping bag, pad and pack. (Equipment rental available for small fee. Please advise us in advance if you want to rent items.)

Stewart Aitchison *is a field biologist with thirteen years experience in the western United States. He has authored over fifty scientific and popular articles as well as the book* Oak Creek Canyon and the Red Rock Country of Arizona *and* A Naturalist's Grand Canyon Hiking Guide. *He has taught courses for the Museum of Northern Arizona, University of California, and Florida Southern College. He has a degree in zoology from Northern Arizona University.*

Ann Kramer *is an art teacher and a weaver with a wide experience in outdoor pursuits. She hikes, jogs, runs rivers, and delights in the Yellowstone wilderness.*

Canoeing the Lakes of Yellowstone

August 16-21
$225
Enrollment limit: 12

This six-day canoe trip across Lewis Lake and into magnificent Shoshone Lake will provide instruction in such canoeing skills as strokes, portaging, safety and tripping (how to pack a canoe). Low impact backcountry camping techniques will be discussed and practiced and interpretation of the lake environment will be provided. American Red Cross canoeing certification may be earned by those who want it. *Fee includes all canoeing equipment and food.*

David J. Thompson *is Supervisor of the Family and Youth Outdoor programs at Ricks College in Rexburg, Idaho. He has a degree in recreation and ten years experience in the recreation field. He is the former State Trails Coordinator for the State of Idaho and is a certified Red Cross canoe instructor trainer.*

Fly Fishing the Catch-and-Release Way

August 20-22 (for less experienced)
August 25-27 (for more experienced)
$100
Enrollment limit: 12

Both sessions of this course will emphasize the special nature of Yellowstone fishing — its fabulous abundance of native fish and the very special regulations and fishing philosophies which have enabled park managers to protect and maintain a superb sport fishing resource. Beyond that, the two sessions will be quite different. The first course will concentrate on the basics and is intended for those who have progressed far enough to purchase their own equipment but who have not spent much time actually fly fishing. Approximately half the course time in this first session will be spent away from the water practicing casting and other techniques.

The second session is for those who have mastered the basics and will focus almost exclusively on fishing Yellowstone's waters. The instructor will act primarily as a resource person in assisting participants in polishing their skills. Most instruction will be on an individual basis or in small groups while fishing a variety of park waters.

Tim Bywater, *Ph.D., is an English teacher who has been an avid fly fisherman most of his life. He was employed by the National Park Service in Yellowstone for fifteen summers and is intimately familiar with park waters. He has worked with Lee Wulff and the late Joe Brooks on articles in* Outdoor Life *and* Sports Afield *about Yellowstone fishing.*

Yellowstone in Watercolor

August 28-Sept. 1
$150
College credit available.

The unique terrain and conditions of the Yellowstone country present unusual and sometimes difficult problems for watercolor painting. This course explores those problems and the techniques for addressing them. It also covers basic considerations of watercolor and the study of light and values. The course is open to beginners and advanced watercolorists alike, but some painting experience will be helpful. Students may provide their own equipment or purchase it at cost from the instructor.

Bill Chapman *has been self-employed as a professional artist for over twenty years. He has designed and illustrated many of the publications and interpretative exhibits of Yellowstone National*

Park, and is recognized throughout the region as a fine artist who excels in a variety of mediums. His art has been shown widely in the intermountain west and at his Juniper Studio in Gardiner, Montana. Bill has taught art to a variety of age groups and skill levels and has delighted students in his past courses at the Yellowstone Institute.

ENVIRONMENTAL EDUCATION

Interpreting Yellowstone: Environmental Education with "Ranger Ted"

July 19-20
August 9-10
$50
Enrollment limit: 24
College credit available.

Participants in this course will join the instructor in five different environmental education nature walks and programs. Special themes which will be developed include the kinship and interdependence of all life, predator-prey relationships, and wilderness ecosystems. Educational goals and techniques will be discussed and demonstrated, and participants will learn first-hand how to provide effective field instruction for children. The course will be especially appropriate for teachers of kindergarten through eighth grade. Children of course participants are welcome to attend the nature walks for no charge, but the total group size will be limited to forty and children's places will be allotted on a first-come basis. Advance registration is suggested. Both sessions will meet at 8:30 a.m. at the Lake-area mess hall on the first day of the session.

Ted J. Parkinson *has served 36 seasons as a ranger-naturalist in Yellowstone and has delighted countless thousands of children with his informative and inspiring nature walks. As a special faculty member at Brigham Young University, Ted has taught environmental biology and natural history. He is the author of the "Ranger Ted" conservation programs which have been presented throughout the schools of northern Utah.*

Environmental Education for Teachers

August 14-18
$175
Enrollment limit: 24
College credit available.

This course will demonstrate the use of Yellowstone as an instructional resource for teachers. Through active participation in environmental education activities, students will learn techniques for teaching animal and plant ecology, astronomy, aquatics, earth sciences and natural history. Designing outdoor education sites and nature trails will also be included in the program. The course is for all teachers, kindergarten through high school, who are interested in implementing outdoor activities in their instructional programs.

Gary Hall, *Ed.D., is the science education specialist for the State of Montana Office of Public Instruction. His specialty is utilization of the natural setting as an outdoor classroom. He has authored several articles on environmental education and has conducted workshops on the subject for elementary and secondary teachers.*

CHILDREN'S COURSES

One-Day Courses for Children

Saturday — June 26, July 3, July 10,
Canyon (campground amphitheatre)
Sunday — June 27, July 4, July 11,
Fishing Bridge (amphitheatre near museum)
Monday — June 28, July 5, July 12,
Madison Junction (campground amphitheatre)

This course will introduce children to the plants, animals and geological features of Yellowstone. The day will be spent in the field, learning how to identify common plants and animals, discussing park history, and looking at basic wilderness skills and ethics. The course is designed for children from 8 to 14 years of age. Environmental games and actual observation will be the primary teaching techniques. Courses run from 9 a.m. to 4 p.m. Children must bring a lunch, canteen, raincoat, jacket, small daypack, and sturdy shoes. (Children under 8 may participate only with permission of the instructors and may have to be accompanied by an adult depending on age and maturity.)

Stewart Aitchison *is a field biologist with thirteen years experience in the western United States. He has authored over fifty scientific and popular articles as well as the books* Oak Creek Canyon and the Red Rock Country of Arizona *and* A Naturalist's Grand Canyon Hiking Guide. *He has taught courses for the Museum of Northern Arizona, University of California, and Florida Southern College. He has a degree in zoology from Northern Arizona University.*

Bill Williams *is a junior high teacher and has a degree in environmental studies. He has had considerable experience teaching in outdoor education programs for elementary and junior high age children and has been very successful in introducing children to natural history.*

Three Days at the Buffalo Ranch

July 18-20
$75
Enrollment limit: 20

This three-day stay at the Lamar Buffalo Ranch is especially designed for children 9-14 years of age. The morning and early afternoon of each day will feature a field trip during which children will learn plant and animal identification, general principles of ecology, and natural history. Educational games will be conducted each afternoon followed by supervised art activities in which children will be assisted in drawing, painting and sculpting the plant and animal subjects they have observed. In the evening wildlife films will be shown and discussed. Instruction and supervision will be provided by Aitchison and Williams who will be joined by Ann Kramer, Flagstaff art teacher, weaver and outdoor enthusiast, Cindy Christin, former teacher and publishing specialist, and Mary Lee Reese, artist and Yellowstone Institute administrator. *Fee includes meals and lodging;* children must provide their own sleeping bags.

Stewart Aitchison *is a field biologist with thirteen years experience in the western United States. He has authored over fifty scientific and popular articles as well as the books* Oak Creek Canyon and the Red Rock Country of Arizona *and* A Naturalist's Grand Canyon Hiking Guide. *He has taught courses for the Museum of Northern Airzona, University of California, and Florida Southern College. He has a degree in zoology from Northern Arizona University.*

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WEEKEND COURSES

(See also two-day history courses)

Hiking and Camping in Grizzly Country

July 3-4
$50

The first morning of this course will be devoted to a dicussion of the history of bear-man confrontations in the national parks followed by a discussion of techniques for the prevention of such confrontations including some suggestions for dealing with grizzly encounters. The remainder of the weekend will involve an overnight hike into the Yellowstone backcountry where camping techniques will be demonstrated and discussion will continue about the current status of the great bear and its uncertain future. Participants must provide their own backpacking gear and food.

Bill Schneider *has authored* Where the Grizzly Walks, *the* Hiker's Guide to Montana, *and two dozen feature articles on grizzlies including recent articles in* Backpacker *and* Montana Magazine *on hiking in grizzly country. He has a degree in wildlife biology and was editor of the Montana Fish and Game Department's* Montana Outdoors *for nine years. He is currently editor of* Wild America, *published by the American Wilderness Alliance.*

Volcanoes and Fossil Forests

July 10-11
$50

This course will introduce the participant to the unique petrified forests of Yellowstone. There will be a discussion of the process through which repeated episodes of volcanic activity buried living forests in ash and mudflows, and mineral-bearing hot water slowly petrified them. The first day of the course will involve some classroom discussion followed by field observations. The second day will be devoted to an all-day hike on Speciman Ridge.

Erling Dorf, *Ph.D., is a retired professor of geology at Princeton University where he taught for 49 years. He is a recognized authority on Yellowstone's petrified forests and knows Yellowstone intimately. Dorf served as a seasonal naturalist in Yellowstone beginning in 1926.*

Bill Baker *is a retired biology teacher who has served 27 years as a seasonal naturalist in Yellowstone. He has conducted a wide variety of interpretive activities in Yellowstone including many field trips on Speciman Ridge.*

Introduction to Geysers and Hot Springs

July 31-August 1
$50

This course will examine Yellowstone's hot springs and their geothermal connection systems and will analyze geysers, their types, activity, variability, history and relationship to other geothermal features. The course is suitable for laymen and no previous geology study is necessary.

Scott Bryan *is a ten-year veteran of the National Park Service and holds a masters degree in geology. He is the author of* The Geysers of Yellowstone *and currently serves as a geology instructor at Victor Valley Community College, Victorville, California.*

1982 REGISTRATION FORM

Name _____ Date _____

Address _____ ☐ Please check here if this address is different from where we mailed brochure

City _____ State _____ Zip _____ Phone _____

Where can you be reached three weeks prior to course Address _____ Phone _____

If staying at cabins, please specify which nights _____

How did you find out about the Yellowstone Institute? _____

Please enroll me in the following seminars:

Seminar Title	Dates	Tuition Fee	Are you enrolling for credit?*

Release and Assumption of Risk

I am aware that during the courses that I am participating in under the arrangements of the YELLOWSTONE INSTITUTE and its agents or associates, certain risks and dangers may occur, including but not limited to the hazards of travelling in rough terrain, water, and thermal feature areas; accident or illness in areas remote from medical facilities; the forces of nature; and travel by automobile, bus, air or other conveyance. In consideration of, and as part payment for the right to participate in such courses or other activities, I have and do hereby assume the risks and all legal responsibility for injury to myself or loss of my property resulting from participation in these courses or other activities, and do hereby hold the YELLOWSTONE INSTITUTE harmless from any and all liability, actions, causes of action, debts, claims and demands which I now have or which may arise in connection with my participation in these courses or other activities. The terms hereof shall serve as release and assumption of risk for my heirs, personal representatives, executors, administrators, and for all members of my family. I affirm that my general health is good and that I am not under a doctor's care for any condition which will endanger my health or the health of other participants. In case of injury and/or illness, I will bear the cost of any evacuation procedures such as ambulance, helicopter, rescue team and professional medical care.

Date: _____ Your Signature: _____

If under 21 years of age, parent or guardian must sign: _____

*($20.00 Credit Fee will be payable on first day of seminar)

Total Tuition Fee _____

Cabin Fee at $5 per night _____

Total Enclosed _____

Detach and mail to: The Yellowstone Institute

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Helena, Montana 59601

The YELLOWSTONE Institute

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