

2015 Paleontology Field School

INFORMATION & REGISTRATION





Check out the

Bighorn Basin Dinosaur Project

on:









TABLE OF CONTENTS

NTRODUCTION	1
CONTACT INFORMATION	2
GENERAL INFORMATION	3
REQUIREMENTS	3
EXPEDITION LEADERS	4
WHAT WILL WE BE LOOKING FOR?	4
CAN I TAKE FOSSILS HOME WITH ME?	5
ITINERARY	5
WHAT TO EXPECT	6
ACCOMMODATIONS	6
INFORMATION FOR TEACHERS	6
WEATHER	7
NFORMATION FOR STUDENTS	
A DISCLAIMER	8
REGISTRATION DETAILS	9
FIELD GEAR & PACKING LIST	10
REGISTRATION FORM	12
TRAVEL INFORMATION & ITINERARY	14
PARTICIPANT WAIVER OF LIABILITY AND TERMS	15
MEDICAL INFORMATION & RELEASE	19

INTRODUCTION

Dear friend,

Thank you for your interest in the New Jersey State Museum's Paleontology Field School. Our program offers an exciting opportunity to work alongside scientists in fossil-rich landscapes and we are glad that you are interested in joining us for this unforgettable experience!

Please read the information contained in this packet and feel free to contact me if you have any questions. If you would like to participate in the expedition, please complete all of the attached forms and return them to the address listed below. Completion of these forms is required before your participation can begin.

Once again, thank you for your interest, and we look forward to seeing you this summer! Sincerely,

Jason P. Schein Assistant Curator of Natural History

New Jersey State Museum PO Box 530 Trenton, NJ 08625

P: (609) 292-7660 F: (609) 292-7636

Jason.Schein@sos.state.nj.us

Introduction 1

CONTACT INFORMATION

Mail for each of these individuals can be sent to their attention at the following address:

New Jersey State Museum PO Box 530 Trenton, NJ 08625

David Parris

Curator of Natural History P: (609) 984-3846 F: (609) 292-7636

David.Parris@sos.state.nj.us

Jason P. Schein

Assistant Curator of Natural History

P: (609) 292-7660 F: (609) 292-7636

Jason.Schein@sos.state.nj.us

Debra Budgick

Natural History Assistant

P: (609) 292-8594 F: (609) 292-7636

Debra.Budgick@sos.state.nj.us

GENERAL INFORMATION

Since 2001 the New Jersey State Museum has conducted field research in Montana and Wyoming in an area that was the site of many famed expeditions by Princeton University researchers in early and mid-20th century. In addition to reviewing classic sites, new opportunities for research and collecting exhibition specimens have been identified. This year, survey and excavation work will continue by permit of the U.S. Department of the Interior, Bureau of Land Management.

The New Jersey State Museum's 2015 Paleontology Field School experience will consist of finding, collecting, and documenting fossils such as dinosaurs, crocodiles, turtles, fish, and mammals, as well as invertebrates and plants, from continental rocks of both Cretaceous and Paleogene age. We expect to find fossil ammonites in rocks of marine origin and may continue to collect Eocene fossils of terrestrial animals near Tatman Mountain, in Wyoming. We may also continue a new field project focusing largely on the Devonian marine sediments of Beartooth Butte, in northern Wyoming.

Keep in mind that this expedition is more than a simple sightseeing field trip – by participating you will gain knowledge of both geology and paleontology while helping the museum to continue decades-long research projects.

This amazing experience is open to almost everyone. Students, especially, can gain experience and credit for their participation. The New Jersey State Museum has partnered with the South Dakota School of Mines and Technology to offer the field course for college credit.

REQUIREMENTS

Age: Anyone at least 14 years old or may attend, but those age 14 – 17 years of age must be accompanied by an adult.

Activities include both leisurely and strenuous tasks and participants should be in good physical condition.

EXPEDITION LEADERS

Jason P. Schein, Assistant Curator of Natural History, New Jersey State Museum

Jason Schein will co-lead the expedition with David Parris. He has extensive field experience throughout much of North America and Argentina, and this will be his fifth season co-leading the New Jersey State Museum Paleontology Field School.

Jason C. Poole, *Manager*, Dinosaur Hall, Academy of Natural Sciences of Drexel University

Jason Poole is the Field Camp Crew Chief and an instructor for the expedition. This will be his third year contributing to the NJSM's field camp. He has very wide-ranging experience in field paleontology, laboratory preparation, natural history education and illustration, and anatomy.

David C. Parris, Curator of Natural History, New Jersey State Museum

David Parris has been conducting field work in this area since the 1960s and is intimately familiar with not only the geology and paleontology, but also the cultural and natural history of the region. There is no better guide for this trip than Dave.

WHAT WILL WE BE LOOKING FOR?

The Paleontology Field School is not just a fossil collecting trip. Attendees will participate in a decades-long research project to fully document the region's ancient organisms, which allows us to better understand these paleoenvironments.

Our field expeditions will focus primarily on Late Cretaceous ($\sim 80-65$ million year old) and Paleocene (65-50 million year old) rocks deposited near the edge of the retreating Western Interior Seaway. These rocks were deposited in continental environments, so the majority of the organisms we find are terrestrial or aquatic – dinosaurs, crocodiles, turtles, fish, and mammals. Occasionally we also collect marine animals, such as ammonites.

Expeditions are also sometimes made into Eocene Tatman Formation (56 – 34 million years old), near Tatman Mountain, in Wyoming, and the area typically yields fossils of many aquatic animals, but also rare and scientifically invaluable mammal (including primate) remains.

Finally, we will be collecting Devonian-age (416 – 360 million years ago) marine animals, such as primitive fish and arthropods, and the earliest land plants, at our newest, and perhaps most scenic field site – Beartooth Butte, in northern Wyoming.

CAN I TAKE FOSSILS HOME WITH ME?

Much of our field work will be conducted on public (Bureau of Land Management, or U.S. Forest Service) lands, and there are very strict rules governing the collection of fossils from these areas. For a review of fossils on public lands and the rules concerning their collection, click <u>HERE</u>. These rules MUST be adhered to – revocation of our collecting permits may result if these rules are violated.

There will be plenty of opportunities to collect fossils for your personal collection. However, since this is primarily a research project, all materials collected for personal use must first be approved by the field school leaders.

ITINERARY

The following is a general daily itinerary. The schedule each day and week is highly flexible and dependent on a number of factors.

<u>Day 1</u> (Sunday): Arrive in Billings/Red Lodge, MT. (If flying, a staff member will collect you as a group and drive you to the base camp – Yellowstone-Bighorn Research Association (YBRA) – in Red Lodge. There may be time in the afternoon for a visit to downtown Red Lodge. Following dinner there will be an orientation in one of the classrooms giving a basic summary of regional geology, paleontology, and local history.

<u>Day 2 – 6</u>: Following breakfast, we will depart YBRA each morning no later than 7:45AM and head out to our field sites. Throughout the week we will be orienting you to the local geology, paleontology, and geography throughout the Bighorn Basin. In addition to field work, as time permits, there also will be visits to several local historic sites. By the end of this week, you will be familiar with the landscape that existed in this area 70 – 50 million years ago, including its inhabitants, after personally collecting dinosaurs and other fossils for the NJSM's research, exhibition, and education programs. After dinner on Friday, you will have the opportunity to enjoy the famous pig races at the historic Bear Creek Saloon.

<u>Day 7</u> (Saturday): After breakfast, we will transport you to the Billings airport, if needed. Please try to schedule your flight home for early to mid afternoon so that no one is rushed for time.

WHAT TO EXPECT

We will be conducting all manner of paleontological field activities in rugged and potentially hazardous terrain. Many of these activities involve long hikes over steep and loose hillsides and escarpments. Large excavations require heavy lifting and repetitive movements. All activities are conducted at high altitudes (over 5,000 feet).

Participants must be in good physical condition to participate in the NJSM Paleontology Field School. Potential participants should consult their physicians' advice before registering.

All participants must complete the Waiver of Liability Statement and submit it along with the completed Registration Form, Medical Release Form, proof of medical insurance, and a 10% registration deposit.

ACCOMMODATIONS

Paleontology Field School participants will stay at the Yellowstone-Bighorn Research Association (YBRA) in Red Lodge, Montana. Located on the edge of the front range of the Beartooth Mountains overlooking Red Lodge, the field station is a comfortable facility with cabins, home-style cooking, and spectacular views. Pets are not allowed.

There are no laundry facilities in camp. However, if time is available, trips to the Laundromat in Red Lodge can be arranged.

Detailed information about the field camp can be found here: http://www.ybra.org/.

Lodging and meals are covered by the tuition fees.

INFORMATION FOR TEACHERS

The New Jersey State Museum is a registered Professional Development Provider for the New Jersey Department of Education Professional Standards Board (#2241).

Teachers Professional Development Courses fulfill the requirements for continued certification on a credit/hour basis.

We also offer professional development credits to teachers in Pennsylvania and Delaware.

WEATHER

Base camp is located at approximately 6,800 feet in elevation. As a result, weather conditions are often cool during the day and can be chilly or cold at night.

Most of our field sites are at approximately 5,000 feet elevation, and are significantly hotter and more arid than at the field camp. Conditions here are often hot, sunny, windy, and very dry.

Average high and low temperatures are below. Please note: daytime temperatures often approach 100° and snow is not unheard of in June.

	Powell, WY	Red Lodge, MT
Average High	84°	79°
Average Low	53°	49°

INFORMATION FOR STUDENTS

Due to incidents beyond our control, the South Dakota School of Mines and Technology will not be hosting this course for credit in 2015. I will leave the pertinent information here, though, as we expect to resume offering this course for college credit in summer 2016.

The Paleontology Field Camp is available to college students for academic credit. The course is taught by David Parris and Jason Schein, but administered by the South Dakota School of Mines and Technology.

The course is a two-week experience that is designed to introduce students to the procedures of preserving and documenting fossil discoveries. We emphasize the fact that fossils are information so the geologic context of fossils as well as the distribution of fossils at a given site is meticulously recorded. Topics covered include field stabilization and excavation of fossil material, recording stratigraphic data, quarry mapping techniques, reading and interpreting topographic maps, proper documentation, and fossil systematics of each site. Students taking the course for undergraduate credit will be graded based on their field notes, daily observations, and participation in field activities. Graduate students will be required to conduct a follow-up research project the following fall semester.

A DISCLAIMER

The South Dakota School of Mines prohibits students from registering for the Paleontology Field Course with the intention of substituting it for a regular geology field camp. Although we discuss and practice some of the same concepts and activities, our focus is on field methods that are applicable to field paleontologists and we cannot include all of the concepts covered in a true geology field camp. We believe that every geology student should complete a true geology field camp, and we will not allow students to substitute our field camp for their required geology field camp.

REGISTRATION DETAILS

Students seeking undergraduate credit must register for (GEOL 471). Students seeking Graduate credit must register for (GEOL 571). Both courses are for 2 credit hours, and each credit corresponds to 1 week in the field.

Once the completed registration form is received, the NJSM will take care of the SDSM&T registration requirements. Similarly, once payment is received from the student, the NJSM will handle all tuition payments to the SDSM&T.

Registration Deadline:

May 25, 2014

How to Register:

Complete the registration form in this document (page 13 or 14) and mail, fax, or e-mail the completed form to Jason Schein (address on page 2) no later than May 25, 2014. A 10% deposit is required at the time of registration, or if submitting by e-mail or fax, immediately afterward.

Funds must be in U.S. dollars. If payment is made in another currency, the registrant is responsible for the exchange rates and fees.

FIELD GEAR & PACKING LIST

This list of required and recommended items is based on our own experiences, and is not intended to be comprehensive. You will have ample opportunities to pick up anything you need at local stores.

Weather conditions change quickly and unexpectedly throughout the field areas. Participants should be prepared for a range of weather conditions each day, regardless of the forecast.

Required Every Day

- **Field Book**: Other than personal safety equipment, this is the **MOST** important item. The BLM requires that we submit copies of field notes from every participant.
- Hat(s): to protect you from the *very strong* sun & to keep your head warm and dry in the event of rain or wind.
- Loose-fitting, light-weight, light-colored clothing, light in color
- Sun screen: preferably a high SPF and waterproof
- Sturdy and comfortable hiking or work boots
- Water bottle(s): there may not always be plenty of water available, so you need to carry at least 3 liters of water with you each day.
- Personal First Aid kit
- Backpack
- Sleeping bag and pillow: our cabins at the Yellowstone-Bighorn Research Association camp are dormitory style (*i.e.*, bunks w/ springs & mattresses, but you will need a sleeping bag or bed roll arrangement).
- Whistle (preferably one with a compass)
- Compass
- Sharpies (or any kind of permanent pen/marker that will write on just about any surface.

Suggested

- Tweezers
- Jacket or coat: it can get cool at night
- Rain gear
- Long work pants or jeans: at least two pairs
- T-shirts
- Work shirts/sweatshirts: enough to create layers
- Headband or bandanna

Packing List 10

- Light & heavyweight socks
- Work gloves
- Chap stick (with spf)
- Insect repellent
- Eyeglasses (contact lenses are not recommended)
- Sunglasses
- Kneepads or cushion: a lot of sitting and/or crouching on the ground is possible
- Personal items: such as toiletries, towel, etc.
- Flashlight & batteries: for reaching your cabin or the wash house at night
- Flip-flops / water shoes for the wash house.
- Camera/binoculars/notebook: This trip will provide some exciting moments that you will want to remember and share. In addition to dinosaurs, Montana has a variety of wildlife that may be found near our site pronghorn antelope, mule deer, coyote, black bear, prairie rattlers, golden eagles, *etc.*, as well as spectacular mountain and desert scenery.
- Zip-Lock baggies

Packing List 11

^{**}Hand tools will be provided to you.

REGISTRATION FORM

Full Name:		
(Last)	(First)	(Middle)
Phone Number:(Cell)		(Home)
Current Address:		, ,
E-mail Address:		
I wish to participate in week(s	s) (please circle all that apply	y):
July 12 - 18, 2015	July 19-25, 2015	July 26 – August 1, 2015
Fees: \$1,275/week Friends N	Members;	Total:
\$1,300/week Non-Frie Make checks payable	nds Members to Friends of the New Jerse	y State Museum.
A 10% deposit (non-refundable) is enclosed. 50% of the balance is due May 15 th , 2015. Final Payment due June 15 th , 2015. All payments must be in U.S. dollars.		10% \$
Please note : The deposit is r 30 th .	non-refundable, and NO refu	unds will be made after June
Signature		Date

Registration 12

Registration 13

TRAVEL INFORMATION & ITINERARY

Remember that *you* are responsible for your own transportation to Montana. A member of our staff will meet you at the airport and transport you to the camp. Please inform the NJSM Natural History Staff of your travel plans as soon as possible by completing the on-line form linked here:

https://docs.google.com/forms/d/1xdrLJLk1nbVHHZy2ByP1oDzt7kNXmjdPU6z-BTcQu9c/viewform?usp=send_form

Please don't forget to contact us with any last-minute changes.

Participants should plan to arrive early on Sunday afternoon. Departures should be scheduled for midday the following Saturday.

How to get to Red Lodge, Montana

By plane: There is no scheduled air service directly to Red Lodge. Arrange to fly into the Billings International Airport (BIL). Participants who arrive by plane will be met at Billings International Airport and transported as a group to the Yellowstone-Bighorn Research Association camp, which is just south of Red Lodge. At the end of the week's expedition, a similar return leg will be provided for those traveling by plane.

By car: Red Lodge is an interesting drive from Billings and takes about one hour. The Yellowstone-Bighorn Research Association camp is just south of Red Lodge on the Beartooth Highway (U.S. 212). The camp is high up on the hillside, above the tree line to the east (left) of the highway. As you leave town and enter the Rock Creek Valley, you will pass a large gray rock formation on the right. About 100 yards beyond this is Howell Gulch Road. Howell Gulch Road crosses Rock Creek over a small bridge and climbs steeply about a mile to the camp. The road to the camp is steep and very rough, but can be reached by regular automobile in good weather. If lost, call the camp lodge at (406) 446-9949 or (406) 446-1333. The latter number has an answering machine.

Nearby Points of Interest

- Yellowstone National Park (about two hours west, if the Beartooth Highway is open, 2-3 hours southwest through Cody, WY).
- Little Bighorn Battlefield National Monument (two hours east).
- Pompey's Pillar National Monument (30 minutes east of Billings)
- Buffalo Bill Historical Center and Museum (one hour south in Cody, Wyoming).

PARTICIPANT WAIVER OF LIABILITY AND TERMS

(must be signed and returned as part of your registration)

l,	(print your name)	accept and under	stand the
following:			

- 1) I/we have voluntarily applied to participate in the New Jersey State Museum (NJSM) Paleontology Field School. I acknowledge the risks and the potential risks of participation in this program. I am aware that there are inherent risks which occur as a result of physical activity. I/we understand the conditions in the field may at times be hazardous and that some of the following situations may exist or be encountered while participating in the field school:
 - a. The weather may be extremely hot and there is little shade, so be prepared for the hot sun. It may also be very cool.
 - b. Some work may be along steep slopes where there is a risk of slipping and falling.
 - c. Excavation work may at times be strenuous and difficult. All physical limitations will be taken into account.
 - d. Rattlesnakes, scorpions, and other types of hostile wildlife may be encountered.
 - e. There are large cacti, rocks, and extremely hard soils. Protective footwear and gloves should be worn.
- 2) I/we realize the nature of the conditions outlined and others not listed above may exist, but agree to accept full responsibility for any injuries or hazards encountered for any family members and myself. I/we agree not to hold the field school leadership, or their relatives, the Friends of the NJSM, the NJSM, or the State of New Jersey, the landowners, or any participating academic institution or museum and its personnel liable for any injuries that I or my family members may incur as a result of my/our participation in the scheduled activities of this field school.
- 3) I represent that I am in good health and suffer from no physical impairment, which would limit my participation in the NJSM Paleontology Field School. I/we agree to notify the field school leadership, prior to my arrival, of any pre-existing medical conditions which could be exacerbated by the rigors of the outdoor activities. These may include, but are not limited to, asthma, heart conditions, allergies, or other pre-existing conditions. I further understand that I/we should carry our own first aid supplies as the field school will not provide them for the attendees. Furthermore, all of the personal medical information provided in this document is accurate and complete.

- 4) I represent that I carry full and complete medical insurance coverage. I acknowledge that the Friends of the NJSM, the NJSM, or the State of New Jersey, has not and will not render any medical services including medical diagnosis of my physical condition. I understand the field school does not provide any type of medical or liability insurance to cover any possible injuries and accidents while I, (and/or my family members), are participating in this field school and/or the scheduled activities. I/we agree to be responsible for carrying my/our own medical and liability insurance for myself and my family members participating in these activities. I agree to provide my/our own liability and medical insurance. I will provide proof of my/our self-insurance to the leadership of the field school if required.
- 5) I/we understand the field school does not provide any insurance for my/our vehicle. In the event of any vehicle trouble or accident, I/we agree to assume all responsibility and will not hold the field school leadership, or their relatives, the Friends of the NJSM, the NJSM, or the State of New Jersey, the landowners, or any participating academic institution or museum and its personnel liable for any injuries that I (or my family members) may incur as a result of travels to and from this field school activity or for anything that may happen to my/our vehicle.
- 6) I/we understand that the pre-registration deposit is not refundable and that the tuition fees are not refundable after June 30. I/we understand the registration will cover the costs of the meals and lodging, course materials, necessary equipment needed for the scheduled activities, and transportation to/from the airport and to all field sites. I/we understand that these fees do not cover the costs of transportation from your home to the Billings airport or vice versa.
- 7) I/we will be responsible for bringing (as an attendee) my own gear such as: a canteen or water bottle, backpack, personal first aid kit, proper clothing, and anything deemed necessary for the harsh environmental conditions that may be encountered. Each individual must transport all of these items during the scheduled activities. THESE ITEMS ARE MANDATORY FOR ALL ATTENDEES.
- 8) I/we understand that the activities of this field school and its leadership, are important scientific studies and my participation is a privilege. There will be no collecting of fossil specimens for my personal use unless otherwise authorized by the field school instructors. Camera equipment may be brought to the field activities and used by the attendees if they wish. As such, I/we agree that the locations, scientific information, and other data that is gathered are the

proprietary property of the Friends of the NJSM and the field school leadership. I/we will not disclose any information pertaining to the sites without expressed written consent of the field school leadership or the landowner of the property upon which we are working. I/we agree not to write any press releases or articles about the activities of the field school without written consent and approval by the Friends of the NJSM, the NJSM, or the State of New Jersey. I/we fully understand and agree not to utilize any information obtained by my/our participation in the field school for personal monetary gain.

- 9) I/we agree that as parent(s) or guardian of children under the age of 18 years of age participating in this field school, that I/we will be required, at all times, to supervise my child and insure that the child will not disrupt the activities of the field school.
- 10) I/we will allow the Friends of the New Jersey State Museum to utilize any picture or video containing my/our image as a promotional product for present or future paleontological activities sponsored by the museum.
- 11) I/we agree not to litter or deface the area in which we are working or staying.
- 12) The overall leadership role for the field school lies with the instructors; Mr. David Parris and Mr. Jason Schein are the individual's assigned decision making authority for the field school. Should they determine that the removal of certain individual(s) is warranted for the best interest of the field school, they may do so at any time with just cause. Should this action occur, these individual(s) will be asked to leave and will subsequently not receive any reimbursement for the unused portion of their registration fees.
- 13) I/we agree and fully understand the terms of this agreement and liability waiver in my/our attendance in the Friends of the New Jersey State Museum Paleontology Field School. By signing below, I/we fully accept these terms for both myself and my family members in attendance.
- 14) I acknowledge that In consideration of being permitted by the Friends of the NJSM to participate in its Paleontology Field School, I hereby, intending to be legally bound for myself, my heirs, and assigns, executors or administrators and/or guardian of my son/my daughter/my ward specially agree that the Friends of the NJSM, the NJSM, or the State of New Jersey, shall not be liable for any claim, demand, cause of action of any kind whatsoever for, or on account of death, in any activity associated with the Paleontology Field School, and I agree

to hold the above-mentioned parties harmless from same. I hereby waive any and all claims for any and all injuries I may suffer under any circumstances, including but not limited to those claims arising from the negligence of the Friends of the NJSM, the NJSM, or the State of New Jersey, its employees, agents, servants, invitees, co-members, contractors, or sub-contractors, employees or otherwise.

Participants Signature:	
Date:	
Parent/Guardian's Signature:	
Date:	

THE ENTIRE SIGNED AND COMPLETED WAIVER OF LIABILITY AND TERMS AGREEMENT MUST BE RETURNED IN ITS ENTIRETY ALONG WITH THE COMPLETED REGISTRATION FORM.

MEDICAL INFORMATION & RELEASE

(must be signed and returned as part of your registration)

Note: All medical information will be confidential.

IMPORTANT: Daily activities involved with the NJSM Paleontology Field School can be strenuous and undertaken in harsh conditions. Extended hiking on steep and loose mountainsides and heavy lifting are common, as well as 90+ degree temperatures. You *must* be able to complete these and similar tasks regularly to participate, and you *must* have full medical insurance to participate.

Potential participants should consult their physicians' advice before registering for this experience.

Name:			_
(Last)	(First)	(Middle)	
Age:		Sex:	_
Date of Birth:		Height:	_
Weight:			
Emergency Contact Inform	ation		
Name:	(E) A		_
(Last)	(First)		
Relationship:			-
Phone Number:			
	Paytime)	(Evening)	
Medical History List any allergies you have ar	nd the medications (if any	y) you take for them.	
			_

List any conditions for which you are currently, or	r have been recently treated for.
List any medications (prescriptions and over-the	e counter) that you are currently taking
Medication	Condition
Medical Insurance	
Insurance Company:	
Policy #:	
Group #:	
I certify that all of the personal medical info accurate and complete.	rmation provided in this document is
Participants Signature:	
Date:	
Parent/Guardian's Signature:	
Date:	