

Anza-Borrego Institute Programs and Events Spring-Summer 2006



Calendar of Events—At a Glance

April 1: Canyon of Ten Caves Discovery Hike
April 2: Kids Discovery Day
April 2: Ancient Cahuilla Tour

April 8: **ARCHAEOLOGY WEEKEND***

- Tour of the New Begole Research Center
- Pena Springs Habitation Site
- Clark Valley's Petroglyphs
- The People Who Walked Borrego Palm Canyon
- Hike to the "House Forgotten" Indian Rock Shelter
- Dedication of the BARC

April 9: **ARCHAEOLOGY WEEKEND***

- Tour of the New Begole Research Center
- Pena Springs Habitation Site
- Clark Valley's Petroglyphs
- The People Who Walked Borrego Palm Canyon
- Hike to the "House Forgotten" Indian Rock Shelter
- Exploring Piedras Grandes
- Mine Wash
- 150 years of Ranching in ABDSP: Sentenac Cienaga

April 14-16: Kayak Overnight at Picacho: *Migratory Bird Watching and Camping by Moonlight*

April 15: Fossil Resources in Anza-Borrego
April 22: One Day in the Life of a Mountain Lion Researcher
May 6: B & B at the Salton Sea
May 6: Wildflowers, Mother Nature's Gift to Humanity
May 7: One Day in the Life of a Mountain Lion Researcher
May 13: Moon Beams and Moon Dreams: *Full Moonrise Overnight at Font's Point*
May 13: One Day in the Life of a Mountain Lion Researcher
May 19-21: Desert Animal Extravaganza
June 10: A Peek at the Peak
July 8: Lions in Our Backyard?


DESERTHOSTEL

September 12-16: Geologic History of the Southern Colorado Plateau and Colorado River

***For a complete schedule of events visit us online at www.theabf.org**

Activity Level Ratings:

As a general guide, we have given each program a rating from the least demanding (Level 1) to the most demanding (Level 4) based on the ratings system used by Elderhostel. The ratings are based on factors including approximate number of hours of physical activity, pace and/or intensity of the activities involved. Ratings are relative, reflecting a combination of intensity and duration, and should be understood within the context of other factors such as distance, terrain, environmental conditions, weather, etc. The range of hours for each rating is approximate, will vary from program to program, and refers to the estimated amount of time participants are engaged in physical activity (not including rest and meals).

Wheelchair Accessible—Look for this symbol: 

Level 1 - Appropriate for older adults in good health with overall good mobility who are comfortable participating in up to three hours of physical activity per day. Programs at this level generally involve activities of moderate intensity at an easy pace.

Level 2 - Intended for active adults who are comfortable in participating in up to four hours of physical activity per day. Programs at this level generally involve some activity of higher intensity and/or a more vigorous pace.

Level 3 - Designed for adults who lead very active lives and are comfortable in participating up to five hours of physical activity per day. Programs at this level generally involve some activities of higher intensity and/or a more vigorous pace.

Level 4 - Our most challenging programs suitable for adults with the most active life style who are comfortable participating in up to six hours of physical activity a day.



Partners dedicated to conservation through education, interpretation and research in Anza-Borrego Desert State Park® and the surrounding ecological region.

Field Programs

April

Canyon of Ten Caves Discovery Hike

Date: Saturday, April 1, 9 a.m. to 4 p.m.

Location: Anza-Borrego Desert State Park

Code: Caves

Instructor: Paul Remeika

Fee: Member \$45; Non-Member \$55

The most magical secrets of Anza-Borrego lie in its most secluded places. Besides being spectacularly molded by the forces of nature, Canyon of Ten Caves is a labyrinthine passage that offers the hiker a totally different geologic perspective on the unearthly terrain deep in the heart of the Vallecito Badlands. Join Paul Remeika and be forcefully drawn to the magnificent ruin of the landscape, an “inside look” exposing an array of soft sedimentary layerings from the Pliocene Epoch, obvious evidence of deposition from Colorado River delta silts, to lake muds, floodplain sands, stream-channel sands and gravels, and outfalls of volcanic ash. An astonishing assemblage of fossil resources are held within these other-worldly dry and wrinkled mudhills. High cliffs, alcoves, erosional “mud”caves, and narrow passageways ascend to the broken heights of The Wall overlooking Arroyo Hueso. The breathtaking views from the summit are phenomenal, difficult to describe but impossible to forget, and well worth the effort. Participants should wear hiking boots, hats, and gloves. Walking sticks are optional. Pack a lunch to eat while on the hike. The hike is two miles round-trip and varies from easy to difficult. Expect uneven terrain due to rockfalls, crawling on hands and knees, and negotiating loose gravel. 4WD is recommended due to soft sand.

Difficulty: Level 2-3.

Meet: Canyon of Ten Caves, 2.4 miles up Arroyo Tapiado north of the intersection with Vallecito Creek. Take S-2 south from Scissor’s Crossing. At milepost marker 43, turn left at the Palm Spring sign. Follow Vallecito Creek eastbound 5.1 miles to Arroyo Tapiado. Allow a one and one-half hour drive from Borrego Springs.

Limit: 15 participants.

Kids Discovery Day

Date: Sunday, April 2 (see times below)

Location: Anza-Borrego Desert State Park

Code: Kids

Instructor: Mark Roeder

Fee: Full Day— Member \$25; Non-Member \$40

Bring your kids, love of the desert, and sense of adventure for a few hours or the whole day as we explore the ancient past of Anza-Borrego with paleontologist Mark Roeder. All classes will be held at the Anza-Borrego Desert State Park Visitor Center Discovery Lab. Adults welcome.

9 a.m. to 10:30 a.m.

Code: Dino

Dinosaur Detectives (Ages 5 and up)

Just like Sherlock Holmes, paleontologists collect clues and piece them together to solve a puzzle. How hard is it to follow fossil footprints? Can you put a dinosaur skeleton back together again? Perhaps you can design your very own “undiscovered” species”! *Fee: Member \$5; Non-Member \$10*

11 a.m. to 1:30 p.m.

Code: Crystal

The Mysterious World of Crystals, Gems and Minerals (Ages 7 and up)

Don’t miss this opportunity to learn first hand about the fascinating world of crystals, rocks and minerals. This special hands-on class will provide kids an chance to experiment with and run tests on rocks with a take-it-home rock kit, all included. *Fee: Member \$10; Non-Member \$15*

2 p.m. to 4 p.m.

Code: Shark

Ancient Sharks (Ages 7 and up)

Sharks are one of the oldest and most successful animal groups to inhabit the oceans. Sharks first appeared over 400 million years ago. Learn about shark anatomy by examining preserved sharks, skeletons and jaws. A fossil shark’s tooth kit is included. *Fee: Member \$12; Non-Member \$17*

Ancient Cahuilla Tour*Date:* Sunday, April 2, 8 a.m. to 3 p.m.*Location:* Anza-Borrego Desert State Park***Code: Oasis****Instructor:* Paul Johnson*Fee:* Member \$35; Non-Member \$45

North and East of Anza-Borrego Desert State Park there is a little-known, huge, and magnificent parcel of land which is currently being considered for acquisition by The California State Department of Parks and Recreation. It contains outstanding natural and cultural features, including cleared circles, trails, and fish traps of the ancient Cahuilla Indians; as well as highly unusual concretions, rare plants, and a variety of fossils. And if that is not enough, the scenery will knock your socks off.

On this all-day four-wheel-drive trip we will visit a number of the most outstanding locations and features on the property. There will be at least six short hikes over rough terrain and up steep hills. We will view fish traps and related rock alignments, cleared circles, strange and mysterious concretions, folded and faulted sediments, and spectacular scenery.

The roads are rough and rocky, and will require high-clearance, 4WD vehicles. Please bring a FULL tank of gas. We will drive approximately 110 miles round trip.

Limit: 16 people. **Difficulty:** Level 3.5. **Meet:** ABDSP Visitor Center flagpole.

Fossil Resources in Anza-Borrego**Date:* Saturday, April 15. 9 a.m. to 4 p.m.*Location:* Anza-Borrego Desert State Park***Code: Fossil****Instructor:* Paul Remeika*Fee:* Member \$35; Non-Member \$45

Images of an ancestral Colorado River wetland dotted with gallery forests and rare vertebrate footprints is the highlight of this field trip deep into the Fish Creek Badlands. The fossil-bearing redbed sediments of the Palm Spring Formation (PSF) were transported off the Colorado Plateau during the Pliocene Epoch from rock formations deposited back during the Age of Dinosaurs. During this trip, we will observe the stratigraphically-continuous transition from northern Gulf of California mudflats (Yuha Formation) to a multistory package of deltaic deposits (PSF) replete with silicified woods of the Carrizo Local Flora. After lunch, we will explore basin-margin sediments between the PSF and medial sandstones sourced from the Canebrake Conglomerate in Fish Creek Canyon. Visits to track sites such as Carnivore Ridge and The Corral will allow close-up examination and study of well-defined footprints and track ways made by carnivorous and herbivorous vertebrates that once roamed Anza-Borrego before it became a desert environment. Handouts will be provided. 4WD recommended, carpooling encouraged.

Difficulty: Level 2-3. **Meet:** ABDSP Visitor Center Parking Lot.

**Note: This trip was offered during the recent Fossil Treasures of Anza-Borrego Symposium and is back by public demand in cooperation with the San Diego Natural History Association.*

Kayak Overnight at Picacho: Migratory Bird Watching and Camping by Moonlight ***Code: Kayak****Dates:* Friday, April 14, 3 p.m. to Sunday, April 16, 5 p.m.*Location:* Picacho State Recreation Area*Instructors:* Gary Lyons and Sue McLaughlin*Fee:* Member \$125; Non-Member \$150

Don't miss this extraordinary journey of exploration along the Colorado River by kayak. We will camp at Palo Verde County Park on Friday night and in the morning launch our kayaks onto the river and travel through Cibola and Imperial National Wildlife refuges to a camp at Picacho State Recreation Area. On Day One, expect to cover 30 miles on the river with the help of the gentle 5 MPH current with many opportunities to view migratory and other birds and wildlife while discovering the unique ecology of this region. After a special group prepared dinner, enjoy the dark, star-filled skies and awake refreshed to paddle to our take-out location 24 miles further down river at Squaw Lake. Participants will be shuttled to and from the river from the Salton Sea State Recreation Area Visitor Center. Expected arrival time will be 5 pm. This is a Class 1 river trip and all participants should be in good health and have basic kayaking skills. Let us know if you need a tent, stove or one of our kayaks ("sit-on-top" style), as these and park entrance fees are all included. Bring your own sleeping bag and food for the weekend. A suggested equipment list will be sent out by April 1st.

Limit: 12 participants. **Difficulty:** Level 2. **Meet:** Palo Verde County/Ox Bow Park.

One Day in the Life of a Mountain Lion Researcher

Dates: April 22, May 7 and May 13, 9 a.m. to 4 p.m.

Location: Anza-Borrego Desert State Park

Code: Lion 2

Instructor: Mike Puzzo

Suggested Donation: Member \$35; Non-Member \$45

Join wildlife field biologist Mike Puzzo as we explore the exciting work of tracking mountain lions for research. We will follow Mike into the wilderness to investigate the site of a mule deer killed by a mountain lion. The group will hike to the actual scene of a kill and try to reconstruct the event while answering the questions typically confronting the researcher. Expect hiking and some rock scrambling through brush and chaparral. Wear protective clothing, including long pants and shirts. Since this trip will be limited to 12 participants, it is being offered on three alternative dates and is subject to conditions in the field.

Difficulty: Level 3-4. **Meet:** Scissors Crossing (intersection of S-2 and 78).



B & B on the Salton Sea

Date: Saturday, May 6, 5 p.m. to 9 p.m.

Location: Salton Sea State Recreation Area

Code: Sea

Instructors: Rangers Kathy Dice and Steve Bier

Fee: Member \$25; Non-Member \$35

Join Ranger Kathy and Ranger Steve for a 3.5 mile round trip evening stroll from Blacklight to Bioluminescence (B&B) at the Salton Sea. We will begin with a sunset hike to the top of the Bat Cave Buttes (+100 feet above sea level), enjoying an evening snack along the shores of ancient Lake Cahuilla. After dark we will descend by Backlight to the Salton Sea, in search of glowing scorpions, phantom falls and luminous mineral deposits. We will end along the shores of the sea, -227 feet below sea level, and explore the bioluminescent life that abounds beneath the waves. Don't forget to pack your evening snack, and dress for the weather. Bring a flashlight!

Limit: 20 participants. **Difficulty:** Level 2. **Meet:** Salton Sea SRA Visitor Center.

Wildflowers, Mother Nature's Gift to Humanity

Date: Saturday, May 6, 9 a.m. to 1 p.m.

Location: Anza-Borrego Desert State Park

Code: Flower

Instructors: Larry Hendrickson and Kim Marsden

Fee: Member \$25; Non-Member \$35



At the time of this writing, there has been very little winter rain in San Diego County. However, that doesn't stop the wildflowers from blooming! Come and enjoy the spring wildflower display at the former Tulloch Ranch near Lake Cuyamaca, now part of Anza-Borrego Desert State Park. We will take a moderate-length hike (approximately 2-3 miles total) over fairly level terrain. Please wear sturdy shoes/hiking boots and a hat, and bring sunscreen, water, lunch/snacks, and camera.

Difficulty: Level 1-2. **Meet:** Fages Monument, located approximately 2 miles south of Highway 79 on Highway S-1 (Sunrise Highway).

Moon Beams and Moon Dreams:

Mother's Day Full Moonrise Overnight at Font's Point

Date: Saturday, May 13, 4 p.m. to Sunday, May 14, 10 a.m.

Location: Anza-Borrego Desert State Park

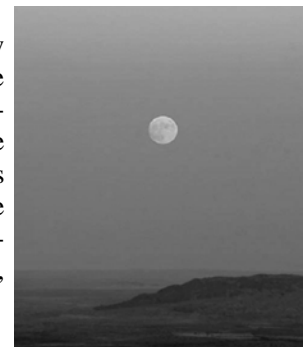
Code: Moon

Instructors: Dennis Mammanna and Fred Jee

Fee: Member \$25; Non-Member \$30

She's been known throughout the ages as Diana, Aphrodite, Isis, Levanah. Today we know this great celestial goddess as our moon. This Mother's Day weekend, celebrate the female spirit of our nearest celestial orb, and join astronomy author and photographer Dennis Mammanna as we honor that spirit in lore and poetry and science. We will watch at dusk as the glorious full moon rises over the desert badlands, take a magical desert hike by the softness of moonlight, and try our hand at photographing the landscape bathed in this remarkable light. Ranger Fred Jee will further enlighten us about the mysteries of the geological history of this intriguing place. And in the morning we will rise to watch our moon bid adieu, and a new day is born on our part of planet Earth.

Difficulty: Level 1. **Meet:** ABDSP Visitor Center Discovery Lab.



Desert Animal Extravaganza

Dates: Friday, May 19, to Sunday, May 21 (see times listed below)

Fee: Member \$5 per session; \$15 all 4 sessions

Non-Member \$10 per session; \$25 all 4 sessions (Children under 12 free)

Code: *Animal*

Instructor: Joe Hopkins

Bring your love of the desert and sense of adventure as we join Park Volunteer Naturalist Joe Hopkins for a day or entire weekend of searching for and observing desert animals. Activities will include car-caravanning looking for sheep, an early morning hike looking for birds, lizards and more sheep, road-running at night looking for snakes, black-lighting for scorpions, trapping rodents and more. While there are no guarantees when looking for wildlife, there is an excellent chance of seeing many of these creatures as they search for food and water in the heat of the desert summer. Come and enjoy this special time of year in the desert in the safety of a group and learn how you can look for animals on your own. **Difficulty:** Level 1-2. **Meet:** Borrego Springs High School, Room 3, 2181 Diegueno, Borrego Springs.



May 19, 7 p.m. to 11 p.m.—Focus on scorpions and snakes (some short strolls)

May 20, 8:30 a.m. to 11 a.m.—Focus on bighorn sheep, lizards and other critters (light hiking involved)

May 20, 6 p.m. to 11 p.m.— Focus on scorpions, snakes, bats, toads and frogs

May 21, 7 a.m. to noon—Hike to Borrego Palm Canyon in search for sheep, lizards, birds, rodents and other creatures

A Peek at the Peak

Date: Saturday, June 10, 5 p.m. to 8:30 p.m.

Location: Cuyamaca Rancho State Park

Code: *Peak*

Instructors: Shane Coles and Bob Hillis

Fee: Member \$20; Non-Member \$25

Come enjoy the beauty of Cuyamaca Peak without the challenge of the 7 mile trek to the top. We will travel in State Park vehicles to the Cherry Flats area of the peak. From there, we will walk, at a leisurely pace, the last half mile to the summit. In route, we will discuss the natural and historical features of the peak, including the unusual plants and ongoing recovery from the Cedar Fire. At the summit we will enjoy the view, discuss the surrounding topography and watch the sunset. Bring your binoculars and own picnic dinner, along with your favorite beverage. We will have about 30 minutes of dining time at the peak. Be prepared for cooler temperatures and light to moderate winds at the summit. The hike portion of this program will involve a .5 mile walk on pavement with a 400' elevation gain, ending at 6500' of elevation. For those who are unable to complete this hike, a van ride will be available.

Difficulty: Level 1 to 2. **Meet:** Paso Picacho Day Use Area of Cuyamaca Rancho State Park. The Park Aid at the entrance station will direct you to the staging area.

What Does Radio Collaring Mountain Lions Teach Us?

Date: Saturday, July 8, 7:30 p.m. to 9 p.m.

Location: Cuyamaca Rancho State Park

Code: *Lion 1*

Instructor: Mike Puzzo

Suggested Donation: \$5



Why do we conduct research on mountain lions? What does capturing and radio collaring lions tell us about their world? How does research help wildlife biologists, park managers, and the public make important decisions? Over the past five years the Wildlife Health Center at the University of California at Davis, in collaboration with California State Parks and Department of Fish and Game, has led an intensive study of 39 mountain lions in and around Anza Borrego Desert State Park® and Cuyamaca Rancho State Park. Join Wildlife Health Center biologist Mike Puzzo during this eye-opening campfire presentation as he introduces us to the concepts and tools for capturing and radio tracking mountain lions. He will discuss what we have learned and what we are still trying to understand. We will explore what it means for each of us to share the environment with lions. There will be plenty of time for

questions and answers. **Difficulty:** Level 1. **Meet:** Green Valley Camp Ground.

Note: This program is offered in cooperation with the Wildlife Health Center at the University of California, Davis, and the Embery Institute for Wildlife Conservation.

April 8 & 9 - Third Annual Archaeology Weekend

Archaeology and ABDSP—Fulfilling the Dream

Join us for a weekend of field trips, lectures, & demonstrations sponsored by the Anza-Borrego Foundation and Institute and California State Parks. The field trips are described below and pre-registration is strongly encouraged as spaces are limited. For a full schedule of programs and events, please call 760.767.4063 or visit us online at www.theabf.org



Note: All lectures are free of charge and will be held at the Anza-Borrego Desert State Park Visitor Center unless otherwise indicated. Member rates apply to members of the Colorado Desert Archaeology Society and Anza-Borrego Foundation & Institute. Fees for all programs benefit the new Begole Archeological Research Center . (Further note: We do know how to spell archaeology (archeology)—both are correct but used in different contexts)

SATURDAY, APRIL 8

9:30 a.m. to 6 p.m. - Silent Action

A Silent Auction will be held all day, proceeds to benefit the new Begole Archeological Research Center (BARC). Items will be available for viewing at the BARC located at the Colorado Desert District Headquarters, 200 Palm Canyon Drive, Borrego Springs. (Extra parking for the event is available at the ABDSP parking lot.)

9:30 a.m. to 4:30 p.m. - Tour of the New Begole Archeological Research Center: Behind the Scenes in Collections

Instructors: California State Park Volunteers

Fee: Free to the public

Difficulty: Easy

Meet: ABDSP Visitor Center Entrance (groups will leave every half hour)

Get a first glimpse of the brand new Begole Archeological Research Center (BARC) straw bale building. Learn how the BARC will be the center for the rich cultural history and important research and preservation efforts being conducted throughout this region. Come prepared to travel through time with seldom-seen archaeological artifacts collected throughout these parklands.

9 a.m. to 11 a.m. - Pena Springs Habitation Site

Code: Pena

Instructors: Ruth and Dave Otis

Fee: Member \$20; Non-Member \$25

Difficulty: Moderate

Meet: Entrance to Culp Camp in the parking area off Hwy S22 at mile 9.3

The Pines fire has changed the landscape in many ways, including our cultural sites. Join archaeological stewards Dave and Ruth Otis on this relaxing 2 mile round trip hike to Pena Springs and environs to view milling sites, many of which have only recently been exposed by the fire. 4WD not required.

9 a.m. to noon - Clark Valley's Petroglyphs

Code: Clark 1

Instructors: Chuck and Mary Bennett

Fee: Member \$20; Non-Member \$25

Difficulty: Moderate

Meet: Peg Leg Monument

Take a 3-mile round trip hike across rocky terrain to a rock art site that is located along an Indian trail to Ancient Lake Cahuilla. These petroglyph designs were pecked into the desert-varnished rock by the Cahuilla Indians and their designs are similar to those found throughout the Great Basin. The meaning of these symbols is open to conjecture, but the raw beauty of this rock art cannot be denied. 4WD vehicle is required, carpooling encouraged. Bring water, hat, snacks or lunch and good hiking boots.

9 a.m. to noon - The People Who Walked Borrego Palm Canyon

Code: Borrego 1

Instructors: Roses Barrie and LuAnn Thompson

Fee: Member: \$20; Non-member: \$25

Difficulty: Moderate

Meet: Palm Canyon trailhead. (Parking lot at the end of the road beyond Palm Canyon Campground – Entrance fee will be waived.)

Hike with the archaeological Site Stewards for this historically and culturally significant canyon. Along the hike we will see evidence of both cultural and historical human occupation. Learn how the archaeology site steward program benefits and protects this area. This will be a two-to-three mile loop hike on uneven ground following the Park trail up into the canyon. We will return on the alternate loop.

9 a.m. to noon - Hike to the "House Forgotten" Indian Rock Shelter

Code: House 1

Instructors: Sam and Astrid Webb

Fee: Member \$20; Non-Member \$25

Difficulty: Moderate

Meet: Ghost Mountain Trailhead Parking Area (3 miles, via dirt road, from entrance to Blair Valley on Hwy S-2 (near mile marker 23) 6 miles south of scissors crossing at Hwy 78)

Hike with Astrid and Sam Webb approximately 2 miles round trip across several dry washes and rocky terrain to the Indian rock shelter Marshal South called "House Forgotten" in a July 1945 Desert Magazine article. We will re-visit this site comparing South's colorful description to what remains today. Along the way we will observe two aircraft crash debris sites and several *agave* roasting pits. 2-wheel drive vehicle okay. **Limit:** 20 people.

Dedication of the Begole Archeological Research Center

2 to 3 p.m.

Join us for the grand opening and dedication of the new research center located at the Colorado Desert District Headquarters, 200 Palm Canyon Drive, Borrego Springs

Free Ice Cream Social

5 to 7 p.m.

Come celebrate the grand opening and meet past and present archaeologists who have contributed to research in the Park.

Event will take place at the Begole Archeological Research Center

SUNDAY, APRIL 9

See Saturday descriptions:

<i>9:30 a.m. to noon</i>	<i>Tour of the New Begole Archeological Research Center</i>	<i>Free</i>
<i>9 a.m. to noon</i>	<i>Clark Valley's Petroglyphs</i>	<i>Code: Clark 2</i>
<i>9 a.m. to noon</i>	<i>The People Who Walked Borrego Palm Canyon</i>	<i>Code: Borrego 2</i>
<i>9 a.m. to noon</i>	<i>Hike to the "House Forgotten" Indian Rock Shelter</i>	<i>Code: House 2</i>
<i>1 p.m. to 3 p.m.</i>	<i>Pena Springs Habitation Site</i>	<i>Code: Pena 2</i>

<i>9:30 a.m. to 4 p.m.</i>	<i>- Exploring Piedras Grandes</i>	<i>Code: Piedras</i>
<i>Instructor: Joan S. Schneider, Ph.D.</i>		<i>Fee: Member \$35; Non-Member \$45</i>
<i>Difficulty: Easy</i>		<i>Meet: Meet at the entrance to Morteros Wash on State Route 2</i>

This all day trip will visit the beautiful Piedras Grandes (Big Rocks) area in the southern part of ABDSP. We will visit the famous "Horse and Rider" pictograph (which has recently been restored), the "giant yoni," and other nearby areas of interest. Depending on our time restraints, we may also visit Dos Cabezas Spring. Learn about the Piedras Grandes area, the archaeologists who worked there, the people who used it in the past, in more recent times, and the ways it is being used today. This trip is for people who like to get off paved roads into somewhat remote areas, but who do not want to do a great deal of hiking. Coming from Borrego Springs allow at least one-hour of driving time to meeting place. We will leave the same spot by 4 p.m. 4WD is highly recommended. Absolutely no low-clearance vehicles. We will try to carpool for those without this type of vehicle. Make sure you have a full tank of gas. Nearest gas available is Ocotillo. The trip will be cancelled in the event of heavy rain due to likelihood of flash flooding in washes we will cross by vehicle.

Limit: 20 participants

<i>11 a.m. to 1 p.m.</i>	<i>- Mine Wash</i>	<i>Code: Mine</i>
<i>Instructors: Bonnie Bruce</i>		<i>Fee: Member \$20; Non-Member \$25</i>
<i>Difficulty: Easy</i>		<i>Meet: ABDSP Visitor Center Flagpole</i>

Enjoy a unique field experience with archaeologist Bonnie Bruce at Mine Wash, one of the few interpreted archaeological sites in Anza-Borrego Desert State Park. Archaeological investigations at this site serve as a model for displays at the Visitor's Center and allow for deeper understanding of the Kumeyaay and Cahuilla people who lived here seasonally. Features and artifacts at this site challenge the visitor to envision daily life in this desert setting, as well as travel from the Pacific Ocean to the Colorado River.

<i>1 p.m. to 4 p.m.</i>	<i>- 150 years of Ranching in Anza-Borrego Desert State Park: Sentenac Cienaga</i>	<i>Code: Ranch</i>
<i>Instructor: Heather Thomson</i>		<i>Fee: Member \$20; Non-Member \$25</i>
<i>Difficulty: Easy to Moderate</i>		<i>Meet: Dirt parking area at Northwest corner of Highways S-2 and 78</i>

In the 1800s, the Sentenac brothers were among the earliest settlers along the eastern Cuyamaca Mountain foothills in the Colorado Desert. Stone fences and an altered landscape remain at their Sentenac Cienaga ranch homestead today. The Cienaga continued to attract cattle ranchers into the twentieth century, most notably the Sawday cattle enterprise. Wooden corrals, windmills, and troughs remain on the landscape where cattle were once seasonal occupants. Learn about the history of these intrepid and resourceful settlers and visit the storied remains of the places where they made an agricultural living at this desert oasis.

DesertHostel Program



Geologic History of the Southern Colorado Plateau and Colorado River with Paul Remeika

Dates: September 12—16, 2006

Fee: Member \$965/ add \$180 for single

Limit: 20 participants Non-Member \$995/add \$180 for single

Join Paul Remeika on this one-of-a kind 5-day field expedition exploring the ancient story of the Colorado River's impact on the southern Colorado Plateau and surrounding region. Follow dinosaur tracks, see the stratigraphic wonders of the Grand Staircase, and relive the trip of John Wesley Powell for a day of white-water rafting on the mighty Colorado River.

The ancestral Colorado River has carved a 1,450-mile twisted descending path through the uplifting Colorado Plateau from the Rocky Mountains to Anza-Borrego. This has created a dramatic landscape unequaled anywhere on earth. Serrated badlands! High mesas! Steep-walled multicolored sandstone canyons! A geologic wonderland of fossil and stone where many secrets of earth's history are revealed! See tropical marine seas and beaches of the Kaibab and Toroweap Formations, a dinosaur-bearing river system of the Moenkopi Formation, the shifting sands of a vast Navajo Sandstone desert, and shorelines and swamps in the Mancos Shale of the Western Interior Seaway. Carried away from this fantasy of sculptured rock are vast quantities of sands, silts, and clays now deposited throughout the Fish Creek, Carrizo, and Vallecito Badlands as the Coyote Mountain Clays, Yuha Formation, and Palm Spring Formation. Learn how Cretaceous diagnostic microfossils have provided evidence that the ancestral Colorado River is intimately connected to the geologic evolution of the Colorado Plateau and Anza-Borrego. Understand how volcanic activity in the western Grand Canyon first dammed the river, causing lakes to form, later to breach, and catastrophically flood downstream portions of Anza-Borrego and the structurally depressed Salton Basin.

Days 1 and 2 are dedicated to the geology, paleontology and natural history of the Grand Staircase. Days 3 and 4 are focused on the evolution, development, and natural history of the Colorado River with special emphasis on its strong relationship to the depositional history of Anza-Borrego. Day 5 is an all-day raft trip that will familiarize each participant with the wonders and legends of the river itself: traces of indigenous cultures, Spanish exploration, and legendary river runners. This rafting adventure with Paul is an ideal balance between serene floating, outstanding canyon scenery, and exciting white-water challenges. Recharge your life! Rejuvenate your spirit! Create and strengthen bonds of friendship! Make memories!! You won't want to miss this one!

What's included:

- Accommodation: 5 nights of accommodation in comfortable motels with private baths, double occupancy. Singles are available at an additional cost
- All meals: Food will be basic but healthy
- Park entrance fees (All park passes welcome!)
- Half day smooth-water raft trip
- Full day white-water raft trip
- Handout materials

What's Not Included:

Transportation: Participants are required to bring their own vehicles (4WD recommended), and carpooling will be encouraged. We expect to travel 500-600 miles during the trip. Vehicles should be well maintained and in good working order—properly equipped with necessary gear for low desert and high plateau touring. In the unlikely event that a vehicle becomes disabled during the trip, the owner will be responsible for attending to the matter and the program will continue without delay.

Physical Difficulty:

Field study visits involve standing and walking on uneven terrain.

Canyon hikes may be Level 3 or 4 (moderate to strenuous), otherwise Level 2 (easy).

PROGRAM ITINERARY*

Day 1: Tuesday, September 12: STRATIGRAPHY OF THE GRAND STAIRCASE

INTRODUCTION TO COLOR COUNTRY

Virgin River Gorge, St. George Dinosaur Discovery Site at Johnson Farm, Hurricane Fault
CANYON CARVING
Virgin River, Zion National Park



Day 2: Wednesday, September 13: GRAND CANYON'S GEOLOGIC STORY

GRAND STAIRCASE AND THE KAIBAB PLATEAU

Tectonic development of the Colorado Plateau, stratigraphic and geologic history, Laramide Orogeny, Vermillion and Chocolate Cliffs, fossil resources.

NORTH RIM OF THE GRAND CANYON

Canyon geology and stratigraphy, Point Imperial, Cape Royal.

Day 3: Thursday, September 14: EXPLORATION OF THE COLORADO RIVER

STRATIGRAPHY OF THE PARIA CANYON-VERMILLION CLIFFS WILDERNESS

Balanced Rocks, Lee's Ferry, Echo Cliffs, Vermillion Cliffs

HALF-DAY SMOOTH WATER FLOAT TRIP DOWN THE COLORADO RIVER

Lake Powell, John Wesley Powell Memorial Museum.

Board a Wilderness River Adventure's pontoon boat for a half-day smooth water float trip down the river from Glen Canyon (Parker) Dam to Lee's Ferry.

Examine spectacular geology, river scenery, and petroglyph panels.

Day 4: Friday, September 15: ANCESTRAL COLORADO RIVER SYSTEM

PAINTED DESERT

Echo Cliffs and dinosaur tracksite, Little Colorado River Gorge and Painted Desert.

Share hypotheses regarding stream capture, evolution, and development of the ancestral Colorado River drainage system.

SOUTH RIM OF THE GRAND CANYON

Geology orientation at Desert View Tower, sightseeing along rim drive.

Day 5: Saturday, September 16: WESTERN GRAND CANYON RAFT TRIP



This special 12+ hour grand finale is dedicated to following in the footsteps of early river runners as we journey down the mighty Colorado River as it flows through Lower Granite Gorge (Hualapai Indian Reservation). The thrill of white-water (class 3-5 rapids), and the rare, unspoiled beauty of the highly secluded western Grand Canyon highlight this Indian guided raft trip. This 35-mile journey departs from Diamond Creek and finishes at the upper end of Lake Mead at the Quartermaster take-out. Weather permitting, the adventure continues with a scenic Papillon helicopter ride up 4,000+ feet to Eagle's Point and Grand Canyon West. A bus ride, mostly following dirt roads, takes us through the Grapevine Mesa Joshua Tree National Landmark and to Hualapai Lodge.

* A detailed trip itinerary with maps will be provided following registration.

Anza-Borrego Institute Instructors

Ranger Steve Bier is an avid student of the outdoors, who began his parks' career at the young age of three, tugging on the coat tails of Park Rangers throughout the National Parks of California. He continues this tradition today, as a California State Park Ranger, assisting with interpretive training of newly hired Ranger Cadets at the State Park Academy in Monterey. Steve enjoys telling ghost stories by campfire light, uncovering mysterious histories, and intensive nature emersion (camping).

Shane Coles is a graduate of Sonoma State with a B.A. in Natural History of California and post-graduate work in Biology. She has worked 26 years for State Parks, with 17 of those years as a ranger at Cuyamaca Rancho State Park.

Superintendent Kathy Dice has more than 20 years of experience in the park system, beginning as a National Park Service Ranger in Sequoia/Kings Canyon National Park. She transferred her knowledge and experience to California State Parks in 1986. She holds a Bachelors of Science in Biology from UC Berkeley.

Larry Hendrickson earned a BA in anthropology from SDSU and has been a botanist with the Colorado Desert District, California State Parks, for over seven years.

Bob Hillis is currently the Supervising State Park Ranger at Cuyamaca Rancho State Park. He has 13 years of experience as a State Park Ranger, 7 of those in the Colorado Desert District.

Joseph and Donna Hopkins spent seven summers traveling the southwest desert observing animals before moving to Borrego Springs eight years ago. Since then, they earned certificates in desert ecology from UC Riverside, studied at the Zzyzx Desert Studies Center, investigated the desert tortoise during an Earthwatch program and participated in nine of the summer waterhole counts of the desert bighorn. Both became Volunteer Naturalists for the park four years ago. Joe is a regular instructor on roadrunners and bighorn sheep and his popular series "Animal of the Month" has featured over a dozen different desert animals.

Fred Jee has been a California State Park ranger since 1974. He has spent over 30 years in ABDSP patrolling and interpreting landscapes and geology of the park to thousands of visitors. His background is physical geology/geomorphology with a minor in geology from CSU at Hayward.

Paul Johnson is a photographer, naturalist and author who has worked and lived in the Colorado Desert for 30 years. In addition to teaching photography, he manages Desert Tours for La Casa del Zorro Desert Resort.

Gary Lyons grew up mostly in Colorado and joined the U.S. Navy as soon as he turned 17. He spent most of his career working in anti submarine warfare as an ASROC Gunners Mate. After his system became obsolete he became a drug and alcohol counselor. He retired from the Navy in 1997 and started as a ranger in 1998. The Salton Sea is his fourth assignment. He loves his wife, daughter and motorcycling.

Kim Marsden earned a BS from SDSU and has been working as a biologist since 1992. Kim has been the resource ecologist for the Colorado Desert District, California State Parks for the last 3 years.

Sue McLaughlin raised her family in parks with her husband who was a park ranger for many years. She herself became a ranger 5 years ago starting in the North Coast Redwoods and has been the Fish Creek ranger at ABDSP since 2004. Sue has done extensive kayaking on the Trinity River in northern California and most recently rafted through the Grand Canyon.

Dennis Mammana has delivered the wonder and mystery of the cosmos to millions around the world for over thirty years. He is the author of six books on popular astronomy and writes the nationally syndicated weekly column—"Stargazer"—that appears every Wednesday in The San Diego Union-Tribune. With infectious enthusiasm and breathtaking photography, Dennis has enlightened and inspired audiences on six continents, and is a frequently invited guest on both radio and television.

Mike Puzzo is a wildlife management graduate of the University of New Hampshire. During the past three-and-a-half years he has studied black bears, moose, island fox and elk. He is currently studying mountain lions as an employee of the Wildlife Health Center at the University of California at Davis.

Paul Remeika is a retired State Park Ranger at Anza-Borrego Desert State Park, a field expert on Anza-Borrego's geology and paleontology, author of the best seller *Geology of Anza-Borrego: Edge of Creation*, co-editor of *Paleontology and Geology of the Western Salton Trough Detachment, ABDSP, California*, and author of three chapters in the paleontology book, *Fossil Treasures of the Anza-Borrego Desert*. Paul is credited with many important fossil discoveries and has contributed extensively to the understanding of the western Salton Trough region. He is actively working on stratigraphic revision and age control of the Borrego Badlands.

Mark Roeder, one of the San Diego Natural History Museum's paleontologists, heads Paleo Environment Associates. Mark collects fossils for local museums and leads geological and paleontological field trips in addition to teaching at community colleges and home education programs in San Diego and Orange counties.

Joan Schneider, Ph.D. received her MS and PhD degrees in anthropology from the University of California, Riverside, after a career change from the health sciences (She has BS and Master of Public Health degrees from Columbia University in New York City.) With over 20 years in the deserts of the world as a Principal Investigator and director of an archaeological field school, she is presently a research anthropologist at UC Riverside. She has contributed professional articles to regional, national, and international publications.

TO REGISTER . . .

Complete & mail this form to **Anza-Borrego Foundation & Institute**
P.O. Box 2001, Borrego Springs, CA 92004
 Complete & fax this form to **760.767.0465**
 Register online **www.theabf.org**

INFORMATION & QUESTIONS . . .

Information on courses, call 760.767.4063 or 760.767.0447 or email at deborah@theabf.org.

Inclement weather?? Call ABI at 760.767.4063 or ABF at 760.767.0446 (see refund policy below)

REMEMBER . . .

- ◆ Allow about 2 hours driving time from the San Diego area
- ◆ Classes are suitable for high school age and above
- ◆ Expect to carpool
- ◆ All events are first come, first serve
- ◆ Carry plenty of water
- ◆ Bring sunscreen and wear comfortable shoes
- ◆ Weather varies; check before you come
- ◆ Vehicles must be in good working order and have a full tank of gas at the outset of the program
- ◆ **No pets allowed on hikes or tours**

Checklist:

- Water
- Hiking Boots
- Binoculars
- Flashlight
- Hat
- Sunscreen
- Snack or lunch
- Camera, film, tripod
- Map / directions
- Guidebooks

Refund Policy

Full refunds may be requested if notice of cancellation is received 48 hours prior to event. If there is a waiting list for the available class, reservations may be transferred to other individuals.

In case of inclement weather, be sure to call ABI at 760.767.4063 for late-breaking information on events.
 In the event of cancellation, please contact us for a refund or credit.

INSTRUCTIONS:

To complete the registration form, you will need to consult the program description to obtain the class code and the class fee. Below you may register for two separate classes. If you would like to register for more than two classes, copy the form and submit with your registration or submit the required information on a separate sheet of paper. **Thank You!**

Insert Class Code	PRINT names of ALL attendees below:	Total Number of Attendees	X	Fee: See Course Description	=	Total fees for class:
	ABF Members:		X		=	
	Non-Members:		X		=	

Insert Class Code	PRINT names of ALL attendees below:	Total Number of Attendees	X	Fee: See Course Description	=	Total fees for class:
	ABF Members:		X		=	
	Non-Members:		X		=	

If you are participating in a 4WD activity, please complete the following:
 Will you be driving a 4W drive vehicle? no yes
 Will you accept passengers in your 4W vehicle? no yes #____
 Will you ride in someone else's 4W drive vehicle? no yes

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- Patron \$500
- Benefactor \$1,000
- President's Circle \$2,500

Membership \$

TOTAL = \$

Make check payable to
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 or complete credit card information
 and mail to
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Please charge my class registration to:

VISA MC # _____

Exp Date _____

Print Name _____

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Name(s) _____

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Inside: Spring-Summer Field Programs

The Anza-Borrego Institute, the educational and research arm of the Anza-Borrego Foundation, is the nonprofit partner of the Wildlife Health Center, University of California at Davis and the Colorado Desert District of California State Parks that includes Anza-Borrego Desert State Park[®], Cuyamaca Rancho State Park, Palomar Mountain State Park, Indio Hills Palms, Picacho State Recreation Area, and Salton Sea State Recreation Area. Our mission is to promote conservation of this unique and fragile region through land acquisition, interpretation, education, and research. The Institute offers programs year round in natural history, science, Native American culture, archaeology, history and the arts for students and adults to explore the treasures of these lands in-depth with expert instructors. Learning opportunities are extended through youth programs including fifth grade conservation camps and long distance on-line learning to research scholarships and science symposiums.

***For more information call Deborah Knapp, ABI Manager,
at (760)767-4063 or visit us at www.theabf.org***



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***Partners dedicated to conservation through education, interpretation and research
in Anza-Borrego Desert State Park[®] and the surrounding ecological region.***