



VOLCANIC VISTAS

Deschutes National Forest Recreation and Information Guide 1995-96

Meanwhile.....At the Bat Cave.

Bats are among the most gentle, beneficial, and necessary animals on

earth. They are the primary predators of vast numbers of insect pests that cost farmers and

foresters billions of dollars annually. Bats also pollinate flowers and disperse seeds that make the forests grow and deserts bloom!

There are roughly 2,500 bats state-wide, and about 17% of these (almost 500) spend their winters hibernating on the Bend/Ft. Rock Ranger District. They need special consideration during their hibernation (winter) and nursery (Spring and Summer) periods.

Hibernating bats require relatively stable temperatures between 32 and 49 degrees F, as well as peace and quiet to make it through the winter. Fat stored during the fall is slowly metabolized and must last through the winter months if the

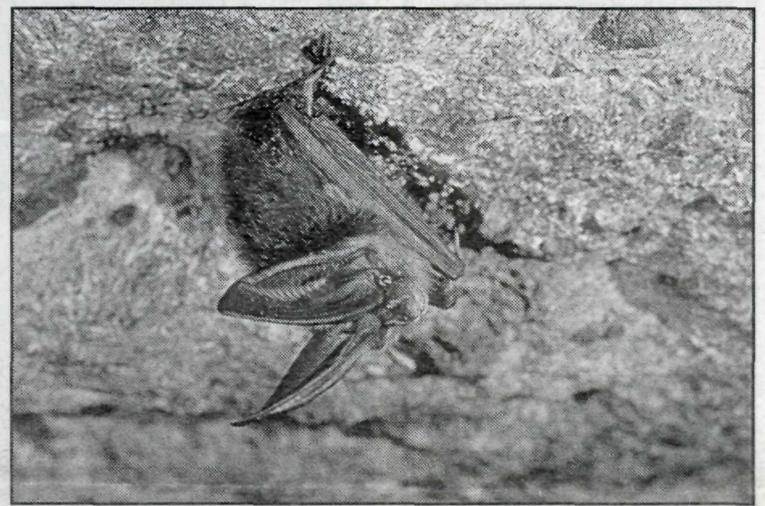


PHOTO: COURTESY OF BAT CONSERVATION INC.

bats are to survive. Bats which are forced to use up their stored fat due to repeated disturbance will starve to death or will not have the energy necessary to wake themselves up in the spring. When bats are disturbed during hibernation it wastes anywhere from 10 to 70 days worth of fat reserves.

Similarly, bats need special consideration during nursery season as well. Females of most Oregon bat species use caves to give birth and rear their young. With a slow reproductive rate, (an average of one pup born per female every two years) any disturbance during this rearing period can cause abandonment. Females who try and flee with pup in tow run the risk of dropping the pup in flight. Humans within sight or sound of bats create sufficient disturbance for abandonment.

To help prevent further decline of bat populations the Bureau of Land Management (BLM) and the Forest Service have joined forces to help our favorite flying mammals. In accordance with the Cave Resources Protection Act of 1988, numerous activities are now prohibited in all caves such as: removing, disturbing, or destroying any natural or cultural feature; use of fire, fireworks or firearms; smoking; camping; possessing domestic animals; installing or leaving climbing equipment.

A number of seasonal closures of caves on the Deschutes National Forest will also be in effect to help prevent further decline and promote recovery of Townsend's Big Eared Bat. Bat Cave and Wind Cave are two of the more popular caves which are seasonally closed to entry during the hibernation period between

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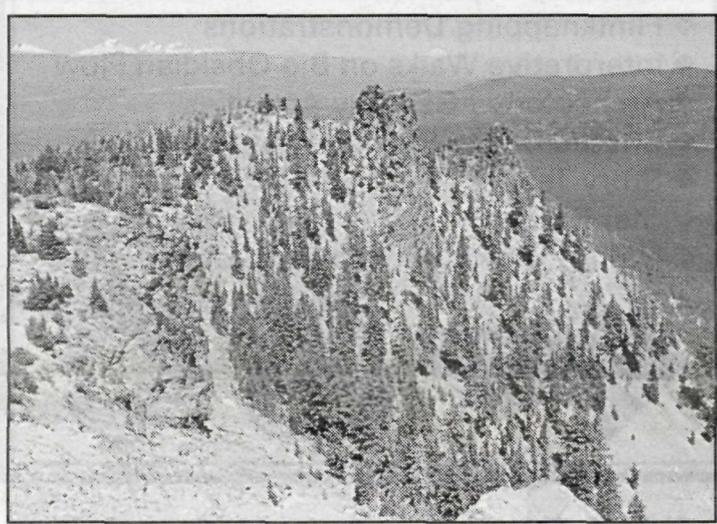


PHOTO: SHERRI LEE

Monument Discovery Days — see page 2

Hey Kids.....Meet the Beetles!

We may be just borrowing the earth from our children, but many kids are willing to help us out right now. This year on the Sisters Ranger District, students from the ages of 6-16 have volunteered their time, energy, and enthusiasm in new studies of the "little things that run the earth"..... invertebrates, including insects, spiders, and tiny soil dwelling arthropods. These organisms perform key roles in forest ecosystems, but in many cases are not well known or understood.

The kid-powered studies of the forest floor and soil creatures use two methods to capture these forest dwellers. Pitfall traps capture those traversing the

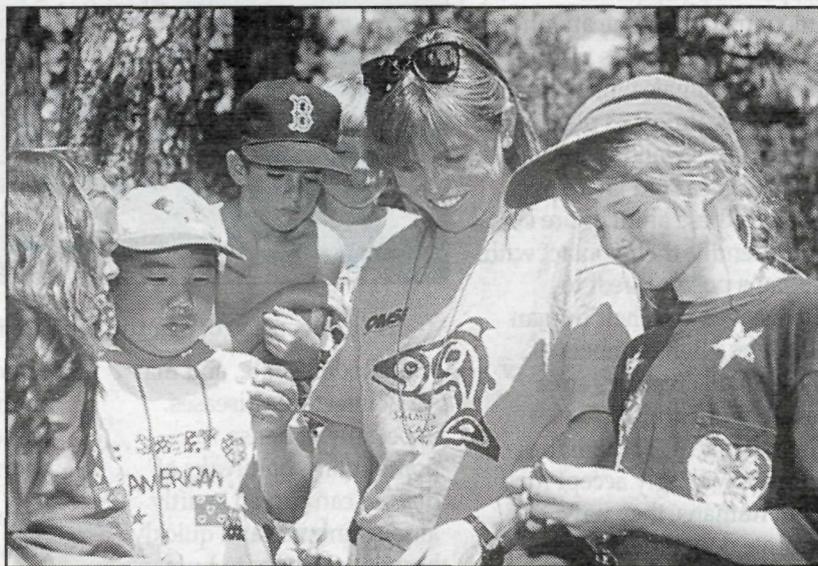


PHOTO: TOM IRACI

forest floor, including beetles, spiders, ants, centipedes, millipedes, and pseudoscorpions. Soil samples are collected for "behavioral extraction" in Berlese Funnels, where a light source at the top of the funnel drives mites, springtails and other soil

dwelling arthropods to burrow down and accumulate at the bottom.

Working in the Metolius Research Natural Area, an old growth pine forest where fire has been reintroduced with prescribed burns,

(continued on page 3)

TABLE OF CONTENTS

Accessible Sites	2
Forest Map	4
Geothermal Energy	6
Aliens in the Forest	7
Resort Directory	8

Welcome to the Deschutes

"In *A Sand County Almanac*, Aldo Leopold wrote, 'A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.'"

We on the Deschutes National Forest value the beauty and diversity of the resources we manage and welcome you to enjoy this special place.

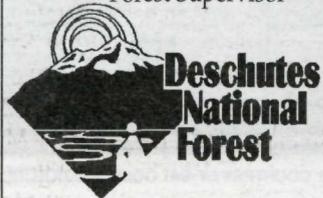
A wide variety of recreational opportunities, diverse landscapes, breathtaking scenery, and abundant wildlife awaits you. Take advantage of Forest Service offices and visitor centers for current information about places to see, what to do, and how to get there.

Enjoy your stay in central Oregon. We look forward to caring for the land and serving you during your stay in the Deschutes National Forest.

Thanks for joining us.

Sally Collins

SALLY COLLINS
Forest Supervisor



HELP WANTED:

HARD WORK, NO PAY, BIG REWARDS. Fulltime volunteers wanted. Housing provided. Hookups available. Build trails or staff a visitor center in the pines, share your knowledge and experience with others, spend all day on top of Mt. Bachelor, or... 593-2421.

TOUGH JOB - someone needed to do it! Ski in the morning, snowshoe in the afternoon. Guide new friends around mountain

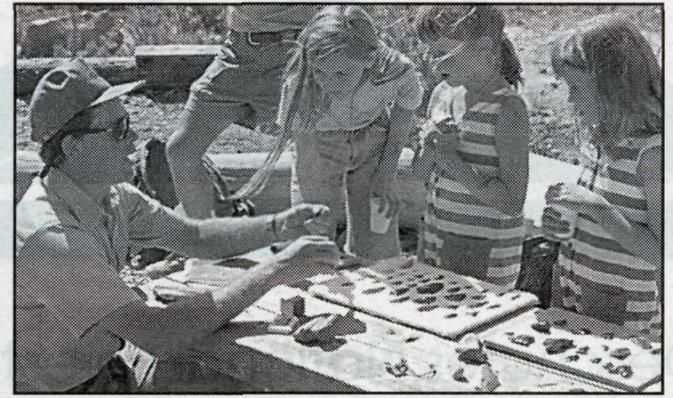
lakes, admire wildflowers and birds. Identify stars at night. Volunteers needed to help with winter and summer naturalist programs. Hard work - not! Call 593-2421.

MAKE UP YOUR OWN JOB! Volunteers wanted with serious interest in geology, archaeology, wildlife, birds, botany or... we will train if you are dedicated. Satisfaction guaranteed to all who join us in the stewardship of the Deschutes National Forest. Call 593-2421 to apply.

Personal Messages: Join the **National Forest Green Team.** Campers, visitors and civic organizations can volunteer to handle simple, necessary maintenance jobs around a National Forest Campground. Pass on the gift of a beautiful forest. Call (503) 388-2715.



MONUMENT DISCOVERY DAY August 12, 13 1995



SCHEDULE OF EVENTS

- ❖ Canoe with Forest Service Interpreter
- ❖ Wilderness Safety Tips
- ❖ Fire Safety Learn About Smokejumping
- ❖ Birds of Prey
- ❖ Flintknapping Demonstrations
- ❖ Interpretive Walks on Big Obsidian Flow
- ❖ Archeology / Geology Activities
- ❖ Shuttle Bus to Paulina Peak
- ❖ Story Tellers
- ❖ Star Party
- ❖ Nature Walks, Lots To Do and See



Accessible Sites in the Forest

The Deschutes National Forest has a number of wheelchair barrier free sites that provide a variety of recreational opportunities. They include viewpoints, new campsites and restrooms, fish viewing areas, paved scenic trails and boat launches.

If you want to camp, check out Crane Prairie Reservoir Campground which has several barrier free campsites that are adjacent to toilets. New this summer are the addition of two barrier free campsites and one toilet at Gull Point campground.

The following campgrounds will have barrier free toilets installed this spring, with barrier free campsites to be installed during the summer of 1995;

Besson Camp, Cultus Boat Ramp, Big River, Quinn River, Bull Bend, Quinn Meadow Horse Camp, North Davis, Cultus Corral Horse Camp, Little Fawn Group Camp

If a scenic trail cruise suites you, explore the new Ray Atkeson Memorial Trail along the shores of Sparks Lake. There is a 1/4 mile paved portion and a 2 mile dirt trail.

At Browns Mountain Crossing at the Deschutes River, folks can see the Kokanee runs in September from the barrier free fish viewing platform.

For the daring, the chair lifts at Mt. Bachelor can accommodate wheelchairs for those who want to ride to the 9065' summit for the spectacular view.

At Hosmer Lake, there is a barrier free canoe launch for those who want to fish or explore the lake.

Lava Lands Visitors Center is easy to access, and there is a paved trail up to the Lava Butte lava flow behind the center. Lava Cast Forest Also has a paved self guided trail for barrier free access.

Humans heed this! Please don't feed us!

Golden-Mantled Ground Squirrels (*Spermophilus lateralis*) and Yellow-Pine Chipmunks (*Eutamias amoenus*) attract the attention of many Lava Lands visitors. Feeding animals which inhabit the area is almost as popular an attraction as walking through the 6,200 year old lava flow. Though these animals are cute and friendly, their contact with humans pose a threat to themselves and their human admirers. High numbers of these small creatures are a result of unnatural circumstances. Though these animals willingly accept food from humans, they have become dangerously dependent on unnatural feeding habits. Losing their natural instincts, the animals may starve to death during the winter. Human food they collect and store away may become rancid and cause the animals harm when eaten.

Feeding chipmunks and squirrels threatens humans as

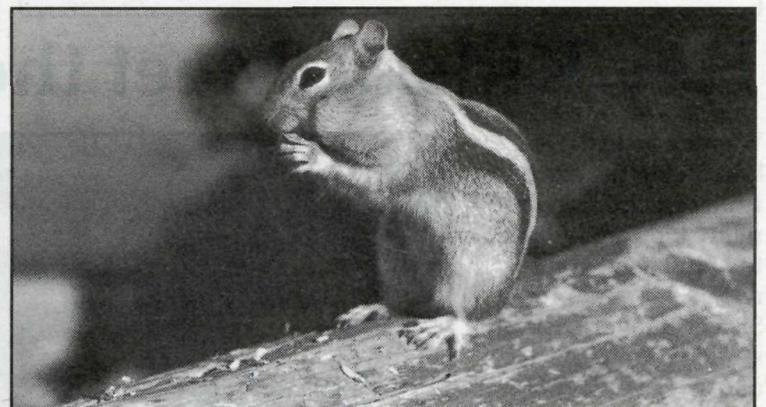


PHOTO: SHERRI LEE

If it doesn't grow in the woods, it's not squirrel food!

well. Rodents bite, and may carry infectious diseases. Especially in dense populations, outbreaks of disease can spread swiftly among animals and quickly become a danger to humans. Germs can be transmitted by bites, fleas, or even close contact.

While visiting Lava Lands Visitor's Center, or any area inhabited by wild animals, help us protect wildlife and your own health by refraining from feeding squirrels, chipmunks and other animals. We

encourage you to watch the animals collect natural food while you enjoy observing their natural behavior.

Natural food is food which grows in the area. If you don't see it growing in the area, it is not healthy for the animals. Next time you visit Lava Lands, look around and try to list five things the squirrels and chipmunks might eat. (Hint: seeds, plants, bugs, birds, or any deceased animal.) No-no foods are easy to list; peanuts, popcorn, bread, corn chips, sunflower seeds, potato chips...

Bats *(continued from page 1)*

November 1 and April 15 each year. Other caves on the forest have seasonal closures in effect during the nursery months between April 15 and September 30 each year. To deter disruptions during these times, cave names and locations are not being publicized. Signs will be installed at the mouth of those seasonally closed caves informing visitors about these

closures. Ecologists now know that even small disturbances can seriously threaten entire systems of plant and animal life. Loss of plant and animal diversity may be the most serious global threat we face. If we fail to respond to the need for bat conservation, which includes habitat protection, we gamble with the quality of life we've come to enjoy.



PHOTO: SHERRI LEE

Archaeological Dig

Dusting Away Clues to the Past

At Odell Lake there appears to be civilizations living on top of one another. Modern facilities overlap with evidence from prior cultures and it's giving the Crescent Ranger District a chance to research more effective ways to manage the area. There are two resorts, five campgrounds, and 75 recreational residences situated around the lake shore. There are also at least 20 known archaeologically valuable sites in many of the same locations as the developments.

Since 1992 the district has focused attention on three of these sites, all prehistoric lithic scatters with buried deposits. These deposits could include projectile points, pieces of tools, broken pots, jewelry, traded goods, basically anything left behind by the first humans in the area.

Archaeologists working in central Oregon have long recognized the presence of deposits of pumice from the eruption of Mt. Mazama (Crater Lake). We also know that we have archaeological sites with both buried (pre-Mazama) occupations and a more recent (post-Mazama) occupation above or within the pumice. The relative ages of these occupation sites are easily determined from

their relationship to the Mazama pumice which has been dated about 6700 to 7000 years old.

Radiocarbon dating of two charcoal samples from one of our Odell Lake sites shows us that people lived in that area before the eruption of Mt. Mazama, roughly 7500 years ago. Currently the most recent occupation is dated at about 600 years ago. These are the first radiocarbon dates for any of the Odell lake sites and we look forward to retrieving additional sample in 1995.

Pollen samples are another way we can learn from the past. Pollen can be preserved over a long period of time and can give us clues to what types of plant life occupied our forest thousands of years ago. One of the Odell Lake sites showed pollen evidence of a "major environmental shift" from a cool, moist climate to dryer and warm conditions before the eruptions of Mt. Mazama.

Archaeologists continue to study the pre-history of the Odell Lake area. If you find cultural artifacts such as arrowheads, tools, or pottery please enjoy them, but remember to leave them undisturbed. A puzzle with missing pieces is never a complete picture.

Meet the Beetles! *(continued from page 1)*

students from OMSI's Cascade Science School and Black Butte School in Camp Sherman have installed traps, collected, sorted and processed samples, acting as both field crew and "biodiversity technicians". As biodiversity technicians in training, students from Black Butte School clean and rough sort similar bugs, prepare specimens for final identification by entomology experts, and

document the changes in invertebrate fauna through the season.

Asked why they are volunteering their time for the project, Black Butte students said they are not out to find a new species or a special bug that cures a disease. They simply want to find out more about invertebrates, "get a good education by learning about research, and help the Forest Service.

We are grateful for their help.



Maret Pajutee, Ecologist Sisters Ranger District

Bend Pine Nursery

The Bend Pine Nursery has been involved in a variety of new projects lately. One of the newest is the propagation of Aspen sticks. These "sticks" are actually cuttings from mature Aspens, and when properly cared for will develop healthy root systems. If successful these sticks will be planted on both the Deschutes and Ochoco National Forests. Ponderosa and Lodgepole pines as well as bitterbrush are the main species grown at the nursery. Tours gladly given! Please phone ahead 383-5640.

WHO'S WHO

William Clark (1770-1838), of Lewis and Clark fame, was influential in Pacific Northwest natural history. This dedicated scientist first documented many plants and animals found in Oregon today. The most well known is our favorite camp robber, the Clark's nutcracker.

Discovery Hikes and Canoe Tours!

Join a Forest Service Naturalist for a half day hike or a morning canoe tour. This summer we will again be offering Saturday Morning canoe tours with Max Peel at Hosmer Lake. Bring your own canoe and personal flotation devices and join us for a morning of exploration around this scenic lake. We will visit beaver lodges, Bald Eagle habitat, mysterious water outflows, and maybe even see an otter or two. Tours meet at the South Hosmer Lake boat ramp at 9:00 AM. Saturdays.

DISCOVERY HIKE SCHEDULE:

July:

Saturday 1st: Wildflower Hike at Todd Lake 10:00 AM
 Saturday 8th: Watchable Wildlife, meet at Lava Lake boat ramp 10:00 AM
 Saturday 15th: Geology Exploration at Sparks Lake, Ray Atkeson Trail, 10:00 AM
 Saturday 22nd: From Tadpoles to Frogs, Todd Lake, 10:00 AM
 Saturday 29th: Watchable Wildlife, meet at Lava Lake boat ramp 10:00 AM

August:

Saturday 5th: Bird Watching, meet at Cow Meadow Campground at 4:00 pm
 Saturday 12th: Deschutes River Geology and Wildlife Exploration, Slough Camp to Benham Falls--meet at Slough Camp at 10:00 AM
 Saturday 19th: Watchable Wildlife, meet at Lava Lake Boat Ramp, 10:00 AM
 Saturday 26th: Bird Watching, meet at Cow Meadow Campground at 4:00 PM

September:

Saturday 1st: Geology Exploration at Sparks Lake, meet at the Ray Atkeson Trail, 10:00 AM

Finders Keepers?

"Wow, look at this great arrowhead I found, can I keep it?" This is a common question we get about cultural artifacts found in the Deschutes National Forest. Unfortunately, the answer to this question is no. The Archaeological Resources Protection Act (ARPA) protects artifacts from disturbance or private collection. If these artifacts are disturbed or removed the information that they could provide scientists is gone forever.

When you are visiting places in the country that have a rich cultural heritage like the Deschutes National Forest, we encourage you to enjoy evidence of past cultures, but leave the artifacts where they were found. Often people bring artifacts out of the field to show them to a specialist more knowledgeable on the subject.

These specialists are at a loss since they don't know exactly where they came from, and under what

conditions they were found. We lose a piece of the big picture every time an artifact is removed or disturbed.

The Forest Service asks your help in reporting theft and disturbance of artifacts by contacting the Deschutes National Forest Law Enforcement at 383-5510, or by calling 1-800-782-7643--the anonymous 24 hour hotline for tips on crimes on public lands.

Talks on the Top..... at Mt. Bachelor

Visitors in central Oregon can experience one of the best viewpoints in the state from the top of Mt. Bachelor. Ride the chair lifts up to the 9065' summit and discover a fascinating perspective of the Cascade volcanoes. Forest Service naturalists are on the summit to give talks at 11:30 and 2:30, seven days a week. They are also available all day to answer questions about geology, alpine plants, trees of the forest, wildlife and the cultural history of the Cascades over the past 10,000 years.

Mt. Bachelor is on your National Forest and the Mt. Bachelor Ski and Summer Resort operates under a special use permit with the Deschutes National Forest. The summer lifts and the Sunrise Lodge are open from Memorial Day to Labor Day. Come and enjoy a spectacular view!

Lift prices are
\$9.00 Adults \$4.50 Children
\$6.50 Seniors

For more information please contact the Bend/Fort Rock Ranger District at 388-5664

Family Entertainment at the Campgrounds!

Learn about your National Forest while enjoying a little entertainment. Forest Service Naturalists will be presenting Interpretive programs with a variety of themes at the following campgrounds this summer. On Friday evenings, beginning June 30th, programs will begin at Elk Lake Campground, and every Friday thereafter will rotate through campgrounds at Lava Lake, Crane Prairie, and South Twin Lake. Beginning on Saturday July 1st, Interpretive Programs are scheduled every Saturday evening at Cultus Lake Amphitheater. These Friday and Saturday evening programs will continue through Labor Day

weekend. Some of the themes include the following:

What's Cookin' in that Dutch Oven?
Trappers and Pioneers: Early History of Central Oregon
Good Heavens! Star Gazing Parties
Blasts from the Past--Volcanoes of Central Oregon
Flintknapping Demonstration--Pre-History of Central Oregon

Look for up-to-date schedules of these programs and their times posted at campgrounds, the Bend/Ft. Rock Ranger District Office, 383-5664 or the Bend Welcome Center.



Mt. Bachelor Summit

FILE PHOTO

New Future for Wilderness

The U.S. Forest Service is developing new strategies to help preserve the land we all love and value. These strategies are designed to lessen ecological and social impacts to Oregon's three central wilderness areas: Mt. Jefferson, Three Sisters, and Mt. Washington.

the following CHANGES are in effect:

Limited Entry Permits: These permits are limited to 20 groups per day and must be obtained in advance. They will affect the following locations:

--Pamelia Lake (Mt Jefferson Wilderness); Permits may be obtained from the Detroit Ranger Station.

--Obsidian Area (Three Sisters Wilderness); permits available at the Mckenzie Ranger Station

Day and Overnight Permits: These are still needed for all three wildernesses, but now are available at trail heads and are not limited. Commercial outlets will not be issuing overnight permits as they have in the past.

Designated Campsites: Overnight users will be required to use designated campsites in several high use areas. This will reduce the increasing numbers of spontaneous campsites which

appear year after year. Using designated campsites will also reduce impacts near sensitive riparian zones and areas of high use.

Campfire Restrictions: Campfires will be prohibited in several high use, high elevation areas where firewood gathering has depleted supplies and threatens the function of local ecosystems.

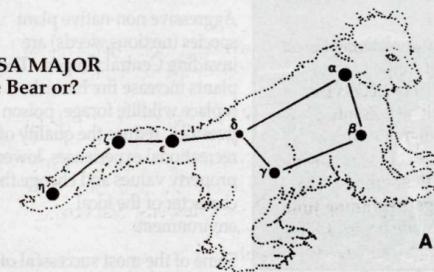
These changes will affect many wilderness visitors, but most of all they will help keep the wilderness and your experience, wild. The qualities of nature that make wilderness so attractive and popular are compromised and damaged by our use. Become an active partner and help the Forest Service protect our wilderness areas. Please practice LEAVE NO TRACE ethics when exploring wilderness, or in any place in your National Forest.

Kent Koeller
Wilderness, Bend/Ft. Rock Ranger District



Stargazing At Lava Butte

URSA MAJOR
The Bear or?



The heavens are overflowing with stories told since time beyond memory, and these stories have shaped the way we perceive the night sky. Some have been told around the campfires of Native Americans, others come to us from cultures of the dim, distant past. The stories tell us about these people and speak of brave deeds, magical creatures and the connection between we humans on Earth and mythical beings of the sky.

this summer and share the magic of stories and stars on selected Friday evenings:

June 23	June 30
July 7	July 21
July 28	August 4
August 18	August 25
September 1	

Bring a sweater, a ground blanket, and your binoculars then lay back and enjoy one of central Oregon's greatest assets-- the

summer sky.

Learn about the stars and planets from our resident stargazer. View Jupiter, the moon and more through a telescope. Hear the story of how Callisto the Great Bear came to be where the Big Dipper is today. Understand why the North Star was called the Central Fire by many Native Americans or why a Scorpion chases Orion the Great Warrior endlessly around the Heavens.

The front gate at the Lava Lands Visitors Center opens at 8:30 pm. At the last bend in the road before the summit of Lava Butte, switch your headlights off and proceed slowly using your parking lights. Then prepare to explore the richness of legend lore and wonders galore waiting for you among the stars of the night.

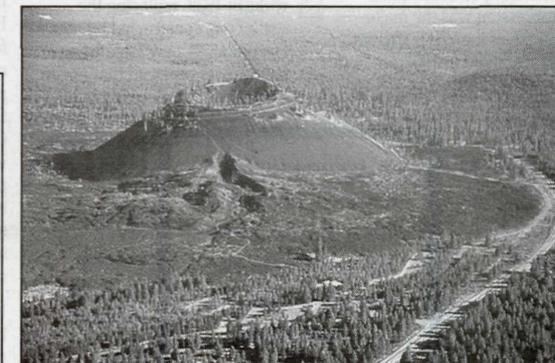
Join us on top of Lava Butte (next to Lava Lands Visitors Center)

It's A Fact

The Deschutes National Forest was established by President Grover Cleveland September 28, 1893. Originally called the Cascade Forest Reserve, the Forest was one of the earliest in the nation.



The lava flow from Lava Butte is 30 to 100 feet thick and covers over 9 square miles.



Lava Butte

PHOTO: BOB JENSEN

One Day to Explore — What Can I Do South of Bend?

Let's begin at Lava Lands Visitors Center, located on Highway 97 13 miles south of Bend, has several things to see and do. The Visitor Center has interpretive displays about the geology and cultural history of central Oregon as well as on-site naturalists who give informative programs and help answer any questions you might have.

Lava Lands has self guided interpretive trails, to explore at your own pace. One, the Trail of Molten Land, meanders over the 6000 year-old Lava Flow of Lava Butte, an imposing cinder cone behind the Visitors Center. From 9-4 daily through Labor Day, ride the shuttle to the top of Lava Butte, for a nominal fee. There you can enjoy the panoramic view of central Oregon while strolling along the rim trail.

Just west of Lava Lands is the Deschutes River or the "River of

Falls" as French explorers named it. Benham Falls, a scenic cascading waterfall, can be reached by heading south from Lava Lands parking lot four miles on an improved gravel road which ends at the parking lot and picnic area. Here you can follow an old railroad grade, used primarily to fuel the booming timber industry that flourished in Bend during the early part of this century, to the falls.

Lava River Cave is only one mile south of Lava Lands on the east side of Highway 97. A concessionaire can provide interpretive talks for a small fee and rent lanterns to guide your way.

From Lava River Cave continue south to Newberry Crater. Newberry "Crater" is actually a caldera — like Crater Lake. Calderas are formed by a combination of explosion and

collapse. And, are usually much wider than they are high. Follow signs to Paulina and East Lakes as Road 21 climbs up the flanks of one of this country's largest volcanoes. At the crater's western edge is Paulina Falls. Wildlife and numerous recreational opportunities including camping, fishing, hiking, and Mt. biking, the Big Obsidian Flow, and Paulina Peak which offers a spectacular view of the region.

LAVA LANDS VISITORS CENTER

Before Memorial Day
10-4 Wednesday-Sunday

Summer Schedule
9-5 Every Day

After Labor Day
10-4 Wednesday-Sunday
Closed About October 15



PHOTO: SHERRI LEE

Round Mountain Fire Lookout

Hey, Where's the Fire?

Did you know that Paulina Peak was the site of one of the first four fire lookouts on the Deschutes National Forest? Lookouts on Maiden Peak, Black Butte, Walker Mountain, and Paulina Peak comprised the original system of detecting forest fires in this area. Fire detection, prevention, and suppression was the major mission of the USFS after its establishment in 1907.

In the early days when as few as two people were responsible for the lands that presently make up the Deschutes National Forest, rangers often performed detection duties while

patrolling, climbing peaks on horseback for a "lookout". You can imagine the trouble these men had enlisting fire fighters to fight fires in remote areas of the backcountry.

Assistant Forest Supervisor Vern Harpham built the first lookout cabin on Paulina Peak in 1917. Timbers were hauled by wagon to the outlet of Paulina Lake, then dragged in bundles up the three mile trail to the site. By the time Vern finally finished building the 12 x 16 one room cabin on Paulina, he decided he needed a more efficient approach to the construction of a lookout house on Walker Mountain. He came up with the idea that to save time and effort, he would build a stone cabin from the rock found at the top of the mountain. But efficiency was not the result as he found the native sand unsuitable for concrete, and no water source available. He was forced to haul up sand and water as well as cement to the summit by pack train. Yet for all his difficulties, the cabin at Paulina is gone today, while the one at

Walker is still standing.

As the fire detection system on the Deschutes expanded to include 32 lookouts by the 1930's, many lookout towers and houses came to include living and work quarters in the same room. On Paulina Peak, a prefabricated 14 x 14 foot cabin was placed on the rocks in 1932, replacing the earlier one constructed by Harpham. A new lookout on a short tower replaced that one in 1964 which was later destroyed

in 1969 as the Forest Service began to phase out widespread use of lookouts.

Today, fire detection is still an important issue on the

Deschutes National Forest. Presently, there are eleven lookout facilities, seven of which are continuously staffed throughout fire season. These women and men watch over the forest during the summer, looking for smokes and performing their duties as stewards over public lands.

WHO'S WHO

John Kirk Townsend

(1809-1851), of Philadelphia discovered many animals here in the Northwest including, the Townsend's solitaire and Townsend's big-eared bat. However, his passion for collecting and preserving animals for scientific research was the death of him. Townsend and his colleagues would preserve specimens with large amounts of arsenic. He died of chronic arsenic poisoning at the age of 42.

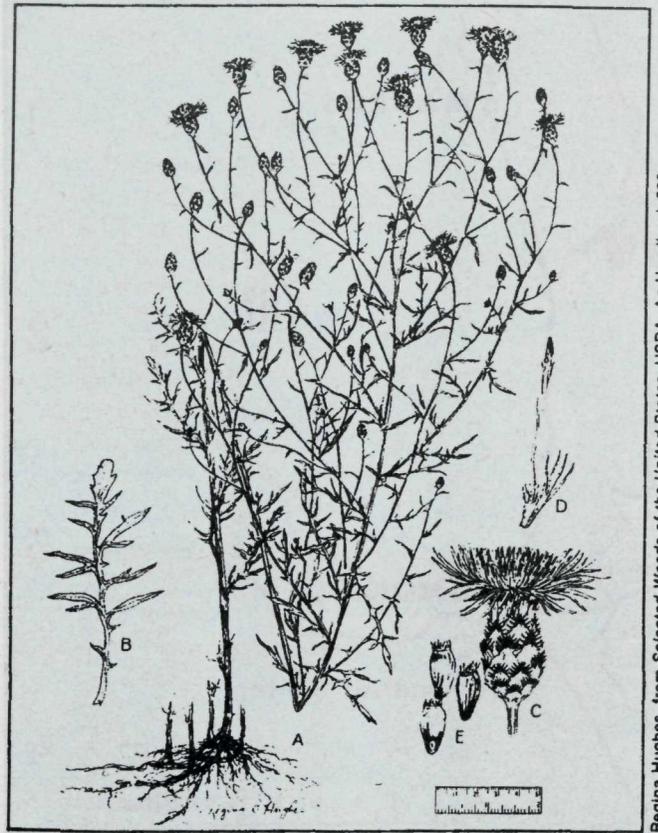
"going into the woods is like going home, for I suppose we came from the woods originally."
--John Muir

Alien Invasion!

Aggressive non-native plant species (noxious weeds) are invading Central Oregon. These plants increase fire hazards, replace wildlife forage, poison livestock, reduce the quality of recreational experiences, lower property values and change the character of the local environment.

Some of the most successful of these aliens are the knapweeds. These plants are thriving in this area and can be seen throughout Bend along the area's main roads. Spotted Knapweed (*Centaurea maculosa*) was introduced to North America from Eurasia in the early 1900's and has become a major problem in many states. In Montana it infests over 2 million acres! Spotted Knapweed is a member of the sunflower family and is considered a perennial, which means it returns year after year. It has several upright stems 2-4 feet tall with flower stems that resemble an urn and hold many pink to purple flowers. These flowers occur from June to October and the seed production is an amazing 400-25,000 seeds per plant. It is easy to see how a noxious weed can easily overtake native plant species with this kind of production seed.

Noxious plants and seeds are brought to non-native areas by the under-carriages of passenger vehicles, heavy equipment, feed for domestic and non-domestic animals, and even outboard motors--that's right there's noxious weeds in the water too. Noxious weeds in this area



Centaurea maculosa Lam. Spotted knapweed. A) habit — X 0.5; B) enlarged leaf — X 1; C) flower head — X 2; D) disk flower — X 3.5; E) achenes — X 4.

Regina Hughes, from Selected Weeds of the United States, USDA, Ag Handbook 366.

include : Bull Thistle, Canada Thistle, Common Tansy, Dalmation Toadflax, St. John's Wort, and the Tansy Ragwort just to name a few.

The native plants in this area and the U.S. Forest Service are asking you help to help control these noxious weeds. After positively identifying the plant as a noxious weed it should be removed. **If no flowers or seed present:** Pull the weed and leave it on the area. **If flowers or seed present on the weed:** Pull the weed. Be careful seed does not fall from the weed. Place the weed in a plastic bag or similar container. Dispose of

weed by burning it or turning it in to a ranger station. Thanks for your help in controlling the spread of noxious weeds. If you have a question regarding noxious weeds on the Deschutes National Forest, contact:

Don Sargent, Range Specialist,

It's A Fact

Snowpack from Mt. Bahcelor ends up in Lava and Little Lava lakes after filtering through thousands of feet of porous igneous rock. These two lakes are the headwaters of the Deschutes River.

Newberry is Steamin' Up!

Geothermal energy could be in the future of central Oregon. In June, 1994, the Deschutes National Forest Supervisor and the Prineville BLM District Manager selected an alternative which allows for geothermal wells and power plant development on the west flank of Newberry Volcano in central Oregon. The project will be located on federal geothermal leases outside of Newberry National Volcanic Monument. Newberry is regarded as one of the most promising sites for geothermal resources in the country, and the preliminary studies shows that geothermal energy production can occur here in an environmentally safe and efficient manner.

Project implementation began in

May, with the drilling of a deep exploration well. Aspects of the project include development of up to 14 well pads and one 33-megawatt power plant. Approximately 8 miles of new transmission line will be constructed to connect the power plant with existing powerlines. Care will be taken to reduce environmental impact. Air and water quality will be carefully monitored.

The Newberry Geothermal Pilot project will demonstrate one of the many multiple uses for which the Deschutes National Forest is managed. This is an exciting project which will provide a renewable alternative source of energy to help meet the region's growing need for electrical power. Of the 30 (net)

megawatts to be produced by the project, 20 megawatts will be purchased by Bonneville Power Administration for the northwest energy grid, and 10 megawatts will be purchased by Eugene Water & Electric Board for their Eugene/Springfield area customers. CE Exploration Company, a Portland, Oregon based subsidiary of California Energy Company, Inc., of Omaha, Nebraska, is the developer.

Alice Doremus
Geothermal Coordinator, Bend/Ft.
Rock Ranger District

Forested Lavas – Just Trees on the Rocks?

"What an unusual forest!", exclaim most people when they first walk through a landscape of forested lava. Growing out of the cracks and openings of rugged, rocky lava flows are forests of pine and fir. No soil to be seen — only trees and rocks.

Much of the Deschutes National Forest is armored with lava. Some is so young and rugged — a few thousand years old — that even to walk on it is to invite falls, bruises, and torn clothes. These barren flows seem like they belong to a different planet.

On the other hand, older lava — say 50,000 years old or more — might be buried in so much soil that only a few rocky knobs hint at the lava below. These soil covered lavas usually support a normal forest if precipitation is adequate. In between these new and old lavas are the strange ones, the ones that support a forest seemingly with no soil.

Young, barren lava flows like those at Lava Butte or McKenzie Pass will eventually become buried in soil. Here, soils will come from many sources as they have in the past. Mostly, they come from volcanic eruptions that generate a lot of ash. The ash is carried away by winds and spread over the landscape. The most recent and important single event that added soil to all land of central Oregon was the

immense eruption of Mt. Mazama (Crater Lake) about 7700 years ago. Another source is from great, infrequent windstorms that swept away soil in one area and carried it to another. However, the normal way of making soil- by lichens and micro-organisms feasting on rocks which then disintegrate-is not the normal way in central Oregon. Volcanic eruptions and the effects of glaciers during ice ages happen too frequently for the slow munching lichens to make much of a contribution.

The forested lavas-the strange ones- have acquired soil but not enough to bury the lava. In fact, the soil has raveled and trickled down into the cracks and underground open spaces where little of it can be seen. Every year seeds from all sorts of plants and trees rain down on the lava in showers appropriate to their season. The seeds may germinate if they reach the underground soils. But the new plants can thrive only if there is enough light, water, and nutrients. Isolated soil pockets can provide an ideal flowerpot for a ponderosa pine seed to germinate in. If the seedling can extend its roots to nearby flowerpots, it may grow into a large, healthy tree. Otherwise it may spend a long life as a natural bonsai pine, or worse, it may die of thirst during a year of

drought.

When trees have been harvested on forested lava, it is now clear that traditional ways of planting seedlings to replace the harvested trees do not work. People planting the seedlings cannot find soil to plant them in. So far, natural regeneration seems to be the only way these remarkable forests can recreate themselves.

Researchers are now beginning a study of forested lava south of Mt. Bachelor to learn what goes on in the underworld of rocks, roots, and microorganisms. Very likely, they will have some surprises to report one of these days. A good place to see forested lava is the area immediately west of Wake Butte along Road 40 about 15 miles southwest of Lava Lands Visitors Center. Another is west of the Santiam Pass along Highway 126 in the area of Clear Lake.

*Larry Chitwood, Geologist and
Karen Bennett, Soil Scientist*



PHOTO: SHERRI LEE

Lava Cast Forest flow 6000 years (trees at edge of flow).

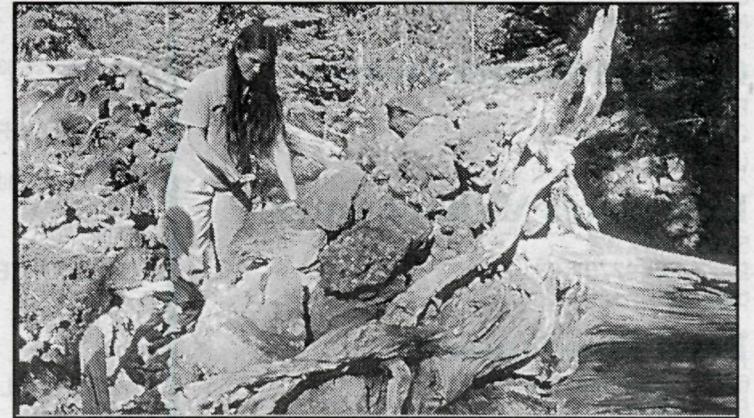


PHOTO: SHERRI LEE

Roots of fallen tree encrusted with boulders, on forested lava.

Community Partners in Science

The fish and wildlife department on the Bend/Ft. Rock Ranger District has joined forces with the Oregon Museum of Science and Industry's Cascade Science School on a challenge cost share project. They will gather biological data within the

Tumalo Creek area drainage and adjacent areas during the spring, summer and fall of 1995. Projects include: streamflow monitoring and mapping; surveys of aquatic insects, amphibians, timber and water quality; streamside tree planting; and the construction of

bird boxes, bat boxes and squirrel nests. The Bend/Ft. Rock Ranger District will be providing technical support, equipment, and lumber for the projects, while the Opportunity Foundation of Central Oregon will provide assistance with the construction of bird and bat boxes.

The Cascade Science School is located in the historic and newly revitalized Skyliner's Lodge next to the site of the Bridge Creek Fire of 1979. That fire burned nearly 4300 acres in and around the Tumalo watershed, which supplies water to the city of Bend. By surveying the ecosystem for various plant and animal species, creating habitat and providing the stream bank with native tree species, the Forest Service hopes to revitalize this ecosystem.

It's A Fact

Those large moths you may see this year are Pandora Moths. They will be laying eggs that hatch and overwinter as caterpillars that emerge in the spring and eat Ponderosa Pine trees.



Of the total Lava Butte eruption volume, 10% was erupted into the air as cinders, while 90% erupted as a lava flow.

Cousin Paul's Fishing Tips

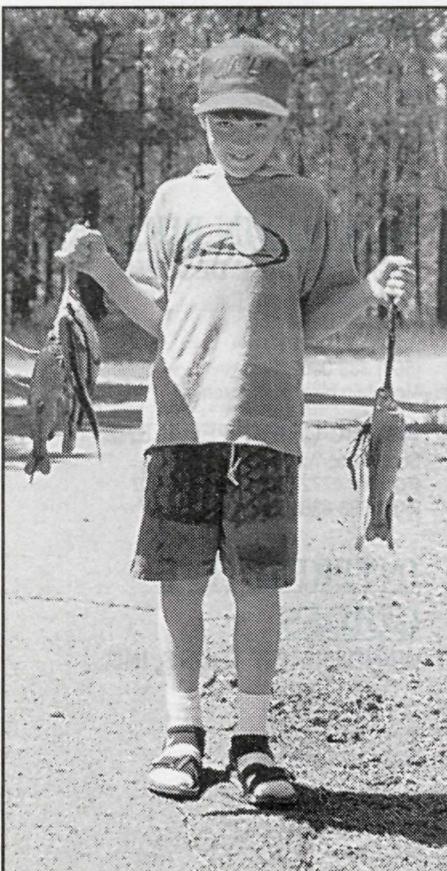


PHOTO: SHERRI LEE

National Fishing Day

The term float tubing, or in the early days, belly boating, described a method of fishing from an intertube.

Why use a float tube? In clear water you can not only see the fish swim underneath you, but also get a better view of underwater channels, aquatic insect hatches, and maybe even that otter fishing along side of you.

Crane Prairie Reservoir on the Bend/Ft. Rock Ranger District has always been a hot spot for large rainbow trout. Trout in the three to five pound range and some in the eight to ten pound range are caught each year.

What makes these fish so big? It's the food they eat of course. Knowledge of

aquatic insects and their life cycle in central Oregon lakes will increase your chances of catching fish. Aquatic insects spend most of their life underwater as nymphs or larvae, then emerge to the surface to reproduce, then die to culminate their life cycle.

Insect hatches of this reservoir's ecosystem include Mayflies, Caddisflies, Dragonflies, Damselflies, and Midges. This abundance of food accounts for the large growth of the fish at Crane Prairie.

Odell lake, located on the Crescent District, is known for it's Kokanee and Mackinaw fishing. Trolling from boats to depths of fifty to one hundred feet is common in order to catch these large coldwater fish. Unlike Crane Prairie, which has an average depth of ten feet, Odell lake is two hundred and eighty-seven feet deep.

When float tubing, or fishing from a boat at Odell, mayfly and

stonefly imitations work well in the shallow water near the shoreline. Try a dry fly pattern like a size 16 Adams or Comparadun. Keep in mind that during the hatch, nymphs will be rising to the surface to emerge into their final life stage. Often, these insects are intercepted by fish just before reaching the surface.

If you like to fish with nymphs, patterns like a Hare's Ear, Cate's Turkey, or Neme's soft-hackle patterns work very well. Also, don't forget black or olive colored Woolly Bugger for the old standby. Black or olive colored in a size 10 to 6 account for many fish caught each year.

Remember, Crane Prairie and Odell Lake are only two lakes on the Deschutes National Forest. Numerous lakes and streams offer other fly fishing opportunities.

*Paul Chan,
Crescent Ranger District.*

FOREST SERVICE OFFICES



Deschutes National Forest

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1645 Highway 20 E
Bend, OR 97701
(503) 388-2715

Bend/Fort Rock District

1230 NE 3rd St. Suite A 262
Bend, OR 97701
(503) 388-5664

Sisters Ranger District

P.O. Box 249
Sisters, OR 97759
(503) 549-2111

Crescent Ranger District

P.O. Box 208
Crescent, OR 97733
(503) 433-2234

Lava Lands Visitor Center

58201 Hwy. 97
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EMERGENCY

Deschutes County dial 911
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Dial 911

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PHOTO: TOM IRACI

Our stars shine brightly on the Deschutes National Forest. Thanks for visiting.

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No endorsement of a particular commercial service or establishment by the USDA Forest Service should be implied, nor is this list intended to be complete.

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