



WILDERNESS RECORD

PROCEEDINGS OF THE CALIFORNIA WILDERNESS COALITION

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Eat, Drink, and Be Wary

By Thomas Suk

One of the greatest feelings any wilderness traveler can have is coming across a cool, clear stream after a long hike. There's just nothing like kneeling down and dipping one's cup into rushing water for a respite from a hot, dusty trail.

But in recent years, land managers have been warning the public that water in many areas may be contaminated and should not be consumed without proper treatment. The cause of most concern is the intestinal protozoa *Giardia lamblia*. This article will explain what *Giardia* is, how it is transmitted, and how you can protect yourself (and others) from becoming infected.

Simply stated, *Giardia* is a microscopic organism which lives in the intestines of many mammals. Common symptoms include extreme diarrhea, flatulence (intestinal gas), anorexia (loss of appetite), malaise (weakness, discomfort), nausea, weight loss, abdominal distention (bloating), and cramps. What is not often understood is that many persons and animals can have *Giardia* in their systems and not become noticeably or seriously ill. It has been estimated that 2-20% of Americans may be infected, depending upon the community and age group studied. Problems occur because many persons do not know they are infected and may transmit the disease to others, and also because *Giardia* can be transmitted between humans and animals.

Giardia has a two-staged life cycle. In the intestine, it exists as a trophozoite. Trophozoites multiply and some turn into cysts. When excreted, trophozoites die rapidly, but the dormant cysts can survive for long periods in the environment (especially in water) until they are ingested by another

animal host. The cysts then "hatch" into trophozoites in the digestive system and the cycle repeats. Thus, *Giardia* can only reproduce in an animal host, and therefore cannot propagate itself in the environment.

What is important to understand is that *Giardia* is transmitted only by direct or indirect fecal-oral contact, because the infective cysts come from the feces of man and animals. This has many implications. *Giardia* may be acquired from water or food which has come in contact with fecal material. There are many ways for fecal material to reach lakes and streams: Direct deposition by humans or animals into water, and deposition near water where the cysts can be carried into the water by runoff, rising water levels, streambank erosion, or on the feet of humans or animals. Cysts may also be carried to water on the haircoat of animals who lie (or roll) in feces.

There are documented cases of people catching *Giardia* after eating food prepared by individuals who had not properly washed their hands. Any time you touch fecal material (your own or otherwise) you run the risk of infecting others if you don't take the time to clean your hands. Insects can also carry *Giardia* from fecal material to places of human contact, such as food.

Poor sanitary practices may well be an important reason why *Giardia* is more prevalent in poorer socioeconomic groups and at daycare centers. It is important that backcountry users consider this mode of *Giardia* transmission, instead of worrying solely about contaminated water. I have met outdoor enthusiasts who rarely, if ever, wash their hands in the backcountry.

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Blue Creek high country

Photo by Jim Eaton

Court Gives Red Light to G-O Road

By Tim McKay

On May 24, Judge Stanley Weigel issued a decision to permanently bar the Forest Service from road building or logging within a 17,000 acre zone in the Blue Creek high country. The decision was met with elation or bitterness depending upon the eye of the beholder.

One Forest Service memo said the ruling "jolted" the agency. Employees of the Gasquet Ranger District proclaimed they would be out of business as the zone of exclusion would block planned logging roads into Eight Mile Creek and the Crescent City and East forks of Blue Creek, watersheds the Forest Service has long sought to log.

But logging will not come to these slopes soon - if ever - as the Forest Service must first get

the Ninth Circuit Court of Appeals to agree that their case had been adjudged erroneously. Such an appeal would take at least two years, and beyond that, Supreme Court action looms years over the horizon.

EAGER TO APPEAL

At the local level, Forest Service employees are eager to appeal, and meetings have been held to discuss the possibility. The deadline for appeal is July 25th. The Forest Service had proposed to complete the last six miles of two-lane asphalt Gasquet-Orleans (G-O) Road through the Yurok, Tolowa, and Karuk sacred high country. Judge Weigel's decision found that the proposal would violate the First

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Coalition Report

By Jim Eaton

There is growing optimism that a California wilderness bill will pass this session of Congress. The bill has passed the House of Representatives for the third time, but this year Senator Alan Cranston has introduced a strong companion bill and Senator Pete Wilson is trying to develop a compromise measure.

Unlike his predecessor, S.I. Hayakawa, Senator Wilson has introduced a wilderness bill and arranged for a hearing on it. His bill is currently of two parts; the first part is the Administration's (Forest Service) RARE II recommendations, and the second part is a listing of other areas he is considering.

Senator Wilson has been receiving a tremendous amount of mail in support of wilderness. He and his staff also have been meeting with citizens on both sides of the issue.

I was part of a baker's dozen of environmentalists meeting with the Senator recently. We had a well-rounded group that included two former Resources Secretaries, and citizens representing southern California wilderness, the San Joaquin, the southern Sierra, the Siskiyou, and the Trinity County compromise position. There also were staff members of the Sierra Club, Tuolumne River Preservation Trust, Wilderness Society, and California Wilderness Coalition.

During the meeting, Senator Wilson reaffirmed his commitment to reaching a compromise on the California wilderness bill. The conservationists made it clear that vast compromises already had been made by the House and that in some areas we had already passed our bottom line.

Still, there was a feeling that a bill really might wind its way through the Senate this year. Senator Wilson is not wed to the Administration's inadequate RARE II recommendations, and his staff has indicated that he will support some of our boundaries for wilderness.

There lies the real question. If areas like the Siskiyou, or Red Buttes, or San Joaquin, or the Yolla-Bolly Middle Eel Wilderness Additions (to name but a few) are not supported by Senator Wilson, the chance for passage of a bill may fade. With the appellate court upholding the earlier decision to stop development on some RARE II lands and the court ruling stopping the G-O Road, much more land will be tied up than environmentalists are seeking to protect in the bill.

Senator Wilson did ask our group what we would do if there was no bill this year. We explained that some of these wilderness battles have been fought for decades and we have the resolve to continue defending wild lands for as long as it takes.

Update

California Wilderness Act

Senator Pete Wilson has introduced S. 1515, his version of the California Wilderness Act of 1983. A hearing on the measure is scheduled for July 28 in Washington, D.C.

In his introductory remarks Wilson said "this is not a statement of my position on this highly controversial subject; rather it is a bill designed to help focus public discussion on what is a very

complex and oftentimes confusing issue."

Wilson's measure consists of two titles. Title I endorses the Reagan Administration's RARE II recommendations, while Title II simply lists areas that the Senator acknowledges the need to consider.

Not all of the areas in the House-passed California Wilderness Act are in the Wilson bill. Senator Alan Cranston's bill, S. 5, is much closer to House version.

RARE III

California national forests are beginning to reevaluate roadless areas as a result of the court ruling against the second Roadless Area Review and Evaluation (RARE II) environmental impact statement. The court ruled only that some non-wilderness recommendations were done incorrectly but the wilderness recommendations were all right. The Reagan Administration, however, has ordered that both categories be restudied, a move environmentalists are calling RARE III.

The Eldorado National Forest is looking again at the Fawn Lake,

Salt Spring, and Poison Hole roadless areas. Only 700 acres of 3,700 acres were recommended for wilderness during RARE II.

A public meeting is scheduled for August 10 at 7:30 P.M. in the County Library in Placerville. Written comments may be sent to the Eldorado National Forest, 100 Forni Road, Placerville CA 95667 by September 1, 1983.

The Sequoia National Forest also is beginning a reevaluation. Contact them by August 20 at 900 W. Grand Ave., Porterville, CA 93257.

Mono Lake

A bill establishing the Mono Lake National Forest Scenic Area has been passed by the House of Representatives. The proposal by Rep. Richard Lehman was a compromise reached between Los Angeles city officials and environmentalists.

Lehman's original bill would have set up a Mono Lake National Monument and required studies to determine Los Angeles' water needs as well as the critical lake level

for wildlife. The study provision has been dropped. Part of the Mono Craters roadless area used by miners also was deleted from the new plan.

The Mono Lake Committee called the agreement "a major step in providing national recognition of Mono Lake."

The issue will now go to the U.S. Senate where Sen. Alan Cranston has a companion bill to the earlier National Monument plan.

Other writings by John McPhee, David Brower, and Huey D. Johnson defend the "gentle wilderness" and threatened places like Mono Lake.

Reid sets the stage for each section of the book with a few pages telling of the times and events of the period. He also precedes each selection with an introduction of the author and other interesting background information. The stories and articles blend well from one to another and give the reader a feeling of the evolution of thought about the Sierra Nevada from early times to the present.

For those of us who have been scouring libraries, bookstores, and garage sales for the writings of these authors, Reid has done us a service by placing so much material in this first anthology of writings on the Sierra.

-Jim Eaton

Book Review

A Treasury of the Sierra Nevada

A Treasury of the Sierra Nevada, edited by Robert Leonard Reid, Wilderness Press, Berkeley, \$14.95 hardbound, \$9.95 softbound.

Robert Leonard Reid and Wilderness Press have teamed up to produce a fascinating collection of writings on the Range of Light, the Sierra Nevada. Anyone who loves California's longest mountain range will be enthralled with the numerous short selections in this book.

Reid has divided his writers into six sections: the explorers, immigrants, vacationers, naturalists, mountaineers, and conservationists. The selections are short, only two to twenty pages each. It is a great volume to keep by the night table.

The book begins with Indian legends on the origin of the mountains, and continues with narratives by Jedediah Smith, John Charles Frémont, Kit Carson, Wil-

liam Brewer, and John Muir. The final explorer is Theodore Solomons who first explored the most inaccessible spot in the Sierra, the Enchanted Gorge.

The immigrant section includes the writings of John Bidwell, Jim Beckworth, and James Marshall. Stories of the Donner Party and other travellers bring to life the hardships of crossing the snowy range, and the ordeal of Moses Schallenberger, an eighteen year old who spent a winter at Donner Lake alone, is told in his own words. Tales from the gold rush days include Jack London's "All Gold Cañon," Bret Harte's "The Outcasts of Poker Flat," and Mark Twain's "The Fairest Picture" (an extremely funny story about primitive camping at Lake Tahoe).

The vacationers describe their early visits to Yosemite and other parts of the mountains, including a

Judge Says No G-O

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Amendment religious freedoms of these people. The judge's test was whether or not the public interest outweighed the impairment of the Native Americans' religious freedoms.

Weigel's historic decision concluded that the road would not serve "the claimed governmental interests," nor would it result in any increase in jobs in the region. He decided that logging Blue Creek "would not serve any compelling public interest."

DEEPLY MOVED

Weigel described at length how this Native American religious freedom case was different from those which had not prevailed in other courts. The transcript makes it clear that the judge was deeply moved by the sincerity and caliber of the Native Americans who gave testimony.

At one point an elderly Yurok woman recounted how many of her people had perished at the hands of Anglo-European invaders and how the

land was taken and the sacred sites lost. Weigel asked why these things had come to pass, and the woman replied, "they did not understand," to which Weigel replied, "you are very generous in saying that they did not understand."

If the Forest Service does appeal and the Appeals Court upholds Judge Weigel, then the decision will set a legal precedent in most western states.

Beyond the religious question, the court also found that the Forest Service had failed to comply with the National Environmental Policy Act (NEPA), the federal Water Pollution Control Act, the Wilderness Act, and the federal Administrative Procedure Act (APA). The court said the Forest Service also failed in its trust and responsibility to protect the fisheries in the Hoopa Valley Indian Reservation, which are downstream of Blue Creek.

WILDERNESS VIOLATED

The Forest Service is prohibited from logging in the 31,000-acre

Wilderness and the Citizen Advocate

The Yahi Group of the Sierra Club's Mother Lode Chapter, in cooperation with the Northstate Wilderness Committee of Chico, is sponsoring a series of outings to threatened National Forest roadless areas this summer and fall.

Entitled "Wilderness and the Citizen Advocate: Outings in the Endangered California Wilderness," the series is designed to educate the active conservationist concerning the natural history of roadless areas in Northern California and the administrative and political processes that affect them. The primary purpose of the series is to develop a constituency for each area in the planning and political process and to raise funds to protect the areas.

Participants in the series will backpack in the Huckleberry-Heart, and Chips Creek roadless areas in Lassen National Forest, the Bucks Lake roadless area in Plumas National Forest, and the Snow Mountain roadless area in Mendocino National Forest. These areas are a diverse example of the fast-disappearing roadless resource of our public lands, including low elevation foothill woodlands, deep fir forests, and high altitude glaci-

ated plateaus dotted with alpine lakes. All roadless areas visited currently are being studied by the U.S. Forest Service for their potential for wilderness designation.

Resource people such as botanists, Forest Service rangers and planning personnel, foresters, and wilderness activists will provide outdoor workshops and lead campfire discussions concerning the natural resources of each area visited and the pros and cons of wilderness designation. Participants will provide their own transportation to the trailhead, equipment, and food. A small donation per person will be used to pay for program expenses, and the remainder will be utilized for wilderness preservation campaigns.

In most cases, trip participants will gather at the trailhead or at a nearby campground on Friday evening and then backpack in on Saturday and out on Sunday. No trip will be more than moderate in difficulty, and no more than twenty miles round-trip. Pre-registration is required, and trips are limited to twenty people. For reservations and specific trip information, please fill out and mail the form below.



Doctor Rock in the proposed Siskiyou Wilderness

Photo by Jim Eaton

Blue Creek roadless area until they prepare and circulate a new Environmental Impact Statement (EIS) or supplement that evaluates the wilderness potential of the entire contiguous Siskiyou wild lands (including Blue Creek, Eight Mile Creek, and the larger Siskiyou roadless area). Weigel concluded the Forest Service had violated NEPA, the Wilderness Act, and APA in not recognizing the watersheds as a single roadless area.

In addition, Weigel blocked logging or road building on 44,500 acres which is partially developed in the Blue Creek Planning Unit until the Forest Service prepares and circulates a new EIS or supplement that "specifies effective measures to mitigate the adverse impact of proposed logging activities on water quality and fish habitat in Blue Creek." The Forest Service also must complete and make available to all interested parties studies that demonstrate that proposed logging will not violate the Federal Water Pollution Control Act or reduce the supply of salmon and steelhead downstream in the Klamath River.

In these areas Weigel drew upon a substantial body of case law developed over the past ten years. That the Forest Service has been unable to evaluate wilderness according to the intent of Congress, per the 1964 Wilderness Act, is

manifest in a string of court decisions. These include an appellate court ruling upholding the inadequacy of the Forest Service EIS on the second Roadless Area Review and Evaluation (RARE II).

BENEFIT OF DOUBT

Judge Weigel gave the Forest Service the benefit of the doubt on the question of whether or not the agency had violated the Multiple Use, Sustained Yield Act and the National Forest Management Act (NFMA). Weigel said that the Forest Service "attempted to balance competing uses for the Blue Creek Unit (and) this consideration for multiple uses satisfies the requirement of the Multiple Use, Sustained Yield Act."

Likewise, Weigel ruled with NFMA that "the balance of competing values struck by the Forest Service ... was not so insensitive to environmental concerns that it violates the NFMA."

In spite of these small points in the agency's favor, the G-O Road is at a dead end for now. Action on California wilderness in Congress could make the outcome of continued litigation moot if Blue Creek is made a part of the National Wilderness Preservation System.

Tim McKay is the coordinator of the Northcoast Environmental Center and a member of the Coalition's Advisory Committee.

YES, I AM INTERESTED IN ATTENDING ONE OR MORE OF THE "ENDANGERED CALIFORNIA WILDERNESS" OUTINGS. I WISH TO RECEIVE SPECIFIC TRIP INFORMATION ON THE FOLLOWING OUTINGS:

- | | |
|--|-----------------------|
| <input type="checkbox"/> July 29-31: Chips Creek R.A. (Soda Creek basin) | Mail to: |
| <input type="checkbox"/> Aug. 12-14: Heart Lake R.A. (near Lassen Park) | Northstate Wilderness |
| <input type="checkbox"/> Sept 16-18: Bucks Lake R.A. (Spanish Ridge) | Committee |
| <input type="checkbox"/> Oct. t.b.a. Snow Mountain R.A. (Coast Range) | 708 Cherry Street |
| | Chico, CA 95926 |

Name: _____ Phone: _____
Address: _____

More California Watt Droppings

The Bureau of Land Management (BLM) again has removed California wild lands from wilderness study. A total of 136,848 acres of land in nine areas has been deleted from Wilderness Study Area (WSA) status.

Six of the areas are in the California desert. The 68,051-acre Santa Rosa Mountains WSA and the 44,195-acre Orocochia Mountains WSA were completely eliminated. The size of the Bristol/Granite Mountains WSA was reduced by 11,200 acres, 5,280 acres was removed from the Mecca Hills WSA, 1,280 acres was taken from the Castle Peaks WSA, and the Nopah Range WSA was shrunk by 640 acres.

Elsewhere in California, the King Range WSA is 5,152 acres smaller, Frog Creek WSA lost 640 acres, and 410 acres was cut from the Slinkard WSA.

The excuse given for these latest attacks on the Wilderness Study Areas is that the mineral rights to these lands are not held by the federal government. The Interior Board of Land Appeals (IBLA) ruled last year that these so-called "split estate" lands were not required to be studied for their wilderness potential by the Federal Land Management Act of 1976.

In December, Interior Secretary James Watt dropped 123,000 acres of WSAs in California for being less than five thousand acres in size (even though adjacent to other state or federal wilderness or potential wilderness). Other areas greater than 5,000 acres and adjacent to other potential wilderness-

ses were dropped if it was determined that they did not meet required wilderness criteria on their own merits.

Some members of Congress and the Resources Agency of California have challenged the legality of Watt's earlier move, and a lawsuit was filed by the Sierra Club and the Wilderness Society.

Of the 123,086 acres dropped earlier by Watt, 14,873 acres in four areas were restored to WSA status by the BLM. These WSAs are the Benton Range (4,623 acres), Tunnel Ridge (4,623 acres), Pinnacles Wilderness Contiguous (5,838 acres), and Agua Tibia (360 acres). The last two areas had been recommended as suitable for wilderness designation by the BLM prior to Watt's dropping them. The Tunnel Ridge area is included in the California Wilderness Act passed by the House of Representatives as part of the Trinity Alps Wilderness.

Conservationists are sure to fight the latest round of "Watt droppings." The Santa Rosa Mountains WSA is critical bighorn sheep habitat that links existing state wilderness with Forest Service wild lands included in the California Wilderness Act. The Orocochia and Mecca Hills WSAs have long been considered high priorities for wilderness by desert activists.

The California Wilderness Coalition plans to ignore Secretary Watt's elimination of WSAs and will continue to work for proper studies for these areas.

Desert Conference

The fifth annual Desert Conference will be held in California for the first time this September 16-18 at Clair Tappan Lodge near Donner Summit. Previous gatherings have been held in eastern Oregon.

Desert Conference V will feature speakers, workshops, slide shows, and a field trip. Cost for the weekend, including meals and lodging, is \$47.00, but a \$10.00 registration rate is available for those who make separate camping and meal arrangements.

Speakers include Huey Johnson (former California Secretary for Resources), Bernard Shanks (author and member of the Coalition's advisory committee), Clifton Young (National Wildlife Federation Director), Charles Callison (Public Lands Institute President), and Edward Spang (Bureau of Land Management (BLM) State Director in

Nevada). State BLM wilderness coordinators and activist leaders from Nevada, Utah, Oregon, Idaho, and California also will be speaking.

Workshops will cover a wide range of subjects, from legal issues and political organizing to women in the wilderness and arts. BLM rivers and wild lands will be illustrated in shows, and Earth First! and Johnny Sagebrush will be attending.

The \$47.00 fee includes meals, lodging, and registration from Friday evening through Sunday noon. A special \$16.00 fee is available for those staying elsewhere but who would like to have Saturday dinner at the lodge.

Contact Karen Tanner, 1640 Davidson, Reno NV 89509 (702) 322-5215 for registration or more information.



Pit River Canyon WSA

Photo by Northeast Californians for Wilderness

Pit River WSA

The 11,675-acre Pit River Canyon Wilderness Study Area is a rugged, spectacular, biological oasis in northern Lassen County. It fully qualifies for wilderness protection with rich raptor, archeological, riparian, wild river, botanical, wildlife, and recreational values. And yet the Bureau of Land Management (BLM) proposes to slash this already small area in half to protect only 5,880 acres as wilderness, a wilderness only Interior Secretary James Watt could love. The other 5,790 acres would be released for development.

The reason BLM gives for deleting these areas from the wilderness is that they would be "extremely difficult to manage." In truth, the reason is this: the two ranchers with BLM grazing privileges on our public land do not want wilderness, and BLM is timid about making ranchers unhappy. So BLM consulted the two ranchers in drawing the

two wilderness boundaries, but apparently consulted no environmental group.

BLM needs to hear from the public on several points, primarily that the 5,880-acre area is too small, so small that it would become "extremely difficult to manage." In addition, the three areas on the north should be restored to the wilderness (the Muck Valley area, the Upper Canyon Area, and the Lower Canyon Area) along with the area on the south (the Clark Valley area) to make an 11,000 acre wilderness as proposed by conservationists.

These additional areas would provide a buffer zone which is needed to:




- 1) protect nesting prairie falcons, golden eagles, and hawks from vandalism and disturbance;
- 2) protect the core wilderness from off-road vehicle intrusion;
- 3) protect the sensitive archeological resources; and
- 4) provide a larger area for wilderness recreation and solitude.

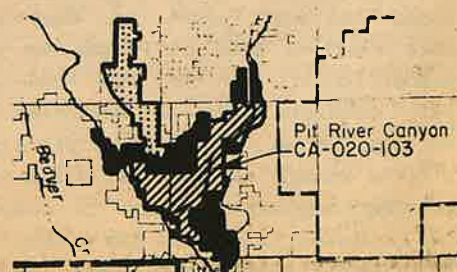
A bigger Pit River Canyon Wilderness is a better Pit River Canyon Wilderness.

-Northeast Californians
for Wilderness

The Incredible Shrinking Wilderness

In their planning efforts, the Bureau of Land Management (BLM) seems intent on reducing any potential wilderness area down to the absolute minimum acreage. For example, the Pit River Wilderness Study Area is probably one of the most popular BLM Study Areas in northeastern California, and it is certainly one of the most viable in terms of the uses and resources listed for consideration in the Wilderness Act. And yet the BLM has reduced its acreage at every phase of the inventory process. Of the original 15,235 acres inventoried in 1978, over half (9,355 acres) has been deleted for obscure BLM management purposes. The Susanville BLM District is now recommending only 5,880 acres for wilderness.

-  3560 acres deleted in 1978 Inventory
-  5795 acres recommended for deletion in 1983
-  5880 acres recommended for Wilderness in 1983



BLM Says No to Wilderness

The Bureau of Land Management (BLM) has issued a draft environmental impact statement for two Wilderness Study Areas (WSAs) in northern California. Neither the 18,690-acre Timbered Crater WSA or the 11,632-acre Lava WSA are recommended for wilderness designation by BLM.

A public hearing on the wilderness recommendations will be held at the Redding Civic Auditorium on July 20, 1983, at 7:30 p.m. Written comments will be accepted until September 1, 1983.

The BLM identified the Wilderness Study Areas during California's statewide wilderness inventory. Until Congress decides whether or not to designate these WSA, BLM must manage them to protect their wilderness values.

Alternatives considered for the Timbered Crater WSA are: all wilderness, partial wilderness, multiple-use, and limited development/no action, which is the proposed action.

Two alternatives are considered for the Lava WSA: all wilderness and multiple use/no action, which

is the proposed action. The BLM apparently does not understand that wilderness is a part of multiple-use so that their labels are incorrect.

In their analysis, BLM determined that there would be no significant effects from implementing any of the alternatives. According to the BLM, "wilderness designation would guarantee the continued preservation and enhancement of wilderness values, while non-wilderness alternatives would not." Even so, BLM refused to recommend either of the two WSAs for wilderness.

Ironically, most of the Timbered Crater WSA is in the California Wilderness Bill now working its way through Congress; the WSA is adjacent to three Forest Service areas recommended for wilderness designation by the President. Members of Congress apparently rate the wilderness values of the area higher than BLM does.

The California Wilderness Coalition will speak on behalf of wilderness at the public hearing and will be issuing a Wilderness Alert on this issue.

Lava WSA

The Lava WSA is located about one-half mile southeast of the town of Fall River Mills in eastern Shasta County. The WSA is bounded by private lands on the north; a road and private lands on the northeast, east, and southeast; and public lands and a gravel-surfaced county road on the south. The western portion borders private land.

The unit is composed entirely of BLM-administered lands with no private inholdings. The total area is 11,632 acres.

The general topography of the WSA consists of an old lava flow dominated by a prominent butte. The butte is located on the southern end of the unit and rises 500 to 700 feet above the general elevation of the surrounding terrain. The ground surface is rocky and broken with buttes and broad depressions formed as a result of the cooling of lava flows.

Several lava tubes and caves are found near the southern boundary and are part of an existing recreation site.

Vegetation consists of sagebrush, manzanita, and oak brush with scattered juniper and digger pine. One federally-proposed threatened and endangered plant, hedge-hyssop (*Gratiola heterosepe-*

la) is found in the southwest portion of the WSA.

The area has negligible mineral potential except for volcanic cinders and lava rock used in construction and for decorative purposes. The geothermal resource potential is considered to be low. The Minerals Management Service has further determined that "the lands are without value for other leasable minerals."

There are no mining claims in the area. Two oil and gas leases have been issued in the northernmost and southernmost portions of the WSA.

Three primitive campgrounds within the WSA are no longer maintained due to lack of funding and low level of use. The area receives little use from ORV operators due to the rugged terrain. Several caves and lava tubes found within the area attract special interest recreationists, but traditional recreational use is light, occurring mostly in the form of hunting, camping, and hiking.

Only one to two percent of the area has been inventoried for cultural resources.

The southern half of the WSA is classified as crucial deer winter range, while the rest of the area is general deer winter range.



Timbered Crater WSA

Photo by Jim Eaton

Timbered Crater WSA

The Timbered Crater Wilderness Study Area (WSA) is located in eastern Shasta County approximately ten miles north of Fall River Mills. It is about six hours driving time from the Sacramento metropolitan area, four hours from Reno, and eight hours from the San Francisco area.

The WSA is bounded on the northeast by private agricultural lands in the Little Hot Springs Valley. The southern boundary lies adjacent to the State of California's 5,890-acre Ahjumawi-Lava Springs State Park. The remaining portions are adjacent to portions of the Shasta National Forest administered by the Lassen National Forest.

Three portions of the adjacent Forest Service lands were recommended for wilderness designation by the President as a result of the Roadless Area Review and Evaluation (RARE II). Since these small pieces of recommended wilderness make no sense without the central Timbered Crater area, the entire package is proposed for wilderness in legislation already passed by the House of Representatives and in Senator Alan Cranston's companion bill, S. 5.

The dominant feature in this area is the large crater on the west boundary. It lies mostly outside the unit with only the eastern edge on Bureau of Land Management (BLM) lands. Its slopes are covered with grasses, manzanita brush, and ponderosa pine. The remainder of the unit consists of a large lava flow, which has not yet developed deep soils and is still rocky, rough, and difficult to traverse. The general topography of the lava

flow is characterized by low buttes, shallow depressions, and drainages.

Natural vegetation on the lava flow consists of ponderosa pine, digger pine, oak, juniper, and dense to scattered mountain shrub. Three Federally proposed threatened and endangered plants are found on the eastern perimeter of the WSA: Eryngium (*Eryngium mathiasiae*), Long-haired Star tulip (*Calochortus longebarbatus*), and Slender Orcutt Grass (*Orcuttia tenuis*). The WSA is within the Sierra Forest Province-western ponderosa pine ecosystem.

A stand of Baker cypress is found within the northern portion of this unit, of which 1,148 acres were officially designated as a natural area in 1965. The natural area designation was established to protect the Baker cypress, a species with limited range and very specific site requirements.

The U.S. Bureau of Mines and U.S. Geological Survey prepared a Mineral Land Assessment Report for the WSA. The report concludes that the area has little mineral potential except for the flat lavas used in building construction. The geothermal potential of the area also is considered to be low.

Previous field work and studies have proposed a trail system to feature and provide access to the natural attractions within the area. The adjacent lands to the south of the unit were purchased by the State of California for the purpose of recreational development around Big Lake (Ahjumawi-Lava Springs State Park).

Don't Drink the Water!

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Many of them feel that soap produces unacceptable impacts on wildland ecosystems. In any event, if you are not going to soap up, watch out for others by being careful about where you put your hands. (If you do use soap, dispose of all washwater in deep soils far away from water. This applies to biodegradable soaps also.)

But how can you tell if water is contaminated with *Giardia*? You can't. If there are (or have been) humans or animals upstream of where you plan to drink, you can assume that the water may contain cysts of *Giardia*.

If you suspect *Giardia* contamination, there are methods of water treatment which can reduce your chances of becoming infected. You can boil the water, filter it, or treat it with disinfectant chemicals. All of these methods must be used carefully to be effective against *Giardia*.

It has been shown that a water temperature of 100°C will kill *Giardia*. Thus, if you bring water to a boil at sea level, you are probably safe. However, as you increase in altitude, water will boil at lower temperatures, and therefore it is impossible to reach 100°C. At higher altitudes, it is a good idea to boil water for a few minutes for an added margin of safety. Some authors have claimed that water should be boiled for as much as 15 minutes at 10,000 feet, but precise data on this subject is lacking.

Many portable water filtration devices are presently available which are claimed to be effective against cysts of *Giardia*. It is a good idea to shy away from the cheaper models such as the "pocket straws" and pour through types. Their pore sizes are probably large enough to pass *Giardia* cysts, and their reliability is currently being questioned by experts. The

problem with filters is that the pore size must be so small to eliminate *Giardia* that some type of pump is required, which makes them expensive.

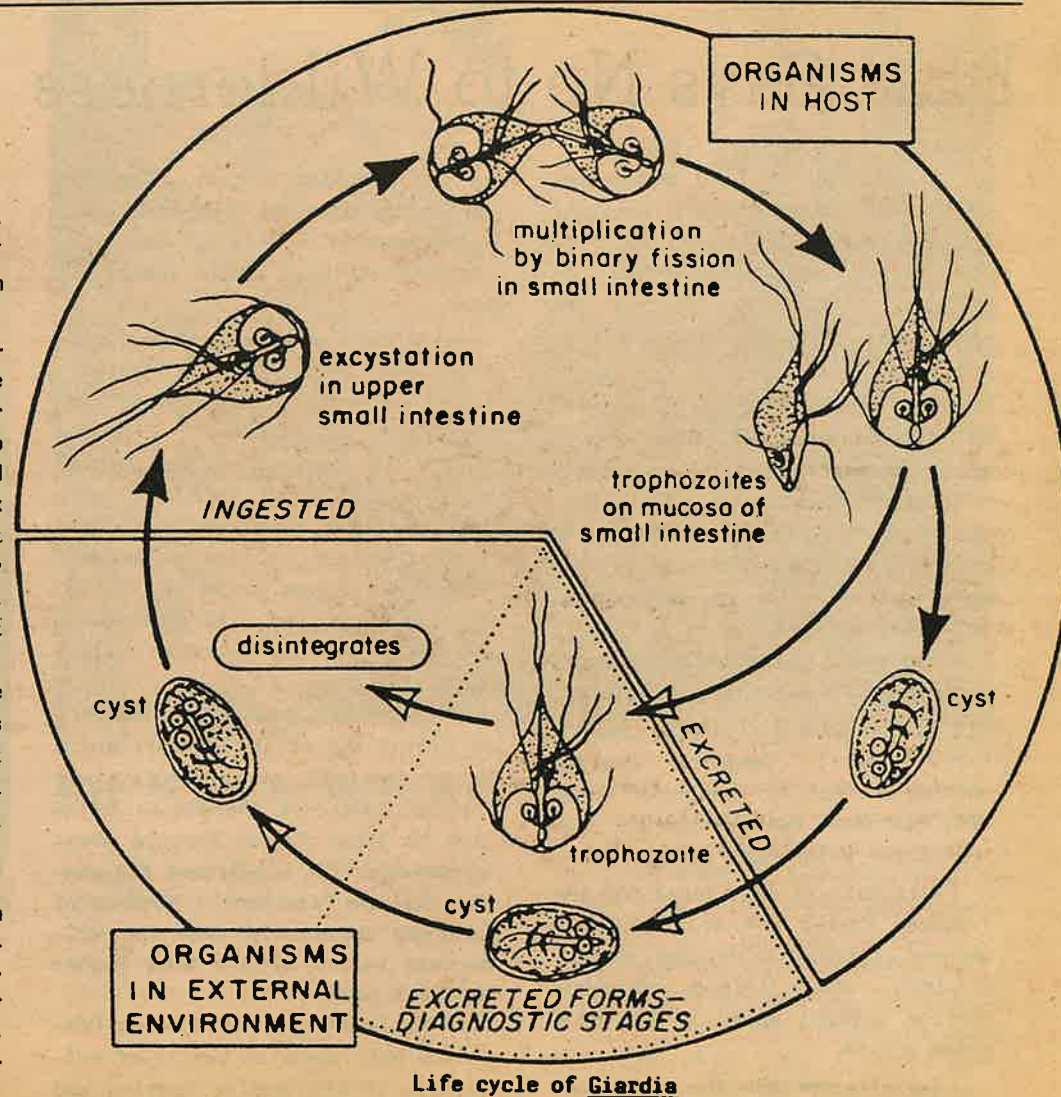
A good combination of reliability and convenience is found in the Swiss-made Katadyne Pocket Filter (available through Katadyne, c/o 4515 Willard, Chevy Chase, Maryland 20015 and Quality, Inc., P.O. Box 1871, Boulder, Colorado 80306). It weighs only 23 ounces but usually costs over \$150. With proper care, the Katadyne Pocket Filter can last for many years. The First Need™ filter is similar to the Katadyne except that it is lighter and costs only \$50 initially, but you must buy replacement filters which cost \$25 each (available through General Ecology, Inc., 151 Sheree Blvd., Lionville, Pennsylvania 19353). Both of these filters rely on a hand pump and are capable of filtering about one quart of water per minute. The useful lifetime of these filters can be extended by using a larger pore filter ahead of the finer filter to prevent premature clogging. These filters are probably the most convenient way to treat your drinking water. They eliminate the need for boiling (carrying extra fuel, building fires, etc.), or chemical purification; however, they are expensive.

Treatment with chlorine or iodine chemicals is the third method



of water treatment widely used in the outdoors. These chemicals can kill *Giardia*, but their effectiveness depends upon many factors, such as water temperature and pH, the chemical concentration, and the time of contact before you drink the water. Many manufacturers provide tablets with premeasured chemical doses. DO NOT try to increase the effectiveness of the chemical by adding more than the recommended dosage. If you want an extra margin of safety, heat the water in the sun or your sleeping bag, and let the chemical work for as long as you can before drinking. Contact times listed by manufacturers should be considered absolute minimums.

Personally, I don't like to use chemicals because of all the uncertainty, hassle, and bad taste. But if you can't afford a good filter and refuse to carry a gallon of fuel or cord of oak to boil your



Life cycle of *Giardia*

water, you may want to use chemicals. Just remember a few things: heat and long contact times increase your chances of killing *Giardia*, and the shelf life of many tablets is short. Exposure to air and heat reduces their effectiveness. If you use Halazone, for instance, you may want to bring a new, unopened jar on each trip. Tablets of the compound tetraglycine hydroperiodide (TGHP) have longer shelf lives, but you never know just how long they will remain effective. You can also use pure iodine crystals to treat water. The advantage is that they are very stable and can be stored for long periods. The disadvantage is that they are poisonous if you ingest too much. Crystalline iodine must be used with such great care that I will not outline the procedure here. (If interested, write to the California Wilderness Coalition for a copy of "Water Disinfection in the Wilderness: A Simple, Effective Method of Iodination" by Fredrick H. Kahn and Barbara R. Visscher in the *Western Journal of Medicine*.)

Aside from water treatment, there are ways to reduce the potential for the continued spread of *Giardia* in wildland areas. Human waste should be buried far away from water. Pets should be kept out of water (or left at home) and their feces should also be buried far away from water. Lastly, be conscious of your own actions which may result in direct or indirect fecal-oral contact.

So go ahead and eat and drink, but be wary of the many ways in which pathogenic organisms such as *Giardia* can reach your mouth. Be wary also of the abundance of misleading information and manufacturers' claims on the effectiveness of many water treatment methods. Feel free to contact me if you have any questions or comments.

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Thomas Suk is a wilderness ranger for the U.S. Forest Service and can be reached at P.O. Box 1164, Pincrest, CA 95364.

Think You Have the Bug?

If you experience symptoms which lead you to believe that you might have *Giardia*, there is a good chance that you will have to seek treatment. Tell your doctor why you think you may be infected (i.e., drinking untreated mountain water ten days ago).

You will want to discuss the various treatment chemicals with your physician, since all drugs used to cure *Giardia* have significant side effects.

Wilderness Wildlife

Flammulated Owl

By Dennis Coules

The flammulated owl (*Otus flammeolus*) is most often encountered in California in ponderosa pine forests at mid-elevations in the Sierra. It is a tiny owl that feeds largely on insects, spiders and other invertebrates.

As with most owls, *flammeolus* is more likely heard than seen. Its habit of remaining concealed and its short calling season once led to the conclusion that the flammulated owl was rare in California.

Best success in locating this owl goes to those who successfully imitate its hoots. Listen for single, short, resonant hoots repeated continuously at two to eight second intervals. Calling activity is greatest in late May and June.

RANGE AND HABITATS

The flammulated owl breeds in the mountains west of the Great Plains from Vera Cruz, Mexico to southern British Columbia. Its winter range extends from Mexico to Guatemala.

In California the breeding range is concentrated at the higher parts of the yellow pine belt where ponderosa pine, sugar pine, black oak, incense cedar, douglas fir and white fir are the forest dominants. The yellow pine community is best developed in the Sierra, where it ranges from extremes of 1200 to 5500 feet elevation in the north and 2500 to 9000 feet in the south.

This owl also breeds infrequently in lodgepole pine-red fir associations, and specimens have been taken at 9500 feet in the southern Sierra Nevada.

The flammulated owl is scarce in the moist, fog-influenced north and central coast regions, but is present in Siskiyou County and the interior portions of Trinity County, as well as the Cascades, Warner Mountains and interior portions of the Santa Cruz and Santa Lucia Mountains. Isolated records correspond with isolated stands of ponderosa pine near Ben Lomond and Bonny Doon. The bird is common in the San Bernardino and San Gabriel Mountains, and has recently been discovered on Mount Palomar. A single breeding female is recorded from Clark Mountain in the East Mojave, where a small patch of white fir occurs.

At elevations below the yellow pine belt, breeding of flammulated owls has not been observed. Here the related screech owl (*Otus asio*) plays a similar ecological role.

BEHAVIOR

The flammulated owl is thought to be highly migratory and has only been recorded in California from April 19 to October 31. Migration patterns within the state and winter habitats are essentially unknown. Only one winter sighting of flammulated owls exists in California (in 1885).

Although some researchers suggest that this species may overwinter in California in a torpid state, there is no direct evidence to this effect. Lack of geographic variation in the species also points toward a migratory habit.

The flammulated owl often takes

its prey from the air with its beak, waiting on a perch until a moth or other insect flies by. Sometimes it will search for and pounce on small creatures on the ground or foliage.

The small size of flammulated owls may make them suitable prey for larger owl species. One observer noted that male flammulated owls



are silenced by spotted owl hoots, and females respond to them with alarm calls.

The territorial behavior of male flammulated owls has been described as "mild and unaggressive." Territories are advertised by incessant hooting from song perches in tall, densely foliated trees. Territories may overlap in a

semi-colonial fashion.

CONSERVATION STATUS

The flammulated owl's preferred habitat, yellow pine forests, has been severely disturbed by both logging and recreational/residential developments in California. Apparently this bird can utilize second-growth forests as it has been commonly observed in them. However, breeding pairs require nest cavities previously constructed by flickers in snags or larger, soft-wood trees.

The flammulated owl was once considered to be rare, but at least one study in 1974 concluded that it is probably the most common owl in the Sierra Nevada in the area of its optimum habitat. Determination of population densities is complicated by the fact that this bird may congregate in small, dense populations during the breeding season instead of spreading out evenly over optimum habitat.

Due to its migratory behavior, the continued existence of this owl in California also depends on the maintenance of suitable habitat in its little-known winter range in Mexico and Guatemala. This may be the most critical factor for the survival of the flammulated owl.

FURTHER READING

General information may be found in Karalus and Eckert *The Owls of North America* (1974).

Dennis Coules is the California Wilderness Coalition's consultant for wildlife and desert issues.

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PURPOSES OF THE CALIFORNIA WILDERNESS COALITION

...to promote throughout the State of California the preservation of wild lands as legally designated wilderness areas by carrying on an educational program concerning the value of wilderness and how it may best be used and preserved in the public interest, by making and encouraging scientific studies concerning wilderness, and by enlisting public interest and cooperation in protecting existing or potential wilderness areas.

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