



WILDERNESS RECORD

PROCEEDINGS OF THE CALIFORNIA WILDERNESS COALITION

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No. 1

Lassen and Shasta Regions

Geothermal Exploration in Wilderness



Mt. Williamson in the Southern Sierra is prime bighorn sheep habitat

Photo by Bob Schneider

Snowmobiles Invade Lassen Park

by Steve Evans

In a cloud of blue smoke stinking of gasoline, snowmobiles roared into Lassen Volcanic National Park on January 1st with the full approval of the Interior Department and the National Park Service.

In mid-December, Park Service Regional Director Howard Chapman decided to open a nineteen mile stretch of the Lassen Park main road. The decision was the culmination of an environmental assessment conducted by the Service. Public comments on the assessment were ten-to-one in opposition to snowmobile use.

Snowmobile routes in Lassen Volcanic, Yosemite, and Sequoia-Kings Canyon national parks originally were proposed by the Park Service after Reagan administration officials. Probably because of the national name recognition with the other two parks, only Lassen Volcanic was selected for the snowmobile "test."

The decision will allow snowmobile use on a segment of

the snow-covered Lassen Park main road from the Manzanita Lake entrance to Kings Creek meadows. Snowmobiles will be allowed during the first seven days of each winter month for a "trial" one year period.

Cross-country ski enthusiasts and snowshoers protested the decision on the grounds that snowmobiling is incompatible with the essentially "wilderness" oriented recreation on non-motorized snow travel. Over 7,000 skiers use the park road annually. The decision has polarized even the most conservative elements of local rural communities who feel that the integrity of the National Park System is under attack.

Several parks in the U.S. currently allow snowmobile use on designated routes. Such use in California, however, has been prohibited since 1974 due to widespread public opposition.

The Sierra Club, in consultation with other environmental groups, is considering litigation against the decision.

According to Mike Sherwood, staff attorney for the Sierra Club Legal Defense Fund, the Lassen snowmobile decision is a clear violation of the National Environmental Policy Act. The decision represents a significant revision of the Lassen Park management plan and its Final EIS which prohibits snowmobile use. In the teeth of major public opposition and without supporting data of environmental impacts and alternatives, the decision represents a major violation of federal law.

Although Chapman currently is taking the heat for the decision, conservation activists believe that Interior Secretary James Watt was the actual decision maker in this issue. Watt is an avid snowmobiler who is planning a winter snowmobile excursion in Yellowstone National Park.

Steve Evans is active with the Northstate Wilderness Committee, Butte Environmental Council and is a CWC Director.

Regional Forester Zane G. Smith has directed that geothermal leases be issued for national forest lands in Northern California, including wilderness areas and lands proposed for wilderness designation.

Smith approved environmental assessments for the Lassen, Klamath, and Shasta-Trinity national forests. He determined that "... geothermal activities can be accommodated without undue impacts on other resources and without serious environmental consequences."

Areas to be leased include the Thousand Lakes Wilderness, proposed additions to the Lassen Volcanic National Park and Thousand Lakes wildernesses, the proposed Castle Crags, Mt. Shasta, and Timbered Crater wilderness areas, and the Girard roadless area (McCloud River).

The National Park Service has expressed concern that drilling on adjacent forest lands could affect the popular geothermal features inside the national park.

The Girard roadless area and part of Mt. Shasta are under injunction from development in a lawsuit brought by the State of California. The proposed wilderness areas and additions are included in the wilderness legislation passed by the House of Representatives and introduced in the Senate by Sen. Alan Cranston.

The proposed geothermal leases follow a proposal to allow oil and gas leasing in the Ventana and Santa Lucia wilderness areas and the decision to allow snowmobiles inside Lassen Volcanic National

Park.

"Here again the Reagan Administration is needlessly trying to exploit our wild lands," said Jim Eaton, executive director of the California Wilderness Coalition. "The tens of thousands of acres in our forests already roaded and logged should first be explored, not our wilderness areas," he added.

Eaton agreed with concerns of National Park Service officials that exploration could affect the hot springs, mud pots, and fumaroles inside the national park. "What will the next step be, to drill at Bumpass Hell and cap Old Faithful Geyser?" Eaton asked.

The mining and energy industries are pushing hard to open existing and proposed wilderness areas to geothermal, oil and gas leasing, and extend the 1984 deadline for locating hardrock mining claims. Industry supporters recently introduced legislation to open wilderness areas to geothermal leasing. Representative Phillip Burton has responded by writing a bill to ban all mining in wilderness areas, including geothermal.

BULLETIN

The California Wilderness Coalition has just learned that the Inyo National Forest has released a draft environmental assessment for geothermal leasing in the Mono-Long Valley area. The proposed lease areas include the Mono Craters roadless area and a portion of the San Joaquin roadless area. Comments are requested by February 8, 1972.



Dennis Renault, The Sacramento Bee

Coalition Report

By Jim Eaton

There is nothing like coming back from a holiday vacation and finding a notice that postal rates are increasing more than 50%! So much for our 1982 budget.

There was a plan to raise non-profit organizational mailing rates slowly so by 1987 the small subsidy would be phased out. The U.S. Postal Service, never slow when it comes to raising rates, made the jump during the first week of January.

As a result, the cost of sending you this issue of the Record has climbed from 3.8¢ to 5.9¢. While that doesn't sound like a big hike, when you multiply it by the tens of thousands of pieces of mail we send each year, this translates into real dollars.

To fight this and other inflationary costs, in the next few weeks we will be asking

you for a special donation. This fund appeal really is necessary for us to operate. Best of all, the new tax laws will allow everyone who contributes to deduct a portion of the donation from his or her taxes, even if you don't itemize your deductions.

You also can help by buying some of our new CWC T-shirts. Get one for yourself and others for gifts.

We finally have expanded into the rest of our room, here in the Plumshire Building. No longer does everyone have to stand up when someone wants to squeeze by. Our files are coming out of mothballs, and we have room to layout our newspaper and work on other projects.

A special thanks to all the contributors to this issue of the Wilderness Record, and a special thank you to Mike Nolasco who

worked through his lunch breaks to complete to pie charts seen on this page.

Our newest business sponsor is Genny Smith Books of Mammoth Lakes. Many of you may know Genny through her books such as The Deepest Valley and Mammoth Lakes Sierra or from her work on the California Desert Advisory Committee. Genny has long fought for the San Joaquin and other High Sierra wilderness areas and for preservation of the California Desert. We thank her for her generous donation.

Two new groups have joined the California Wilderness Coalition. Natural Resources Defense Council, the San Francisco based organization, and the Morro Coast Audubon Society have joined our growing ranks. Welcome!

This issue of the Wilderness Record was made possible by a donation from Anne and Bob Schneider of Davis. Thank you, Anne and Bob!

Coalition in Action

CWC Meets Watt

Coalition President Bob Barnes had the honor (?) of meeting with Interior Secretary James Watt during Watt's trip to the San Joaquin Valley last December. Also at the half hour meeting was Bob DeNike of the Kaweah Group of the Sierra Club, and Visalia residents Maya Ricce, Dave Ogden, and Dr. Peter Cummings.

Last fall Watt announced that he would no longer meet with "hired guns" of environmental groups. All the participants of this meeting were volunteers.

According to Bob Barnes, Watt was evasive with his answers. He either said he had nothing to do with a particular decision, challenged the source of conservationists' facts, or just outright lied. "He was very smooth politically," Bob reported.

"If our information came from the Sierra Club national headquarters or even from Senator Alan Cranston's office, Watt told us we'd better check our facts again because these sources are known for their inaccurate statements," Bob said.

When asked about the then pending decision to allow snowmobiles in California's national parks, Watt told the group that the decision rested "with the local park officials." Since all three park superintendents reportedly opposed snowmobiles in their parks, few environmentalists believe this assertion.

"My general impression is that he was a nice guy," said Bob DeNike of Watt. "But I'm

sure he was trying to play on our emotions and our consciousness."

How We Spend Your Money

Last year the California Wilderness Coalition raised \$24,783.58. This was \$9000 more than the income for 1979, CWC's previous high year.

One quarter of our income is derived from membership dues, and our new member drive netted nearly as much money as renewals. The biggest income category is that of donations; your extra \$5, \$10, \$15, or \$500 really does make a difference to us! As you can see, the CWC depends on your membership for our existence.

Another quarter of our 1981 income came from two grants: the Packard Foundation helped us out with a starter grant at the beginning of the year, and Russ Shay of the Sierra Club helped us along for working on wilderness issues in the California desert.

Where did your money go? Aside from staff salaries, most of it seemed to go to the U.S. Postal Service. The Wilderness Record, Wilderness Information Service, wilderness alerts, membership packets and renewals, and new member mailings make the Coalition a major supporter of the postal system.

The majority of our money is spent on the wilderness issues you read about in the Record. Desert wilderness proposals, small hydro threats, national forest wilderness legislation, forest planning, and coalition building were our main projects in 1981.

A quarter of our income

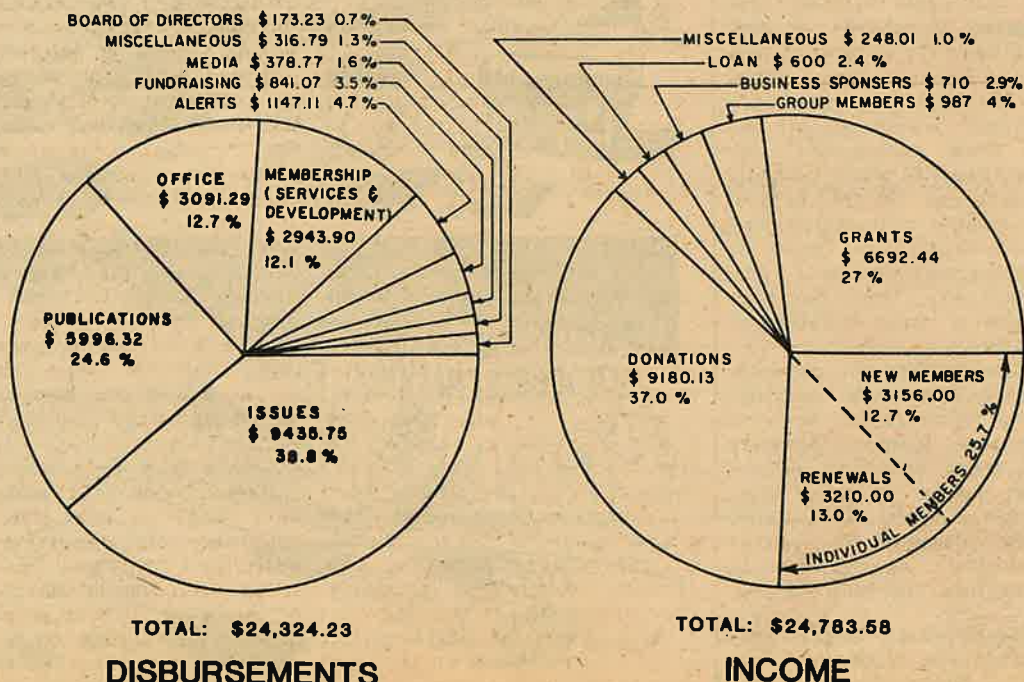
supports our publications programs, primarily the Wilderness Record and the Wilderness Information Service. Typesetting, printing, and postage costs jumped last year, but using our own computer for typesetting should help take the sting off the latest postal increase.

Maintaining an office does cost us about \$3,000 a year. Rent, telephone, supplies, and part of the daily routine of processing our mail adds up quickly.

It costs about an equal sum to maintain our membership and look for new members. At 20¢ a letter, renewals, new member packets, and requests for information have us licking stamps daily. Fortunately, dedicated volunteers and board members ease the burden of our administrative work.

To survive in 1982, the California Wilderness Coalition will need to raise at least \$30,000. We plan to do this by reaching out to more new members, organizations, and sponsors while counting on your continued support and generosity. We are searching for grants to improve the Wilderness Record and develop a series of professional slide shows, and we hope to generate income from the sales of our new T-shirts and other items.

We believe that our "no-frills" approach to spending your money on the preservation of wilderness meets with your approval.



Graphic by Mike Nolasco

Oil and Gas Leasing

Perhaps the "hottest" wilderness issue before Congress last fall was the question of oil and gas leasing in wilderness areas.

Following the realization that oil and gas leases had actually been issued in the Capitan Mountains wilderness area in New Mexico without any environmental study or notification of Congress, the House Committee on Interior and Insular Affairs reached an agreement with Interior Secretary James Watt which created a moratorium on any lease issuance in wilderness areas until June 1, 1982. Watt also wrote the committee stating that he would give the committee 30 legislative days notice before issuing any leases in the future and agreeing to do an Environmental Assessment or an Environmental Impact

Statement on such proposals.

The moratorium is designed to give the committee an opportunity to figure out how to handle future lease questions in wilderness areas. And, in fact, Rep. Phillip Burton has already introduced H.R. 5282 which would withdraw from oil, gas, and geothermal leasing and from hardrock mining the National Wilderness Preservation System, all Forest Service "wilderness" recommendations and "further planning" areas, and Bureau of Land Management wilderness study areas. While the Burton bill may offer the most protection for areas conservationists are concerned about, and other members of the House Interior Committee expect legislation to emerge along these general lines, the final form such legislation may take is unclear at this time.

Wild Kern Supported

Over 100 people attended the public meeting held last December in Kernville on the wild river proposal for the Kern River. Almost all individuals testifying spoke in favor of the Forest Service recommendation that 78.5 miles of the North Fork Kern River be designated

by Congress as "wild."

Written comments on the proposed wild river were accepted until January 19th. Although there are several hydroelectric sites along the river, widespread public support for a wild Kern River are expected to prevail.

Hearing Sparsely Attended

About 50 people attended the wilderness hearing for wilderness study areas in eastern San Diego County. The Bureau of Land Management (BLM) is proposing wilderness designation for two of five roadless areas adjacent to Anza-Borrego Desert State Park. Few people at the hearing spoke against wilderness, although two individuals asked that a road into the Sawtooth

Mountains be excluded from wilderness.

Conservationist Frank Norris asked that the Spencer Ranch area of the Sawtooth Mountains be added to that wilderness proposal, and that BLM recommend the Table Mountain wilderness study area.

After reviewing written comments, BLM is expected to make final their recommendations on the five wilderness study areas.

T-Shirts

Why doesn't the California Wilderness Coalition have T-shirts, members have long asked. Well, due to the diligence of CWC Director John Hooper, you now can order your very own CWC T-shirt!

Susan Emerson took our logo and designed a good-looking, three color emblem. Black mountains are outlined beneath a blue sky, with yellow sand dunes in the foreground. KEEP IT WILD rings the top of the logo, with the CALIFORNIA WILDERNESS COALITION beneath.

T-shirts are 100% double knit cotton, and are available in white, tan, light blue, and yellow. Sizes are S, M, L, and XL. \$ 7.00 to CWC members, \$ 8.00 for non-members (tax included). Please add \$ 1.00 postage; 50¢ for each additional T-shirt.

California Wilderness Coalition
P.O. Box 429
Davis, California 95617

Sierra Forest Plan Issued

The long-awaited "Forest Land and Resource Management Plan" for the Sierra National Forest has been issued. Wilderness does not fare well with this proposed plan.

Despite numerous color maps, charts, and graphs, the documents are nearly incomprehensible. As a result, a more detailed article will be in the March-April Wilderness Record. Deadline for public comment on the plan is March 26, 1982.

The 1,275,152-acre Sierra National Forest currently has 300,341 acres of wilderness, including portions of the John Muir and Minarets wilderness areas and the recently designated Kaiser Wilderness. The proposed Monarch Wilderness and three areas recommended for wilderness in the Roadless Area Review and Evaluation (RARE II) process would add another 82,878 acres of wilderness to the forest.

Four areas, totaling 53,000 acres, were designated as "non-wilderness" during the RARE II process, and thus they are not even considered in this forest plan. A part of the San Joaquin roadless area, 84,900 acres, also was declared "non-wilderness," but due to the State of California's lawsuit on

roadless areas it is considered a "further planning" area in the plan. Recommendations for four other "further planning" areas totaling about 160,000 acres are part of the plan.

So with more than 240,000 acres of potential wilderness up-for-grabs, how much does the Forest Service recommend be designated as wilderness? About 23,000 acres.

Parts of the San Joaquin and Kings River roadless areas are proposed to be added to the John Muir Wilderness. None of the 115,110-acre Dinkey Lakes roadless area or the 6,850-acre Mt. Raymond area (adjacent to Yosemite National Park) are recommended for wilderness designation.

Also, the proposed action would log the Pincushion area of the San Joaquin roadless area and much of the Rancheria roadless area.

The Sierra National Forest is the first in California to issue its forest plan. Other forests will be issuing their plans in the coming months. If the Sierra plan is any example, millions of acres of roadless areas are in deep trouble.

After we disentangle this document, the California Wilderness Coalition will send a Wilderness Alert to active members.

You Can't Blame Wilderness

Causes of the Lumber Slump

by Tim McKay

While many of the North Coast's unemployed timber workers reaped Redwood Park benefits, thousands of others in the Pacific Northwest were left without a safety net at year's end as the lumber industry - unable to sell wood products - faced a major depression.

Timber-dependent communities, accustomed to the hyperbole surrounding environmental regulations on the industry, were caught

unprepared by a housing slump triggered by bank deregulation and high interest rates, as well as the impacts of competition from foreign timber producers and the end of 25 percent monies from Forest Service timber sales.

In human terms, the industry depression meant that at one point nearly two-thirds of the timber workers in the region were out of work or on short time.

At the national level, the policy debate reveals a lack of consensus over what to do about the high volume of timber sold but still uncut on National Forests. In Oregon alone \$3.6 billion worth of public timber remains under contract.

How Contracts Work

Typically, public timber is offered for sale through competitive bid and sold to the highest bidder, who then must

deposit a small portion of the purchase value of the timber. The balance comes due when the timber is cut and then the Forest Service dispenses 25 percent of the gross receipts - in lieu of property taxes - to the counties which contain the National Forest for use in roads and schools.

The timber purchaser has four to six years to log the timber and pay the full purchase price, depending on the contract.

The rub for industry has come in the speculation over what lumber prices would be in four to six years. The assumptions years ago about bullish housing markets have turned to a bust for the speculators, the lumber workers who expected to log, and the counties which expected their share of the timber monies.

The federal government, already having granted one-year extensions to timber purchasers who would be hurt by cutting trees today, recently added another two-year extension without so much as a public hearing.

This action, according to lumber analysts at *Random Lengths*, a highly respected lumber magazine, "is expected to result in more shutdowns in the West." The move by Assistant Secretary of Agriculture John Crowell was also blasted by many in the industry as an unfair subsidy to those who speculated on timber and guessed wrong.

Pay or Default

Without the extensions, those holding timber contracts must cut the trees and pay what they bid, or default. In a default situation the government agency would resell the timber, and the original purchaser would be liable for the difference between the old and new purchase price if it is lower than the older.

As for what to expect ahead in the lumber industry, opinions differ. Local Congressman Don Clausen expects things to "pick up by 1983-84."

Portland lumberman John Hampton expects things to get worse, in terms of market conditions, at least until February. Another Oregon analyst, Russ Sadler, believes that the recession will be long over before housing revives because, in his opinion, monetary policy will force money into more lucrative investments than mortgages, which traditionally was the first sector to pick up after a recession, may not reach a pre-recession level of activity.

The forest products industry was comprised of 35,000 companies, with 1.2 million workers, before the recession and skyrocketing interest rates.

While most of the impact of the slump has been in the western U.S., the north woods of Maine have suffered from competition from cheap Canadian lumber. Overall, in November the forest products industry in the west was operating at roughly 39 percent of its capacity.

Ironically, fate may create a situation which fulfills the only scenario beneficial to the North Coast depicted by Daniel Oswald, a Forest Service economist, in his 1978 study, *Prospect for Sawtimber Output, 1975-2000*.

In that scenario the volume cut from private timber lands today would drop greatly, with the remaining old growth on those lands "stretched" out until the end of the century. This would give new forest stands time to mature.

Tim McKay is the Coordinator of the Northcoast Environmental Center.

National Release Legislation

by John Hooper and Tim Mahoney

Last fall, Senators James McClure and John Melcher were casting around for some way to move S. 842, Sen. S.I. Hayakawa's nationwide anti-wilderness bill. We anticipated that they would "sweeten" the package by adding a few areas to a bill which would, in its major thrust, continue to be totally unacceptable to conservationists by:

-permanently prohibiting wilderness consideration by the Forest Service during its planning process,

--mandating permanent non-wilderness management of all 36 million acres allocated to "non-wilderness" in the Roadless Area Review and Evaluation (RARE II), and

-putting current RARE II wilderness proposals under a series of short deadlines for congressional action.

Senators McClure and Melcher now have written other senators with Forest Service RARE II lands in their states asking what "consensus" wilderness designations might be appropriate in their state. A new nationwide bill would then be drafted.

Many of the intentions of the sponsors of this "revised" S. 842 are left unstated. Four of the hidden issues follow.

Controversy

Supporters of a "new" S. 842 fail to mention that there

is any controversy over the permanent "release" provisions themselves. The timber industry still would like to avoid modifying the centerpiece of S. 842. The sponsors still plan to include Hayakawa-style release language in the bill although the language would be "cleaned up" to resemble more closely the Reagan Administration's changes.

Nationwide Release

The release language would still be applied nationwide whether or not a state already had passed RARE II legislation. Thus Alaska, Colorado, New Mexico, and other wilderness bills passed in 1980 would be overridden with "Hayakawa-style" release.

No Hearings

The sponsors plan no further hearings. Thus, whatever wilderness decisions the sponsors make would be made with little or no participation from conservationists.

Whose "Consensus"?

The idea behind the bill is that the wilderness contained therein would be that amount acceptable to both senators. Thus, if Senator Cranston wanted 2.1 million acres in California, but Senator Hayakawa wanted only 1/2 million, they would go with the lower "consensus" figure. Other senators would be expected to scale down their lists to those

"non-controversial" areas which would not require hearings.

Fortunately, this "trojan horse" has not been warmly received. Several senators in both parties indicate that they wish to go state-by-state with full participation and hearings. Also, other senators that do not have RARE II lands in their own states do not wish to see any tampering with the Alaska Lands bill.

Nevertheless, proponents of release are not through. The alliance of McClure and Melcher may give S. 842's sponsors enough votes to try a new gambit in the spring - perhaps with this package - perhaps with another. Recently, the timber industry has been told that McClure may attempt to begin a mark-up of bills in February. Hence, it is vital for wilderness supporters to organize a concerted campaign now in anticipation of their attack. Only with persistent, well-organized resistance can this outrageous anti-environmental attack remain stymied.

John Hooper is the Sierra Club's Public Lands Specialist and a Coalition Director. Tim Mahoney is a Washington Representative of the Sierra Club.

Tree Talk: The People and Politics of Timber

by Ray Raphael, Island Press, Covelo, CA 1981

Cub Creek Research Natural Area

The forests, meadows, and brush-covered slopes that surround Cub Creek in Lassen National Forest in northern California have been designated the "Cub Creek Research Natural Area (RNA)" by the Forest Service. The 3900-acre reserve is located in Tehama County, about forty miles west of Chico. It is the twelfth site in the Forest Service's state-wide network of research natural areas.

The RNA status will provide administrative protection for less than half of the 9,100-acre Cub Creek roadless area. The roadless area was designated "non-wilderness" in the Roadless Area Review and Evaluation (RARE II) process.

The new reserve contains a variety of trees and is representative of many of the types of forests that occur in the Sierra Nevada in northern California. Over 250 plant species occur in the Cub Creek area.

The Research Natural Area will be administered by Lassen National Forest, through its Almanor Ranger District at Chester, and by the Pacific Southwest Forest and Range

Experiment Station, Berkeley. The Experiment Station, which is the Forest Service's wildlands research organization in California, will be responsible for reviewing, coordinating, and approving research at the Cub Creek site. The area is open to study by scientists, college or university faculty and their students, and others.

Dr. Wesley H. Dempsey, professor of biology at California State University, Chico, is credited as one of the first individuals to propose Cub Creek be made a Research Natural Area. Organizations that strongly supported the proposal include the Northstate Wilderness Committee and the Sierra Club's Yahi Group, both of Chico.

The purpose of the Forest Service's Research Natural Areas program is to set aside examples of typical or unusual ecosystems. These sites, located throughout the U.S. and in Puerto Rico, are an important source of information about the way plants, animals, and other organisms live in an undisturbed setting. The areas are a yardstick, against which similar - but less protected - environments can be compared.

Here is a truly readable book about forestry: its history, changing technology, its problems and a vision of its future. Organized as a series of interviews with loggers, industry foresters, fishermen, ranchers, tree planters and others who live and work close to our forests, the book makes a compelling case for changing drastically the manner in which we manage our forests in this country.

The author believes we must turn to holistic forestry where

"the ecosystem is maintained in its basic form, but is modified here and there to bring it into harmony with human needs." Holistic forestry "is, quite simply, forestry that cares about the future."

Raphael argues that our present system of forestry makes decisions according to financial accounting procedures which have little or nothing to do with sound silviculture; "forests are the fastest-disappearing ecosystem on this planet." Trees are cut at economic maturity, second growth stands are producing inferior quality timber, herbicides are being overused, and soil productivity is declining, through erosion, compaction, and nutrient depletion.

As an alternative, the author draws on the Swiss model where foresters are elected, where the profession is considered a position of public trust and where the measure of competence is based on how well regeneration is accomplished.

Raphael proposes that forests can be divided into three broad categories of land:

(1) that which is too remote, too sensitive, or simply too beautiful to be logged.

(2) Steep, sensitive land which can be carefully and selectively logged and still be able to support further generations of trees.

(3) Land which is capable of sustaining a repeated human presence and of producing commercial timber for the indefinite future.

The author emphasizes how little we really know about the natural order and argues that we must not convert all our forests into tree farms: "...All the tricks the geneticists have learned cannot match the ultimate test for environmental endurance: survival for thousands of years in a natural setting. This is nature's test, and the gene pool we have in our untouched forests represents the strains that have passed this test." One interviewee a lumberjack, states: "They're breeding these trees for improved yields, but I'll not too sure how that's going to turn out... How do you know? You're looking three, four hundred years into the future, maybe a thousand years. I don't think we should put all our eggs into one basket. We should let nature take its course too."

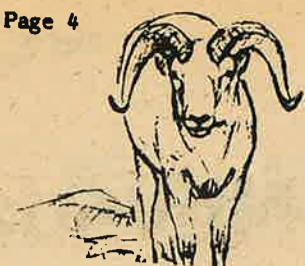
This is a refreshing and optimistic book. It conveys a vivid sense of the effects of logging. It describes the institutional problems that need to be overcome in the practice of holistic forestry and it provides an outline of how we can move toward a sustainable system.

- John Hooper

Tree Talk



Ray Raphael



History and Distribution

History

The origin of our North American bighorn sheep was during the Pleistocene or Ice Age, in the mountains of Central Asia. Evidence points towards the modern regions of Iran, Afghanistan, and Turkestan. This original stock entered North America by way of the Bering Land Bridge that joined North America and Asia during the Ice Age. It is believed that these ancestors were separated into two groups by advancing ice sheets. One group remained in the region, present-day Alaska, and evolved into the thinhorn or Dall sheep (*Ovis Dalli*). The other group was forced south and evolved into the bighorn sheep (*Ovis canadensis*).

Distribution

Geographic isolation separated the bighorn into seven separate races: California bighorn (*O. c. californiana*), found in California, Oregon, Washington, and British Columbia; Rocky Mountain bighorn (*O. c. canadensis*), found in Utah, Colorado, Wyoming, Montana, Idaho, British

Columbia, and Alberta; Audubon bighorn (*O. c. auduboni*), extinct; Nelson bighorn (*O. c. nelsoni*), found in California, Nevada, Utah, and Arizona; Mexican bighorn (*O. c. mexicana*) found in Arizona, New Mexico, Texas, and Mexico; Peninsular bighorn (*O. c. cremnobates*), found in California and Baja California; and the Weems bighorn (*O. c. weemsi*), found in Southern Baja California.

Early Populations

Evidence exists that aboriginal man began to hunt the bighorn 7,000 to 8,000 years ago. In many areas, this hunting pressure had little or no effect on bighorn populations. Around 1800, the bighorn sheep population was estimated at 1.5 to 2 million bighorn in North America. But with the westward spread of civilization and the advent of European man, today the bighorn on the North American continent have dwindled to only a few thousand. Audubon's bighorn was essentially gone in 1887, although a few remained until 1899, when it is thought to have become extinct.



Photo by Mike McWherter

The Desert Bighorn Sheep of Anza-Borrego

by Mark C. Jorgensen and Robert E. Turner

The bighorn found in and around Anza-Borrego are Peninsular bighorn sheep. They range from the San Jacinto Mountains of Riverside County, southward to the Sierra San Pedro Martir in northern Baja California, Mexico. Anza-Borrego Desert State Park and nearby lands contain approximately two-thirds of the United States population of Peninsular bighorn sheep.

BIGHORN LIFE CYCLE

Lambing

Desert bighorn young usually begin their life in March or April, however newborn lambs may be seen at any time between January and June. A mature ewe will give birth to a single lamb; twinning is rare. Prior to giving birth, the pregnant ewe will leave the band and travel to a traditional lambing area where she will be isolated, sheltered, and have an unobstructed view of surrounding terrain.

The first year of life is the most difficult for the bighorn lamb. Natural predation and disease can reduce the lamb crop by 50% near the end of July.

Predation and Disease

The mountain lion, coyote, bobcat, and golden eagle are all regarded as predators of desert bighorn sheep. All of these predators have been known to kill a bighorn when the conditions are right. However, there is no dependable evidence that even suggests these predators have reduced desert bighorn populations. On the other hand, diseases like non-verminous bronchial-pneumonia or chronic frontal sinusitis can drastically reduce a bighorn population.

Maturity

Once a lamb has made it through the first year of life, chances for survival to adulthood are good. Desert bighorn will usually live to be

ten or eleven years old. The rams at maturity will weigh between 180 and 200 pounds, whereas mature ewes will weigh 110 to 120 pounds. During the winter-spring period desert bighorn are widely distributed over their available range. At this time a separation of sex and age classes occur. Ewes, lambs, and young rams are often found together in what is referred to as a "ewe band." Mature rams, usually over the age of three years, are found together in what is commonly called "ram bands." During the summer-fall period both of these groups are brought together by the need for water and the onset of the breeding season.

Ram Dominance

The breeding season, which runs from August through November, is a time when ram battles (ritualized fighting) become more commonplace. Rams do not fight for bands of ewes or over territory, but instead fight for rank in the dominance order. In each band of rams there is a dominance hierarchy and each ram has his place. Many times the dominant ram is the one to breed successfully with the ewes. Most battles are never fought, because the ram with larger horns and body size displays these dominant rank symbols in such a fashion that avoids conflict. Usually when two rams of equal horn and body size meet and neither will submit to the other, a fight will ensue. Bighorn rams do not fight to the death, but will continue to clash head-on until the weaker animal submits. These clashes or battles may go on for hours.

HABITAT REQUIREMENTS

A relatively small portion of our desert is suitable to sustain populations of bighorn. The availability of water and food, the steepness of terrain, and remoteness from civilization are prime factors of bighorn habitat.

Remote and Rugged Terrain

Remote desert ranges such as the Santa Rosa and Peninsular Mountains are strongholds for the reclusive sheep. These rugged ranges are transected by deeply gouged ravines which provide "escape terrain" for the bighorn. Sheep are never far from the safety of cliffs. They are well suited to this terrain, having thick but resilient hooves which provide traction for ascending rocky cliffs. Keen eyesight also plays a major factor in this terrain, aiding the sheep in detection of danger.

Water

Water is considered the most limiting factor. A ewe with a lamb may venture to water once a day during the summer months. At the same time, a wandering ram may spend as much as three days away from the waterhole. Water in bighorn habitat is vital and wildlife managers take every possible step to insure bighorn undisturbed use of desert water sources. For this very reason Coyote Canyon in the northern end of Anza-Borrego is closed every summer to preserve the watering rights of the bighorn sheep. Anza-Borrego contains almost fifty water sources which are important to its four hundred and fifty bighorn.

Food

Sheep habitat must contain a sufficient amount of grasses and forbs to sustain the population year around as well as through seasons of drought. Bighorn are primarily grazers but do some browsing on desert shrubs and cacti. Horns are often used in breaking through cactus spines to get at the moist pulp or the plump seed pods. Sheep eat very little of any one plant, but keep moving during their eating forays, thus have little impact on the native vegetation. Food favorites are sweetbush, *Krameria*, cheesebush, buckwheat, and grasses.

MAN'S RELATIONSHIP

The desert bighorn prefers habitat far from man's reach. There are exceptions, but generally sheep will not tolerate man's constant presence.

Man's Encroachment

Roads, off-highway vehicles, campgrounds, poaching, grazing and mining are but a few of man's influences that have caused bighorn to dwindle or entirely disappear from one range after another. Feral burros have depleted the quality of habitat to such an extent in Death Valley that bighorn populations have taken a drastic decline since 1960. Fortunately for Anza-Borrego, burros were depleted here by homesteaders in the early days.

Even a plant imported by man threatens the desert sheep in areas of sparse water. Coming to America from Eurasia, the exotic tamarisk or "salt cedar" grows densely near waterholes and literally dries them up. This plant out-competes native species for the scarce water, then usurps the water source completely, rendering it useless for wildlife. Anza-Borrego and Death Valley have active eradication programs for this plant which may use two hundred gallons of water per day.

Desert bighorn do not readily extend their range in response to man's encroachment. The idea that "if we build the freeway through this sheep range - they can just move over to the next mountain range" does not pertain to bighorn as it may to some other mammals. Sheep have knowledge of waterholes, lambing grounds, and mineral licks, which is passed on through the "herd memory." This knowledge and the resulting behavior is useless in an unfamiliar range. Sheep populations are limited by the amount and quality of their habitat.

CONCLUSION

The desert bighorn sheep have adapted to a desert environment since the ice sheets receded thousands of years ago. Native Americans hunted sheep for food but are thought to have had relatively little impact on their populations. With the dawn of European explorers and settlers came the decline of wild sheep. It became necessary in 1873 to fully protect bighorn in California from sport hunting or poaching.

California continues to grow and constantly requires more development for its thriving population. Fifteen million people now live within three hours of Anza-Borrego Desert State Park.

Sheep range is being depleted and the bighorn now need people to speak up in their behalf. Parks and wildernesses now play a key role in their existence. For, as the noted sheep biologist, Valerius Geist, puts it, "Their future depends less upon their adaptations than upon the goodwill of man."

Mark Jorgensen, Naturalist at Anza-Borrego Desert State Park, and Robert Turner, Game Warden for the Calif. Dept. of Fish and Game, have over 4000 sightings of bighorn sheep.

REFERENCES ON DESERT BIGHORN SHEEP

- Geist, V. 1971. Mountain Sheep - A Study in Behavior and Evolution. Univ. of Chicago Press, Chicago, IL. 383 pp.
- Monson, G., Sumner, L. 1980. The Desert Bighorn - It's Life History, Ecology, and Management. Univ. of Arizona Press, Tucson, AZ.
- Welles, R. and F.D., 1961. The Bighorn of Death Valley National Parks, Washington, D.C. U.S. Fauna Series No. 6. 242 pp.

The Vanishing Bighorn of the Sierra Nevada

by Mike McWherter

In times long past, the presence of bighorn sheep in the Sierra Nevada was the essence of wilderness in that great range. Theirs was a world untouched by man. But this could not last.

With the arrival of white men in California during the early 1800s, wilderness began to disappear, as did the bighorn. In just 150 years (1830-1980) the numerous herds which were scattered along the Sierra crest from the Lake Tahoe area to south of Walker Pass had spiraled downwards to the current dangerously low level of about 250 individuals.

If they continue to decline, we will surely lose them. This would not only be a great loss to those who cherish wilderness values, but to all, now and in the future, who share similar feelings.

What is the background of the bighorn's decline, and more important, what is being done to help bring it back?

Prior to the arrival of white men in California several distinct Indian groups lived on both sides of the range. These groups probably did some hunting of bighorn as many of their trade routes crossed the Sierra through bighorn territory. In Muir's book, *The Mountains of California*, he states that the Paiutes on the eastern side of the Sierra were still hunting bighorn every season (probably around 1870) among the more accessible sections of the range.

As early as 1797 a Spanish missionary, Father Picolo of Monterey, described "a kind of deer with a sheep-like head, and about as large as a calf one or two years old". The activities of the early missionaries had little effect on the habits of the Indians living near the Sierra and probably none on the bighorn. The Spanish and Mexicans only occasionally penetrated the foothill country, in pursuit of Indians who had taken their horses.

Jedediah Smith's crossing of the Sierra in 1827 was the beginning of a flood of white incursions. In 1834, Joseph Walker's party paralleled much of the bighorn's winter habitat on the eastern escarpment of the Sierra. The first American immigrants struggled over the Sierra in 1841, following an arduous route which led them to the crest near Sonora Pass - an area believed to have supported bighorn.

Winter conditions near Sonora Pass would have been more severe than in the range farther south in the Owens Valley. This was due to the higher elevation as well as more severe weather.

Muir wrote that when winter storms set in, bighorn of the north usually crossed to the volcanic tablelands and treeless ranges of the Great Basin adjacent to the Sierra. Bighorn in this area would have had a harsh existence in the deep winter snow if their migrations to the eastern ranges (east of what was to become Bridgeport) were disturbed. Today there are no bighorn in the Sonora Pass area.

Farther north the experience of the Donner Party was no deterrent to the thousands who came overland to seek their fortunes in the gold fields. California's scant population of 2,000 Americans in 1848 swelled to over 53,000 by the end of 1849. Many came by sea to San Francisco. But thousands came by land, mostly by the Truckee route. A substantial population of bighorn is known to have existed in the Truckee

River drainage near Lake Tahoe and was probably one of the first herds to disappear.

Three years after the discovery of gold James D. Savage, an early settler, was pursuing Indians when he led a party into Yosemite Valley; the first entry by white men. The next year, 1852, A. T. Dowd, while bear hunting, stumbled upon a grove of Giant Sequoia. Convincing his friends to come and see "the biggest grizzly bear he had ever seen", Dowd showed them the trees. The reactions of these men helped make such wonders known to the world. The danger of their desecration prompted the work of conservationists. The Sequoia was ponderous, beautiful, and could not move.



Photo by Mike McWherter

But its vulnerability also made it easy to study and appreciate, eventually resulting in many of the trees being saved from the saw. Yosemite's monoliths and waterfalls, far above man's activities on the valley floor, protected themselves. Now the bighorn - no less a part of this scene and no less a wonder - but shy, retiring, and elusive, was imperfectly known and appreciated.

Then in 1860, like a backwash to the flood of 1848-49, prospectors, again using the Truckee route, made their way to the newly discovered silver fields of Washoe. But more disastrous to the bighorn than the prospectors and immigrants of was the arrival of sheepherders driving their flocks up the mountain valleys and into bighorn habitat.

Termed by Muir the locusts of the Sierra, domestic sheep were described in 1877 by Lieutenant Macomb of the U.S. Geological Survey as "utterly denuding the mountain valleys of grass and nearly every green thing within their reach". Macomb felt that "if the sheep continue to be driven up into the Sierra in such vast numbers, the grasses will eventually be killed out and great injury inflicted on the country".

The damage did not stop and was particularly severe in the headwaters of the Kern River. There in 1880 an epidemic of scabies among the Kaweah Peaks bighorn (brought by their domesticated brother) so reduced their numbers that the survivors were unable to perpetuate the herd.

As early as 1873 there seemed to be clear evidence of the bighorns' decline. The California Legislature was prompted to make hunting of them illegal - a law which was not enforced until the turn of the century. In 1911 an individual was arrested for shooting a ram in the Convict Creek herd. By that time the main features of the Sierra were known; a few areas such

Department of Fish and Game on the grounds that more information was needed and it was not believed that existing policies were having an adverse effect.

Ten years later, in 1950, a study was made of the remaining bighorn in the Sierra. It was found that only five herds remained, probably totaling less than 400 individuals. Twenty more years passed (30 since the proposal in 1940), before a sanctuary of 41,000 acres of Forest Service land was finally set aside. The 1971 action was based on the belief that human disturbance was adversely affecting bighorn numbers. By 1975 three of the five herds thought to exist in 1950 were gone. This left two remaining herds totaling 250 individuals. The National Park Service and the Forest Service then cooperated in supporting a study of the remaining Sierra bighorn.

The information which resulted from a 3½ year study by John Wehausen will provide a basis for future policies. Important results of the study were the collection of data on the distribution, numbers, and population trends of the remaining herds as well as the suitability of other areas of the Sierra for reintroduction.

Because bighorn rarely colonize, i.e. move out of their traditional range into new and unfamiliar habitat, it was evident that if new herds were to be established, they would have to be reintroduced by using existing herds as stock.

During the winter of 1978-1979 a capture program was implemented in which several animals from the largest remaining herd were moved to another area of the Sierra known to be a former habitat. The following winter an additional 31 were captured from the same herd and moved to areas of the Sierra where bighorn populations were known to have existed in the past. The reintroduction sites were determined by Wehausen's study to be excellent bighorn habitat, fulfilling their needs for winter and summer forage as well as proper terrain.

It remains to be seen whether they will make a comeback in these areas or succumb to the same forces which caused their predecessors to vanish. If the bighorns' past is any indication, it would seem that they will need all the study and protection that can be mustered.

Under the 1973 Federal Endangered Species Act the following definitions are given:

Endangered: in danger of extinction throughout all or a significant portion of its range.

Threatened: any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

In 1978 an amendment to the Endangered Species Act defined the term "species" to include distinct populations. Under this definition the Sierra Nevada bighorn numbers would not be amassed with the Desert (Nelson) bighorn found in the desert ranges to the east. The Sierra Nevada bighorn are now classified as rare by the State of California and the Fish and Wildlife Service; a classification which has not become formal under the Endangered Species Act. In Wehausen's report he states:

"No formula exists to determine whether any situation

fulfills the criteria necessary for endangered or threatened status. Such status is determined by the U.S. Fish and Wildlife Service upon request by a government agency or any individual or group of individuals. Considering that bighorn in the Sierra Nevada are already extinct over most of their native range, it is likely that one of the two classifications could be considered.

"Two benefits accrue from threatened or endangered status under the Endangered Species Act. First, this opens avenues for the funding of research and management of the organism in question. Second, this organism receives top management priority in habitat designated as critical, with the possible exception of mining."

Muir was keenly aware of the devastating effect man's activities were having on other wildlife forms, but believed that the bighorn would long be safe in their home high in the mountains. In his book, *The Mountains of California*, he concluded the chapter on the wild sheep (then called *Ovis montana*) by writing:

"Man is the most dangerous enemy of all, but even from him our brave mountain-dweller has little to fear in the remote solitudes of the High Sierra. The golden plains of the Sacramento and San Joaquin were lately thronged with bands of elk and antelope, but being fertile and accessible, they were required for human pastures. So, also, are many of the feeding grounds of the deer - hill, valley, forest, and meadow - but it will be long before man will care to take the highland castles of the sheep. And when we consider here how rapidly entire species of noble animals, such as the elk, moose, and buffalo, are being pushed to the very edge of extinction, all lovers of wilderness will rejoice with me in the rocky security of *Ovis montana*, the bravest of all the Sierra Mountaineers."

More than eighty years have passed since Muir wrote of the bighorn. With only 250 individuals left we can no longer rejoice in their security. Because many of us consider the bighorn to symbolize what is left of wilderness in the Sierra Nevada, we hope not only that the reintroduction program will prove successful, but that the bighorn will receive the benefits of classification under the Federal Endangered Species Act.

Mike McWherter is a mathematician and Associate Editor of *Summit* magazine.



Special thanks to Mike McWherter for his article and photographs; newsprint cannot express the beauty of his color photos of bighorn. Thanks also to Mark C. Jorgensen, Robert E. Turner, Jr., and the Desert Protective Council for the articles on bighorn in *Anza-Borrego*. A four-page reprint of their Education Bulletin #81-2 is available as follows: 2 free; send stamped, self-addressed #10 envelope. 3-8; donation of \$1.00 suggested. 10 or more; special rates, inquire below. Write to DPC Publications, 3750 El Canto Drive, Spring Valley, CA 92077.

Small
Hydro

Dam Planned for John Muir Additions

by Melinda Lee-Van Bossuyt

Ishi Wilderness Threatened

by Steve Evans

The Federal Energy Regulatory Commission (FERC) has approved preliminary permits for a small hydro project on Mill and Antelope creeks in the proposed Ishi Wilderness.

The 25 megawatt Mill Creek project, proposed by the Tehama County Flood Control District, would consist of a series of four dams with over forty consecutive miles of diversions from Mill Creek. Three of the dams, along with conduits, power plants, and transmission lines, are located in the Mill Creek and Ishi roadless areas.

Located in Lassen National Forest, the two roadless areas are supposed to be protected from development until their potential wilderness status is confirmed by Congress. The Mill Creek area was designated for "further planning" and the Ishi area recommended for "wilderness" by the Forest Service during their RARE II (Roadless Area Review and Evaluation) process.

The Antelope Creek project would dam the north and south forks of the creek within a "further planning" portion of the Ishi area.

The Ishi roadless area is part of Representative Phillip Burton's California Wilderness Bill which passed the House of Representatives unanimously last summer. The Senate currently is considering a similar bill sponsored by Senator Alan Cranston. Passage of this bill would place the Ishi area into the National Wilderness Preservation System.

Despite the Ishi area's "almost" wilderness status, FERC has approved the Mill Creek preliminary permit, granting Tehama County the

Pacific Gas and Electric Company (PG&E) has announced plans for a hydroelectric project that would flood and divert waters from the John Muir Wilderness and proposed additions in the National Forest.

The project would dam Post Corral Creek flooding Post

Corral Meadow, divert water from Fleming Creek and Meadow Brook Creek into the proposed reservoir, and then divert water by tunnel to Courtright Reservoir. Each of the three creeks to be diverted normally flows directly into the North Fork of the Kings River.

All three creeks are within the John Muir Wilderness. The reservoir at Post Corral Meadow would be completely within the Woodchuck roadless area recommended by the U.S. Forest Service for addition to the John Muir Wilderness.

Currently, backpackers begin their trips into this area from the dam at Courtright Reservoir. Most hikers spend their first night at Post Corral Meadows about eight miles from the trailhead. From there they hike up into the Fleming Lake area and points beyond or over to the North Fork of the Kings River and up towards other basins.

The proposed project would put an end to the first eight miles of hiking. This route goes across a lofty granite ridge with outstanding views, through a virgin lodgepole forest with individual trees of great diameter and a virgin red fir forest, across Long Meadow, through more lodgepole forest, and finally to Post Corral Meadow.

This area has a rich history. Evidence of use by Indians abounds. John C. Fremont may have been in the vicinity while exploring the central California region in 1844. Shepherders left their marks which can still be seen on the large old trees. Early day wilderness buffs explored the nooks and crannies of the area.

Post Corral is a relatively small creek which sometimes runs dry in late summer. It and tributary Burnt Corral Creek are fed by snowmelt and a few

springs. Much of the streambed of Post Corral Creek below Post Corral Meadow has smooth granite potholes large enough for swimming.

During the early summer snowmelt or during a storm, what was once a brook with plenty of dry stones to hop across becomes a raging torrent that is waded waist deep only by the brave or foolhardy.

It appears that tunneling for the proposed hydro project will take place beneath designated wilderness. Roads and parking lots will surely occur right to the edge of the proposed reservoir at Post Corral Meadow. The waters of this proposed impoundment will lap on the shores of the John Muir Wilderness.

Construction of diversions on Fleming and Meadow Brook Creeks and the roads required for access will disrupt the integrity of this wild and free river canyon. The project would affect a minimum of 14 miles of popular hiking trails. The effect of this project on the wilderness which surrounds it on three sides would be devastating.

PG&E plans to file a preliminary application on this project in March. Sierra Association for Environment will be watching for this filing and will file as an intervenor. Other interested parties should do the same.

Melinda Lee-Van Bossuyt is an archaeologist and is active with the Sierra Association for Environment.

Steve Evans is active with the Northstate Wilderness Committee, Butte Environmental Council and is a CWC Director.



Small Hydro Projects in Roadless Areas

FERC #	Waterway	National Forest	Wilderness Area	R.A. Status
4079	S. Br. Mid. Fk. Feather R.	Plumas	M. Fk. Feather Wild R.	
4839	S. Br. Mid. Fk. Feather R.	Plumas	M. Fk. Feather Wild R.	
3592	South Fork Kern River	Sequoia	Domeland	
4125	South Fork Kern River	Sequoia	Domeland	
4112	Kern River	Sequoia	Golden Trout	

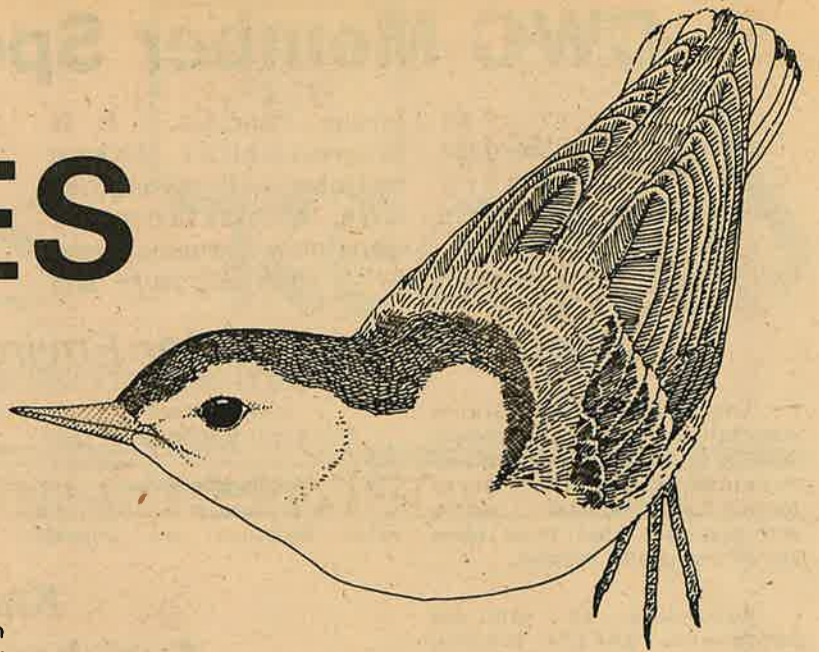
FERC #	Waterway	National Forest	Roadless Area	R.A. Status
3194	Silver Fork American River	Eldorado	Caples Creek	FP
3471	Rubicon River	Eldorado	Rubicon	FP
3583	Horton Creek	Inyo	Horton Creek	NW
5280	Goodale/Tinemaha/Birch Cr.	Inyo	Tinemaha	W
5380	Goodale Cr.	Inyo	Tinemaha	W
3413	Millner Creek	Inyo	White Mtns.	FP
3494	Millner Creek	Inyo	White Mtns.	FP
4493	Grider Cr.	Klamath	Grider	NW
5143	Kelsey Cr.	Klamath	Kelsey	NW
4391	Portuguese Cr.	Klamath	Portuguese	NW
4722	Shackleford Cr.	Klamath	Shackleford	NW
4094	Copper & Twin Valley Crs.	Klamath	Siskiyou	W
4099	Crescent City Fk., Blue Cr.	Klamath	Siskiyou	NW
4377	Dillon Creek	Klamath	Siskiyou	NW
4924	Dillon Creek	Klamath	Siskiyou	NW
4930	Dillon Creek	Klamath	Siskiyou	NW
4387	Grindstone/Board Cr.	Mendocino	Grindstone	NW
4966	Grindstone Creek	Mendocino	Grindstone	NW
4343	Kill Dry Cr.	Mendocino	Grindstone	NW
4970	Kill Dry Cr.	Mendocino	Grindstone	NW
4190	Thomes Cr.	Mendocino	Thomes Cr.	NW
4830	Thomes Cr.	Mendocino	Thomes Cr.	NW
5224	Thomes Cr.	Mendocino	Thomes Cr.	NW
5232	Thomes Cr.	Mendocino	Thomes Cr.	NW
5373	Thomes Cr.	Mendocino	Thomes Cr.	NW
4637	Deer Cr.	Lassen	Cub Cr.	NW
4818	Deer Cr.	Lassen	Cub Cr.	NW
4937	Deer Cr.	Lassen	Cub Cr.	NW
4552	Antelope Cr.	Lassen	Ishi	FP
5352	Antelope Cr.	Lassen	Ishi	FP
5230	Deer Cr.	Lassen	Ishi	W
			Polk Springs	FP
4157	Mill Cr.	Lassen	Mill Cr.	FP
4551	Mill Cr.	Lassen	Mill Cr.	FP
4638	Mill Cr.	Lassen	Mill Cr.	FP
4724	Mill Cr.	Lassen	Mill Cr.	FP

FERC #	Waterway	National Forest	Roadless Area	R.A. Status
5122	Mill Cr.	Lassen	Mill Cr.	FP
5351	Mill Cr.	Lassen	Mill Cr.	FP
			Ishi	W
4081	Adams/Brush Cr.	Plumas	Bald Rock	FP
4080	Fall River	Plumas	Bald Rock	FP
4084	Fall River	Plumas	Bald Rock	FP
4832	Fall River	Plumas	Bald Rock	FP
4834	Fall River	Plumas	Bald Rock	FP
4083	Frey Cr.	Plumas	Bald Rock	FP
4704	Chambers Cr.	Plumas	Chips Cr.	FP
4085	Chips Cr.	Plumas	Chips Cr.	FP
4916	Chips Cr.	Plumas	Chips Cr.	FP
4379	Soda Cr.	Plumas	Chips Cr.	FP
4915	Soda Cr.	Plumas	Chips Cr.	FP
4363	Yellow Cr.	Plumas	Chips Cr.	FP
4382	Yellow Cr.	Plumas	Chips Cr.	FP
4984	Yellow Cr.	Plumas	Chips Cr.	FP
4986	Yellow Cr.	Plumas	Chips Cr.	FP
5053	Yellow Cr.	Plumas	Chips Cr.	FP
5054	Yellow Cr.	Plumas	Chips Cr.	FP
4418	Middle Fk.-Applegate River	Rogue River	Red Buttes	NW
4981	Middle Fk.-Applegate River	Rogue River	Red Buttes	NW
4185	Beegum Cr.	Shasta-Trinity	Beegum	NW
4972	Beegum Cr.	Shasta-Trinity	Beegum	NW
5268	Beegum Cr.	Shasta-Trinity	Beegum	NW
4095	Corral & Gates Creeks	Shasta-Trinity	Pattison	NW
4203	Corral & Gates Creeks	Shasta-Trinity	Pattison	NW
4991	Corral Cr.	Shasta-Trinity	Pattison	NW
4935	Bell Creek	Shasta Trinity	Trinity Alps	W
			Bell Quimby	NW
4406	Big French Creek	Shasta Trinity	Trinity Alps	W
4994	Big French Creek	Shasta Trinity	Trinity Alps	W
			Little French	NW
4405	Devils Canyon Creek	Shasta Trinity	Trinity Alps	W
5121	Dinkey & Cow Creeks	Sierra	Dinkey Lakes	FP
5273	Dinkey Cr.	Sierra	Dinkey Lakes	FP
2906	N. Fk. San Joaquin River	Sierra	San Joaquin	W
4417	Horse Linto Cr.	Six Rivers	Orleans	NW
4957	Horse Linto Cr.	Six Rivers	Orleans	NW
4367	Tish Tang A Tang Cr.	Six Rivers	Orleans	NW
4929	Tish Tang A Tang Cr.	Six Rivers	Orleans	NW
3687	Lily & Bell Crs.	Stanislaus	Bell Mdns.	NW
2409	N. Fk. Stanislaus River	Stanislaus	Carson-Iceberg	NW
5123	Pauly Creek	Tahoe	East Yuba	FP

Wilderness Wildlife

NUTHATCHES

By Dennis Coules



White-breasted Nuthatch

The white-breasted nuthatch (*Sitta carolinensis*) has a black cap and its black eye is set in a white cheek. It frequents a wide range of forest types and riparian woodlands.

It is a common permanent resident in many habitats in California, preferring large-limbed, rough-barked trees, such as oaks, ponderosa pine, and Jeffrey pine, in stands of low to intermediate canopy cover. At higher elevations, it nests in lodgepole pines. Unlike the red-breasted nuthatch, this species apparently does not migrate to lower elevations.

Breeding peaks from May to June in the Sierra, with a clutch of 5 to 9 eggs. Pairs overwinter on the breeding territory.

This nuthatch does not excavate its own nest, but depends on natural cavities or woodpecker holes.

Both insects and seeds are eaten, with insects picked from trunks and branches constituting

the major food source during the breeding season. Acorns and seeds are stored for winter and these foods caches are actively defended.

Pygmy nuthatch

The very small pygmy nuthatch (*Sitta pygmaea*) has a grey-brown cap extending to the eye. It prefers the yellow pine zone of mountains throughout the western states. Although less widely distributed than the preceding species, the pygmy nuthatch may be abundant where it does occur. It is more common in the southern than in the northern Sierra. It also occurs in scattered mountain ranges in southern California, along the central coast (principally in Bishop, Monterey, and ponderosa pine forests), and in portions of the Cascade, Klamath, and Warner ranges.

Its voice lacks the nasal quality of the other nuthatches. Breeding peaks in June and July, with a clutch of 5 to 9 eggs laid in a cavity that may or may not have been excavated by the current users. In one study of this species in Marin County, 22% of all nests were actually attended by three individuals, the extra being a young male not mated to the female breeder. This secondary male assisted in nest construction, feeding the female and nestlings, and cleaning the nest. He would roost in the nest cavity with the others. The sex ratio in this species appears strongly unbalanced in favor of males.

Highly insectivorous in the breeding season, the pygmy nuthatch expands its diet to include conifer seeds the rest of the year. In contrast to the red-breasted and white-breasted nuthatches, food is sought mainly in the terminal needle clusters, cones, and new shoots of pines, usually high in the trees. Thus little competition for food is likely between the pygmy and the other two nuthatch species.

An interesting trait of this bird is communal roosting in tree cavities, with 150 individuals reported once from a single cavity. This is considered to be a heat conservation adaptation.

Conservation

All three of our western species of nuthatches require tree cavities for nesting. Thus, logging practices such as clearcutting, which remove snags or dead standing trees, will reduce or eliminate populations. The white-breasted nuthatch especially suffers when large conifers are removed. Protection of wilderness areas, along with provisions for retaining a sufficient number of snags during logging operations in commercial forest stands, would greatly benefit these birds, along with the large assemblage of other cavity-dependent species found in our forests.

Dennis Coules is the CWC's consultant for wildlife and desert issues.



Endangered Species Act Reauthorization

by Richard Spotts

The Endangered Species Act (ESA) is the landmark federal law which seeks to protect endangered and threatened animal and plant species. It was passed in 1973, due to considerable public support, and Congress found that many species "have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation."

Unfortunately, the ESA came too late to save many wildlife species. The Merriam's elk, Caribbean monk seal, Carolina parakeet, Steller's sea cow, passenger pigeon, and other species are gone forever. In California alone, there is a long list of extinct species, including the grey wolf, long-eared kit fox, California grizzly bear, Santa Barbara song sparrow, and Shoshone pupfish.

But the ESA has already achieved some positive gains and

may yet save many other endangered species such as the bald eagle, whooping crane, and hawksbill sea turtle. ESA has also been a model for many state and foreign laws to protect endangered species.

By law, ESA must be reauthorized this year. This means that both houses of Congress must agree to renew ESA and the President must sign the legislation by October 1, 1982. Powerful commercial interests are already lobbying the Reagan Administration and Congress to severely gut every important ESA provision. Draft amendments to weaken ESA may eliminate critical habitat designations, make federal agency consultation and protection responsibilities optional, make listing species as endangered or threatened more difficult, reduce protection for foreign species, limit protection to vertebrate animals only, and restrict citizens' rights to

ensure that ESA is properly enforced.

The only hope for defeating these weakening ESA amendments lies in a strong, coordinated, and sustained grassroots campaign. Over 25 organizations have joined forces to defend ESA, including Defenders of Wildlife, Friends of the Earth, National Audubon Society, and Sierra Club. A special newsletter, the Endangered Species Act Reauthorization Bulletin, will be sent frequently to keep activists up-to-date on the latest ESA news and Congressional tactics.

For more information, contact: Richard Spotts, Defenders of Wildlife, 5604 Rosedale Way, Sacramento, CA 95822; (916) 442-6386.

Richard Spotts is Defenders of Wildlife's California Representative and is a Coalition Director.



"Surely," says I. "Not THE James Watt, folk-hero and famous wilderness rapist!" "That's me," Says he. And I says, "Not the renowned despoiler of our precious national heritage!" "Right," Says he. "So I ate him."

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Editor
 Jim Eaton

Contributors
 Bob Barnes
 Dennis Coules
 Jim Eaton
 Steve Evans
 John Hooper
 Mark C. Jorgensen
 Melinda Lee-Van Bossuyt
 Tim Mahoney
 Tim McKay
 Mike McWherter
 Robert E. Turner, Jr.

Graphics
 Bob Schneider
 Mike McWherter
 Mike Nolasco

Production
 Marcia Cary
 Wendy Cohen
 Jim Eaton
 Fred Gunsky
 Beth Newman
 Jim Trumbly

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CWC Member Spotlight

Pasadena Audubon Society

As a service to California Wilderness Coalition member groups, the Wilderness Record publishes articles on individual group members. It is hoped that these articles will strengthen the Coalition by providing organizations with wide exposure and the readership of the CWC an exposure to the philosophy, goals, and techniques of the featured groups.

CWC would like to welcome the 1100+ member Pasadena Audubon Society as a member group. Pasadena Audubon is one of the oldest of National Audubon's 450 chapters, having been in existence for over 75 years! Pasadena Audubon offers a long and active experience in environmental affairs.

Conservation Chairman Mickey Long is currently working on California Desert wilderness issues; Barbara Horton worked on fund raising for Santa Cruz Island and the Desert Tortoise Preserve and currently is working with Anne Foster and John Jackson on a grade 6 - 8 water conservation program carrying out the Mono Lake / LA water theme; Anne Foster is on the Mono Lake Committee's Board of Directors; Larry Johnson is active in the South Fork Kern River preservation effort; Mickey Long is one of the coordinators of the Golden Trout Camp, an outdoor education experience open to all and located at the edge of the Golden Trout Wilderness (CWC President Bob Barnes visited the camp last summer).

Pasadena Audubon offers monthly programs on varied topics such as fire ecology, desert fishes, bird migration, and the Channel Islands. Recent field trips, held monthly, have included Santa Cruz Island, Mono Lake, South Fork Kern River, and local areas.

Sierra Association for Environment

The purpose of Sierra Association for Environment (SAFE) is to monitor plans for development in the Sierra foothill and mountain regions and guarantee that those plans are in the public interest.

Key Contact
Michael Bordenave (209) 229-0272.

Membership Dues
Annual dues are \$10.00, but extra donations are urgently needed for attorneys fees and other expenses.

Sierra Association for Environment
3771 Circle Drive West
Fresno, CA 93704

Kern Vally Audubon Society

According to Michael Bordenave, SAFE's leading member working behind the scene, SAFE has been monitoring development in the foothills since 1967. But SAFE really came to be because of the Kerchoff Hydroelectric Project in 1978. SAFE opposed the unnecessary building of new roads to serve the project encouraging instead the use of an existing road. SAFE was successful.

Kern River Valley Audubon Society has recently joined the growing ranks of the California Wilderness Coalition. A chapter of the 450,000 member National Audubon Society, Kern River Valley Audubon has quickly realized the value of the wild lands in the chapter's geographical boundaries.

The Golden Trout and Dome Land wilderness areas are nearby as are the proposed South Sierra and Scodies (Kiavah) wilderness areas contained in Rep. Phillip Burton's California Wilderness Bill, H.R. 4083, and Sen. Alan Cranston's S. 1584. The North Fork Kern River, currently proposed as a national Wild River, and the South Fork Kern River are also located in the immediate area.

Other wild land issues include Mono Lake, Santa Cruz Island, Desert Tortoise Preserve, California condor, The Nature Conservancy's 1500 acre Kern River Preserve, U.S. Army Corps of Engineers' 3400 acre South Fork Kern Wildlife Area, and the California Desert Conservation Area.

Key Contacts
Anton Farman, President (714) 376-6972.
Alan Jones, Conservation (714) 376-3572.
Lee Wilson, Education (714) 376-6614.
Julie Sanders, Editor (714) 376-2773.

Membership Dues
Kern River Valley Audubon publishes a monthly newsletter, The Chat, conducts monthly programs and field trips, and is very active in the Kern River Valley area. Membership in Kern River Valley Audubon is accomplished by making out a check for \$25 to National Audubon Society and mailing it to:

SAFE was also instrumental in working with the Bureau of Land Management to develop a management plan for Squaw Leap near Auberry.

SAFE employs an attorney and has a handful of volunteers dedicated to insuring that planned development is in everyone's best interest. There is no formal structure with official committees, nor do they plan outings. SAFE's areas of concern is not limited to wilderness and wildlife, or hunting and fishing.

SAFE is affiliated with the California Wilderness Coalition, Environmental Defense Fund, Friends of the River, and Committee to Save the Kings.

Kern River Valley Audubon Society
P.O. Box 438
Wofford Heights, CA 93285

CWC Business Sponsors

- Like any citizen organization, the California Wilderness Coalition depends upon sponsorship and support. The organization is grateful to the following businesses that have recognized the great need to preserve the wilderness of California.
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Cupertino, CA 95014
(408) 253-1913

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The Alpine Supply Co.
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Davis, CA 95616
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Davis, CA 95616
(916) 758-2323

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Berkeley, CA 94710
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2415 Third St., No. 270
San Francisco, CA 94107
(415) 863-1207

CWC Member Groups

- Our newest group members:
- Natural Resources Defense Council
25 Kearny St., 2nd Floor
San Francisco, CA 94108

Morro Coast Audubon Society
P.O. Box 160
Morro Bay, CA 93442

Angeles Chapter, Sierra Club

American Alpine Club

Bay Chapter, Sierra Club

Butte Environmental Council

California Native Plant Society

Citizens Committee to Save Our Public Lands

Citizens for a Mojave National Park

Committee for Green Foothills

Concerned Citizens of Calaveras County

Covelo Wildlands Association

Defenders of Wildlife

Desert Protective Council

Earth Ecology Club

Ecology Center of Southern California

Environmental Center of San Luis Obispo County

Friends of Plumas Wilderness

Friends of the Earth

Friends of the River

Friends of the River Foundation

Golden Gate Environmental Law Society

Granite Chief Task Force

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Ishi Task Force

Kaweah Group, Sierra Club

Kern Audubon Society

Kern Plateau Association

Kern River Valley Audubon Society

Kern Valley Wildlife Association

Knapsack Section, Bay Chapter, Sierra Club

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NCRCC Sierra Club

Northcoast Environmental Center

Northeast Californians for Wilderness

Northstate Wilderness Committee

Orange County Sierra Singles

Pasadena Audubon Society

Placer County Conservation Task Force

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The Red Mountain Association

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Sierra Association for Environment

Sierra Treks

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Siskiyou Mountains Resource Council

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Stockton Audubon Society

Trinity Alps Group

UC Davis Environmental Law Society

California Wilderness Coalition P.O. Box 429, Davis, CA 95616

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† tax deductible

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Enclosed is \$ _____ for first-year membership dues.

☐ Here is a special contribution of \$ _____ to help with the Coalition's work.

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Address: _____

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