

THE UNIVERSITY OF IDAHO
TAYLOR RANCH WILDERNESS FIELD STATION

by

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Vito (Sonny) LaSalle³ and James Akenson⁴

Presentation to the National Conference on Wilderness Economics
Jackson, Wyoming, May 10, 1991

ABSTRACT

Under the Wilderness Act-mandated conditions of naturalness and solitude, wilderness areas offer unique opportunities for research into natural and social phenomena. Since 1969 the University of Idaho has operated the Taylor Ranch Wilderness Field Station in the heart of what is now the Frank Church—River of No Return Wilderness, the largest classified Wilderness in the lower 48 states. The evolution of Taylor Ranch is described from exploration of the region in the 1870s, the first homestead in 1900, acquisition by the University of Idaho in 1969, and subsequent development for research and education programs, including the addition of a former guest ranch building air-lifted seven miles by the Idaho National Guard in 1990 to create a new wilderness research and teaching laboratory. Also described are twenty-five years of research into wilderness wildlife habitat and behavior, vegetation response to natural disturbances, baseline environmental monitoring and assessment. Recent efforts to strengthen and focus wilderness research and teaching at the station and general problems of funding wilderness research are reviewed, as well as the growing value of wilderness for science and the need for programs to increase wilderness research.

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Wilderness areas contain the most natural, most protected places in our nation and thus provide unique opportunities to study and teach about natural systems and human responses to primitive conditions. Section 2(c) of the Wilderness Act acknowledges scientific and educational values broadly in defining wilderness as ". . . undeveloped federal land. . . that. . . (4) may also contain ecological, geological, or other features of scientific, educational, scenic or historical value." [P.L. 88-577 Sec. 2(c)]

The scientific values of wilderness areas were a recurring theme in the campaign to establish the National Wilderness Presentation System and were espoused by early leaders of the wilderness movement such as John Muir and Aldo Leopold. The central idea, which is even more important today, is that study of protected natural systems can reveal valuable knowledge that will be applicable everywhere, and by monitoring wilderness conditions we can learn about natural change and the extent to which human-caused changes are occurring elsewhere (Leopold 1941). But the lack of dedicated wilderness research budgets, the remoteness of wilderness, and management regulations and policies limiting access and the means by which data may be gathered, have restricted the amount of research that has been

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conducted in wilderness. This is ironic, given that growing concerns about global change, endangered wildlife, critical habitat, and biodiversity make wilderness research toward understanding natural systems a higher priority than ever before.

Idaho, with more total classified wilderness and roadless land than any of the lower 48 states, has tremendous wilderness research and education opportunities. In 1969, the University of Idaho, at the urging of a young wildlife scientist, Dr. Maurice Hornocker, who recognized the potential value of a wilderness inholding to be used for research and education, purchased the 65-acre Taylor Ranch in the middle of the Idaho Primitive Area. The evolution of that inholding from homestead to its current status as the Taylor Ranch Wilderness Field Station of the University of Idaho Wilderness Research Center in the College of Forestry, Wildlife and Range Sciences illustrates the value of a wilderness field station in facilitating wilderness research and education. It also raises questions about the development and use of a wilderness inholding, even for science and education, and the need to respect the naturalness and solitude of the surrounding wilderness.

Idaho's Taylor Ranch Wilderness Field Station

The Taylor Ranch Wilderness Field Station, in the heart of Idaho's Frank Church-River of No Return Wilderness,⁵ is a unique research and teaching facility. Situated on Big Creek, seven miles upstream from its confluence with the Middle Fork of the Salmon River, the ranch is located in a canyon bottom at 3,835 feet elevation, and is accessible by a 34-mile trail from the settlement of Big Creek, itself at the end of 87 miles of dirt road across the rugged South Fork of the Salmon River. Access by bush plane is permitted using the private air strip, a grandfathered use that predates the Wilderness Act ban on mechanized access.

⁵More detail about the FC-RNR Wilderness is found in the management plan for the area (USDA Forest Service, 1985).

History Prior to Wilderness Classification

The Taylor Ranch site where Pioneer Creek, Rush Creek and Cliff Creek join Big Creek has been occupied by human beings for thousands of years. Archeological evidence indicates that aboriginal peoples resided nearby while hunting bighorn sheep and fishing in Big Creek. Nearby are the remains of Indian house pits and six miles downstream, near the confluence with the middle fork of the Salmon River, are impressive petroglyphs.

pictographs

The first recorded white person to visit the vicinity was Dave Lewis, a Civil War veteran and packer and scout for the military during the Sheep Eater Indian campaign in central Idaho territory. Lewis traveled the length of Big Creek for the military in 1878, and a year later was packing ammunition for a mounted company of military when they were ambushed by Sheep Eater Indians three miles upstream from Taylor Ranch⁶. The rock-lined ambush pit used by the "Sheep Eaters" during this battle is still visible. One soldier died as a result of this battle and is buried at "Soldier's Bar," two and one-half miles downstream from the ranch. Dave Lewis probably made note of the attractive site near Pioneer Creek during his travels in the Big Creek Drainage, because 40 years later he would return to the site and play a major role in the region.

The first white residents at the Taylor Ranch site were Elix and Billy Bull, who staked a placer claim on Pioneer Creek and built a sod-roofed cabin in the fall of 1900. They abandoned their claim in 1902, heading for better prospects at Thunder Mountain. For the next eight years the cabin was unoccupied except for occasional hunters, miners and trappers, but in 1910 John and ^{Mary} Conyer moved into the cabin from the old Caswell homestead six miles upstream. The Conyers ran cattle, built fences and a corral for their livestock, established a pasture hay field and constructed a new cabin which is now the

⁶James Akenson, who was co-resident manager of Taylor Ranch from 1982-1990, presents more detailed history based on oral histories of early Big Creek residents in "90 Years of Taylor Ranch History," a 40-page draft manuscript on file, University of Idaho, College of Forestry, Wildlife and Range Sciences, Moscow, Idaho 83843.

present day field laboratory. In 1918 the Conyers moved back to Cabin Creek to continue their cattle operation and Dave Lewis moved onto the site.

In 1918 Dave Lewis was in his early 70s. In addition to drawing a military pension, he made a living hunting cougars for bounty, guiding big-game hunters, trapping and possibly a little prospecting. Probably the first big-game outfitter in the region, Dave had received national publicity for his cougar hunting prowess. "Cougar" Dave, or "Uncle" Dave as he was known, kept a dozen or more horses to support his hunting. He would meet his clients at Warren, the nearest railroad head 100 trail miles from the homestead at Pioneer Creek. At 70, Dave Lewis was still a tough frontiersman. Shortly after establishing residence at the Pioneer Creek homestead, some horse thieves thought they could take advantage of an old man and headed up Pioneer Creek with his entire string of horses, leaving Dave to pursue on foot. They were surprised when he met them at the top of the pass, peeling one of the thieves out of his saddle with his 44-40 carbine, later complaining he would have nailed them both if he had had his big gun.

As a well-known big-game guide, Dave Lewis introduced many prominent people to the wild, central Idaho region, including Idaho Governor H. C. Baldrige. While nearly 90 years old, Dave hosted a delegation of people who were evaluating whether the central Idaho tract should remain in a natural state for the benefit of outdoor enthusiasts and the wildlife inhabiting the area. Governor Baldrige expressed his first impressions of the Big Creek country while addressing the governor's committee on the proposed Idaho Primitive Area in December of 1930. Referring to his party's trip to the Dave Lewis ranch, Governor Baldrige stated,⁷ "It was the wildest country I've ever seen . . . Few, if any areas in the United States, offer the opportunities of this section for hunting and fishing. The area comprises something over a million acres with perhaps 25 farms in the whole territory." The reference by Governor Baldrige to the 25 farms underscores the fact that area is wilder today than in that earlier era when many homesteads were located throughout the Salmon

⁷Cited in Akenson's report described in footnote 6.

River country, many of them in the Big Creek Drainage where homesteaders subsisted or raised cattle to feed the men in the Thunder Mountain Mines.

In 1933 Jess Taylor made a pack trip into Big Creek. While hunting in the vicinity, he became acquainted with Dave Lewis and also noted the potential of the homestead as a guest ranch. In the fall of 1934 Jess purchased the ranch for \$1,200, paying \$500 earnest money. The deed transfer was detained because Dave Lewis' legal administrator, Walter Estep, when returning from the ranch after witnessing the sale, was killed two and one-half miles upstream of the ranch by Frank Lobauer, at what is now known as Lobauer Basin. Rumors had it that Estep had been too attentive of Lobauer's wife. In 1935 Uncle Dave Lewis died at the ripe age of 93, after catching pneumonia from a drenching spring storm on the 34-mile ride from the ranch to Big Creek. Today, the 9,300 foot Dave Lewis Peak at the head of Pioneer Creek and a tributary stream of Rush Creek both bear his name.

Although legally owning the homestead, Jess Taylor moved to Boise in the fall of 1935 to begin a contracting business, and for years he hired a variety of caretakers to look after Taylor Ranch. In 1948, Jess and his new bride, Dorothy, returned to pursue his dream of making the homestead into a guest ranch. In 1948 access into Taylor Ranch entailed a flight to Soldiers Bar and a 2½-mile hike upstream to Pioneer Creek. But the Taylors meant business; they even flew a 500-pound Monarch stove to Soldiers Bar and packed it on a horse to the ranch. A slip-scaper had been packed by mule from Big Creek in 1935 and with it Jess and Dorothy converted a timbered, brushy flat into an air strip during 1948. The first plane landed in 1949. Several buildings were constructed during the next few years. One client, writing about the Taylors stated: "I watched them turn that land into a home in the wild. The cabins they built speak well of Jess' skills as a man and rugged individual. The only thing he couldn't change were the rattlesnakes!"⁸

As early as 1931, a telephone line ran down Big Creek to mines on Crooked Creek, and in the early 1950s Taylor Ranch had a phone. The old oak-crank phone, and Dorothy's

⁸Cited in Akenson's report described in footnote 6.

operator's license, are still hanging in their original place in the Taylor cabin back room. Some phone insulators are still visible along the Big Creek trail, but the advent of radio communication and the hassle of continual phone line repair ended the back country phone network in the early 1960s.

The mid-'50s to early '60s were prime years for the Taylors' outfitting business. Jess kept mowing machines on both sides of Big Creek to make hay for the livestock. Each March, Jess and Dorothy arrived at Taylor Ranch from Boise to prepare for the steelhead season. The fall salmon season and big game hunting were concluded prior to their departure for the winter. One fall Jess caught a 35-pound salmon in the big hole about a mile downstream. During the 1930s and early '40s, mail was brought by dog sled down Big Creek as far as Cabin Creek, but dog sleds were replaced by air service in the 1950s. For awhile the Taylors hiked the seven miles weekly to Cabin Creek for mail, until Jess successfully lobbied for mail service by plane to Taylor Ranch in the late 1950s.

During the '50s and '60s, Jess supplemented his income doing contract trail work for the Forest Service and he worked the Rush Point and Cliff Creek trails into their present-day layout. Also during this era, the old suspension bridge at the mouth of Cliff Creek was replaced by a steel span bridge, with bridge segments flown to Taylor Ranch. Steel span bridges were also installed downstream across lower Big Creek and across the Middle Fork of the Salmon River at the confluence with Big Creek. Most packers were happy to see the old swinging bridges replaced, and so were their mules!

Transition: Guest Ranch to Research Station

Wilderness research at Taylor Ranch began in 1964 when Maurice Hornocker, then a graduate student at the University of British Columbia, made arrangements to use Taylor Ranch as winter headquarters for the first major study ever done on mountain lions (Hornocker 1967). Between 1964 and 1967, Maurice and his local professional houndsman, Wilber Wiles, captured numerous of the big cats drawn to the Big Creek basin by the wintering big game herds. They even kept captive mountain lions in a pen constructed

along Pioneer Creek. Hornocker and his research drew national attention and were the subject of a National Geographic film documentary in 1973. But the most important result of Hornocker's research was to change the status of mountain lions in Idaho from that of bounty animal to big game species.

In the mid-1960s the Taylors listed the ranch for sale and put their outfitting business on lease. It was then that Maurice Hornocker convinced both the University of Idaho and Jess Taylor of the potential value of the 65-acre Taylor Ranch as a wilderness research field station. Consequently, the ranch was purchased by the university in 1969 for \$100,000. It was anticipated that if the university invested several years of operating funds, the field station would become self-sufficient, funded by research grants. That vision has not been realized.

From 1970 to 1982, the ranch was operated by various outfitters under arrangements with the university to provide support for research. During this period, a cook house was built, a pack shed and storage shed were added, and then finally a bunkhouse adjacent to the cook house.

Periodically, more research projects were developed by faculty to take advantage of the new wilderness field station. During the '70s, Dr. Maurice Hornocker supervised two graduate students in major studies staged from Taylor Ranch. John Seidensticker studied mountain lion home ranges in the first radio-telemetry study of cougars (Seidensticker 1973), and Jim Claar looked at big game winter range conditions and utilization (Claar 1973). In the summers of 1975 and 1976, Dr. Mike Falter and his graduate student Ed Buettner, studied aquatic biology of highland streams near the ranch (Buettner 1977). In 1978 John Hartung, a graduate student of Dr. Jim Fazio, documented the historical resources along the length of Big Creek and its major tributaries (Hartung 1978).

From 1975 to 1980, ten undergraduate student research projects were conducted under faculty guidance. Students were selected based on their submitted proposals and topics ranged from surveys of raptors and rattlesnakes to the ecology of grouse and small

mammals. All but one of the projects focused on wildlife. Eleven reports resulted from the ten studies, with two undergraduates subsequently publishing articles based on their experiences at Taylor Ranch in professional journals (Elliot, 1977; Thurow, 1978).

1980-1990—Wilderness Classification and Increased Research

The Central Idaho Wilderness Act of 1980 (P.L. 96-312) established the River of No Return Wilderness of 2.2 million acres surrounding Taylor Ranch and the Big Creek drainage. Aircraft landings at existing air fields would continue as uses predating the Wilderness Act. With the added protection of wilderness classification, and a growing research program, the university made additional commitments. In 1982 Jim and Holly Akenson were hired as year-around Taylor Ranch co-managers and the outfitter's lease was terminated. A management plan was written, including a policy of only research and business-related landings for the airfield (University of Idaho 1988). Mules and a string of horses were acquired and a national weather service recording station was established at the ranch.⁹

With year-round support at the ranch, and the growing interest by faculty, research in the adjacent wilderness increased. In the early 1980s Greg Hayward and Pat Hayward, under the direction of Dr. Oz Garton, carried out studies of habitat partitioning and use and population biology of forest owls. This major research effort led to the discovery of a new breeding species and expanded knowledge of the boreal owl, which is now a key indicator

⁹During this era, Dr. Ed Krumpke assumed leadership of the university's Wilderness Research Center, including the Field Station, and initiated additional wilderness activity. He convened a national wilderness management conference, attracting 400-plus managers from all four federal wilderness managing agencies, including a field trip for some to Taylor Ranch. The conference led to the first national wilderness management plan, prepared from input by conference working groups and uniting all the agencies in commitment to wilderness management priorities for the first time (Bloedel et al., n.d. Frome 1985; Krumpke 1990).

species for high elevation spruce-fir forests.¹⁰ Also during the early '80s, Gary Koehler, under direction of Dr. Maurice Hornocker, investigated the ecology of bobcats (Koehler 1987; 1989). During the three years of this study, Koehler and his crew covered immense distances capturing and tracking the radio-instrumented bobcats, a distance estimated as equivalent to traveling to San Francisco from Taylor Ranch and back. During the same era, Sue Tank investigated habitat relationships of wintering passerines under Dr. Winifred Kessler (Tank 1983; Tank and Sidle 1986).

In 1983 Dr. Frank Leonhardy began a major archeological investigation of the settlement and subsistence patterns of Sheep Eater Indians, including excavation of a cluster of house pit sites half a mile downstream from the ranch (Leonhardy 1985). One of Leonhardy's graduate students, Fred Thomas, completed a master's project on the utilization of mountain sheep as a food source and hunting strategies used by the local Sheep Eater Indians (Thomas 1984). Gary Koehler completed field work on the bobcat study in 1984 and then moved into a re-evaluation of the mountain lion population study for Dr. Maurice Hornocker. During the winters of '85 and '86, a team of biologists and houndsmen, led by Howard Quigley from Hornocker's Wildlife Research Institute, captured 21 mountain lions (Quigley, Koehler and Hornocker 1987). In the mid-'80s, two bighorn sheep studies were implemented under Dr. Ernie Ables by graduate students Jim Bennett and Holly Akenson, whose master's thesis will report on behavior and relationships of bighorn sheep, mule deer and elk on Big Creek winter range, based on observations from Taylor Ranch with a spotting scope.

In 1986 a student internship program was initiated, which provided summer learning opportunities for undergraduate students who assisted on research projects and did ranch work. Since then, student interns have helped perform ranch maintenance and collect data on noxious weed surveys and range condition transects, small mammal sampling and

¹⁰The wilderness studies of owls by the Haywards and Garton are reported in many scientific publications: Hayward 1983; 1989; Hayward and Garton 1983; 1984; 1988; Garton, Hayward and Hayward 1989; Hayward, Hayward and Garton 1987; 1991; Hayward et al. 1987.

campsite inventories, while learning wilderness skills and appreciation. With help from the interns, a major study of monitoring wilderness conditions and experiences was carried out, partly near Taylor Ranch but in other wilderness areas too, by Linda Merigliano under supervision of Dr. Ed Krumpe (Merigliano 1987; 1989; Krumpe 1985; Merigliano and Krumpe 1986).

To expand support for the growing research program, a pole barn was constructed to store hay for the mules and string of horses, and the old cabin built by the Conyers in 1911 was converted into a field laboratory. By this time the Taylor Ranch field station was attracting national attention. A documentary of research activities at the field station and the isolated lives of resident managers Jim and Holly Akenson was aired on many public broadcasting stations around the country, and the magazine *Idaho, the University* featured stories on Taylor Ranch (Savage 1986; Pritchett 1986; Akenson and Akenson 1986; Moors 1989). During late winter of 1987, ABC filmed Dr. Maurice Hornocker and his staff catching a mountain lion near the ranch. Subsequently, this research was featured on *Good Morning America*.

By the late '80s, summers at the ranch became very busy with research projects and the intern program. Dr. Jim Peek established vegetation plots and transects and remeasured several old exclosures for a continuing range utilization study which will provide an important record of plant and animal response to removal of grazing several decades ago (Peek 1988). Drs. Steve Bunting and Penny Morgan evaluated the spread of spotted knapweed; Dr. Wayne Minshall and graduate students from Idaho State University surveyed aquatic invertebrates on Big Creek and assessed the responses of streams to major wildfires in 1988; and an automated meteorological and atmospheric monitoring station was established in cooperation with the Idaho National Engineering Laboratory. Responding to alarm over unexplained bighorn sheep die-offs in the northern Rockies, a major bighorn sheep study was initiated in 1988, in cooperation with Idaho Fish and Game, to study wilderness herds in Big Creek where there is no contact with livestock and little disturbance by people.

By the summer of 1990, the physical capacity of the ranch was often saturated, despite strict observance of the policy that air field use was allowed only for university business, research or education. About 30 wilderness resource projects had been completed or were in progress and summers were busy with a three-week field course, the student intern program, ranch maintenance and research projects to be assisted. In 1990 Dr. Jeff Yeo hosted two sections of 12 students each from San Francisco State University's Wildland Studies Program, with several students turned away because of wilderness and housing limitations. Some international visitors interested in wilderness research were hosted, including delegations from South Africa and the Soviet Union.

The costs of operating Taylor Ranch have been a continuing concern. Limited funding for wilderness research demanded scientists with creative approaches and a strong desire to work in wilderness. Most research was "recruited" by urging faculty with funding to use the vast wilderness laboratory that was accessible from the ranch. Initial budgets for operation and maintenance of the Taylor Ranch field station averaged \$10,000 per year, climbing to about \$29,000 by 1986, and falling under recent cuts to about \$25,000 today. These monies must cover all expenses, including airplane charter, propane, mail, food and supplies which must all be flown in, building maintenance and repair, and livestock expenses. Support for student interns and research costs not covered by outside grants and contracts must come from other budgets.

Getting Ready for the Future: 1990 and Beyond

During the summer of 1990, with resident co-managers Jim and Holly Akenson planning to leave for other career opportunities, some major changes were initiated to reduce costs and further strengthen wilderness research and education programs. The position of field station resident manager, a job shared by Jim and Holly the past eight years, was upgraded to that of scientist/manager and Dr. Jeff Yeo, a wildlife biologist, was hired for the position. Horses and mules at the ranch were reduced from nine to four, to be kept at the ranch during summers only, thereby reducing the need for putting up so much hay. Education would play a bigger role, including University of Idaho sponsorship of the

"Field Research in Wilderness Ecology" course taught the previous year by Dr. Yeo. The intern program would continue, but focus even more on initiating long-term field studies and providing research assistance.

A major change during 1990 was the addition of a building moved from the former Lanham Guest Ranch seven miles upstream at Cabin Creek. The Lanham Guest Ranch was purchased by the Forest Service in 1974 as part of their effort to buy up wilderness inholdings. Their original plan was to destroy the cabins on-site to restore wilderness naturalness and solitude. But strong sentiments by Big Creek residents and others opposing destruction of the attractive buildings had prevented action the past fifteen years, during which the cabins stood locked and empty. In the summer of 1986 the Hendee family camped in the cottonwoods in front of the buildings and lamented that one of the nicer buildings wasn't located at the Taylor Ranch field station, where it could be used to support research and education. After further investigation of the feasibility of moving one of the nicer buildings, a 61-foot by 24-foot log structure, to Taylor Ranch the move was proposed to the Forest Service. Payette National Forest Supervisor Vito "Sonny" LaSalle liked the idea and initiated the extensive environmental analysis that would be required to move the building and naturalize the Cabin Creek site.

The initial idea was to dismantle the cabins log by log and float them a mile down Cabin Creek to Big Creek, and then six miles downstream to Taylor Ranch. Unfortunately, the logs were connected by steel pins and thus entire wall sections had to be kept intact. The Forest Service and the university approached the Idaho National Guard to see if they could move the cabin as a community service and training exercise. After General Manning of the National Guard visited the site with Governor Cecil Andrus, the project was approved (Movius 1991). During a three-week period in July 1990, the cabin was disassembled, transported by forklift and mule wagon to the Cabin Creek air strip, and then air-lifted to the meadow at Taylor Ranch where it was reconstructed. The goal was to complete the project with minimum use of mechanized equipment, although some use of a reciprocating saw was needed to cut spikes, and a forklift was used to transport a few sections of wall

about 1,000 feet to the air strip because they were found to be too heavy or awkward for transport by mule wagon.

Everyone connected with the airlift was concerned about the temporary impact on wilderness solitude and wildlife. Between June 20 and July 11 there were 58 helicopter or fixed-wing landings associated with the project. The idea behind the project was that the long-term benefits to wilderness, from the research that would be enhanced by the expanded facilities at Taylor Ranch, would outweigh the temporary impacts. When a bull moose trotted from the old Lanham Ranch site at Cabin Creek just as a Forest Service and university team approached for a final inspection, it seemed like a good omen. Today the Cabin Creek site is restored to its pre-1940 condition, and the new Wilderness Education and Research Laboratory provides classroom, laboratory, kitchen and sleeping quarters for four at the end of the meadow at Taylor Ranch.

Future Plans for Wilderness Research and Education

The Taylor Ranch Wilderness Field Station sits in the middle of the largest wilderness complex in the lower 48 states. Big Creek and three side streams cross the property and only occasional hikers pass the ranch on the Big Creek Trail, although outfitter spike camps in the surrounding high country are full of hunters during deer and elk season. Adjacent big game herds spend all their seasonal cycles in the wilderness, affected only by the fall hunt and natural predators and influences. Future research at Taylor Ranch will continue to take advantage of these natural conditions, with a focus on environmental monitoring and assessment. The weather station, air quality monitoring station, and, in the future, water quality monitoring will provide more information on environmental influences. Such information will support studies of response to natural events and will provide a point of reference for continuing studies of vegetation, fire, wildlife populations and behavior. Long-term monitoring, baseline studies and comparative studies with managed situations are anticipated. The field station will be a staging area as much as possible for research and education conducted in the surrounding wilderness, and not concentrated just at the ranch.

Because we want to respect the spirit of wilderness, we struggle with questions such as: is it proper to use a chainsaw on the property to cut a winter's firewood supply? What about propane refrigerators for food and to preserve scientific samples? Is solar electricity appropriate for the specimen preparation laboratory? Is solar electricity preferable to a low-head hydro source from one of the streams? What about microwave transmission of data—or even the battery-operated air quality and weather monitoring stations? These are the issues we struggled with in the university "wilderness research center" plan (University of Idaho 1988). Even on a private wilderness inholding, we need to strike a balance between the spirit of the wilderness and the use of modern scientific techniques to discover her secrets. But where do we draw the line and provide research support that will attract good scientists and allow them to do competitive work at an affordable cost? The answers are not easy. But we will draw the line to feature studies that depend on wilderness conditions that are not available in managed environments (Hendee, Schoenfeld and Peek 1981). Guidelines for research in the surrounding wilderness are outlined in the Frank Church-River of No Return Wilderness Management Plan (USDA 1985). These guidelines encourage research, but restrict permanently established or instrumented sites, even for long-term monitoring.

Funding Wilderness Research at Taylor Ranch and Elsewhere

We are proud of the impressive list of studies that have been staged out of Taylor Ranch. But it's not really a research program, although Hornocker and colleagues made major contributions to knowledge about cougars and bobcats, as did Garton and the Haywards on owls. It's more a collection of studies, opportunistically implemented by faculty who were interested and had funding. A research program requires base funding for continuing studies, and there is a great need for such funding to support wilderness research programs at Taylor Ranch and elsewhere.

We have a diverse National Wilderness Preservation System: more than 90 million acres of the most natural remaining areas in our country, managed by four federal agencies and located in every region and 44 states. The nation needs a national wilderness research

program directly applicable to all these agencies and all wilderness. There is such a program for forest management research. A new funding program for wilderness research could be established, following the model of the McIntire-Stennis program that funds forestry research in the nation's land grant universities by allocating money to each state according to its timber inventory and harvest. A new program might allocate wilderness research funds to states according to their acreage of classified wilderness (Hendee 1989), or perhaps a new, federal block grant program could support wilderness research. Research could be directed toward environmental monitoring and assessment or visitor management studies to harvest the scientific values of our Wilderness System and to support its management. We need a wilderness research funding system so that facilities like the Taylor Ranch Wilderness Field Station, and the scientists who would go there to study, can achieve their potential for discovering the scientific secrets that wilderness holds.

CONCLUSION

The history of Taylor Ranch mirrors the evolution of society's view of wilderness. In the early part of this century, Dave Lewis homesteaded the site that is now Taylor Ranch. He supported himself in part by killing mountain lions for bounties. In the middle part of this century, Maurice Hornocker developed the first major study of mountain lions' which put an end to the federally-subsidized bounties paid for killing mountain lions in Idaho. Now in the last part of this century, we are starting to focus on more than just single species, to focus on whole communities and landscapes, a focus on the wilderness resource. This is the next wilderness frontier--research and monitoring to discover more about natural systems and how to protect them, and what they have to tell us about what we're doing to the rest of the world.

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