divining rod

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Managing the River

The Rio Grande has been living up to its name lately while causing its users and managers not just a few problems. Those problems will be discussed at the 31st Annual New Mexico Water Conference on "Managing the River" Oct. 23-24.

The conference will be held in Santa Fe at the newly remodeled Hilton Hotel near the downtown plaza.

Nolan Hester of the Albuquerque Journal will lead off the first session with the public's eye view of the water surplus.

A representative from the U.S. Army Corps of Engineers will discuss how, for the first time, upper basin flood control projects were used to help control flows below the middle valley.

Phil Mutz, Interstate Stream engineer, Interstate Stream Commission, will outline the history of river development.

Bureau of Reclamation officials Charles Calhoun and David Overvold will talk about the operation of the Rio Grande in northern and central New Mexico during the critical 1985-86 water surplus.

Bill Saad, manager of the Elephant Butte Irrigation District, will discuss how the district deals with surplus and present some of the problems farmers have with river regulation.

New Mexico Department of Natural Resources Planning director Robert Findling will present views on the recreational aspects of river management decisions.

Russell Brown, U.S. Senate staff, Energy and Natural Resources, will explain the role of Congress in river management.

Other topics on the program include water planning for cities, river management concerns of Indian pueblos, and the environmental consequences of high water.

The conference also will feature a hydrodrama panel, "High Times on the Rio Grande," patterned after the popular PBS series, "The Constitution." Moderator Jerry Sherk, a U.S. Department of Justice lawyer, will lead "actors" through real and hypothetical situations in river management. The cast so far includes State Engineer Steve Reynolds, Col. David Peixotto, U.S. Army Corps of Engineers and Eugene Hinds, regional director of the Bureau of Reclamation.

The conference preregistration fee of $30 includes the conference, the proceedings and a catered discussion hour Oct. 23. The student discount fee is $15. Registration at the door will be $10 more.

Registrants will receive information on where to eat and what to see in Santa Fe. They also will receive discounts at Santa Fe's four museums.

Program and preregistration information will be mailed in early September. For more information call the institute at (505) 646-4337.

Conference taking shape

Water history to be topic of meeting

The New Mexico State University history department is sponsoring a conference on "Water and New Mexico: Cultures of an Arid Land" Sept. 20 at the Branigan Memorial Library in Las Cruces. The conference is free and open to the public.

The first session features a panel discussion on water issues from Hispanic, Native American and Anglo perspectives.

The second session will be overviews of New Mexico water history, western United States water, New Mexico folklore and New Mexico public policy. The film, "When the Rivers Run Dry," also will be shown.

For more information call the NMSU history department at 646-4601.

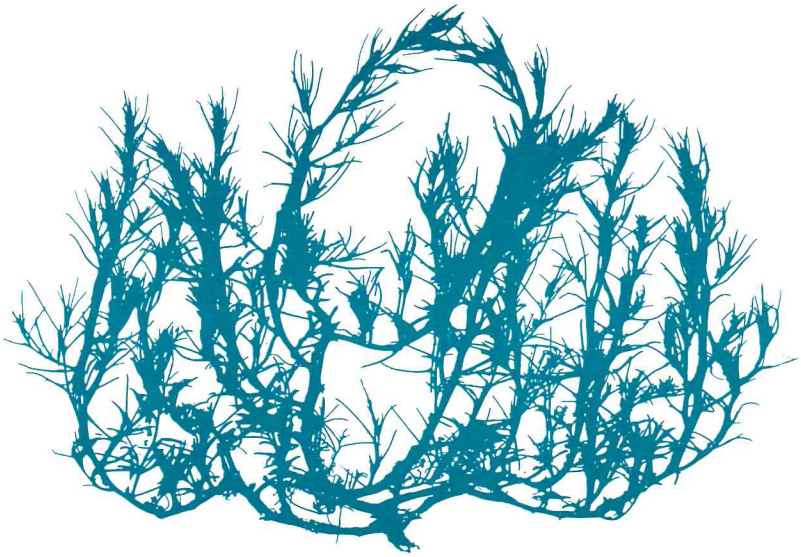
Proposal deadline

The deadline for proposals under the 1987 institute research program is **Dec. 15, 1986.** Selected projects will be funded from state appropriations and from the USGS-State water research institute program.

Project Coordinator Darlene Reeves suggests that researchers obtain a copy of the Proposal Guidelines from the institute before submitting their proposals. For more information call 646-1813.

The object at right is a:
(a) saltwort
(b) Russian thistle
(c) Hageman xerograph orginal
(d) tumbleweed
(e) all of the above

Answer: (e)



Tumbleweed: A forage by many other names

Jim Hageman first noticed the dark green plant known as Russian thistle in 1971 during bike rides to work. Even after he learned that the roadside plant was the infamous "tumbleweed," he still thought its vigor and color merited further investigation.

In 1973, the New Mexico State University biochemist teamed up with NMSU agronomist Jim Fowler. With a grant from the New Mexico Water Resources Research Institute, the two set out to evaluate the nutritional value of Russian thistle.

Two years of research showed that Russian thistle averaged 21 percent protein before the bloom stage, and 16 percent overall. Although the protein content falls after blooming, the plant's fiber content increases from 20 to 23 percent during that later stage.

In comparison, alfalfa averages 20 percent protein and 26 percent fiber. Russian thistle also requires only half to a third as much water as alfalfa.

The two were not the first at NMSU to study the plant. In 1895, E.O. Wooten issued an agricultural experiment station bulletin reporting the arrival of the "wind witch" in New Mexico. He traced its appearance in 1894 to fields near the Santa Fe penitentiary and reported it moving down the road toward Cerrillos. He described ways of killing the plant and closed with the admonition to "destroy every plant you see and see them all."

He was too late. By the time the Russian thistle had reached New Mexico it had tumbled its way through 16 states. It is said to have entered the United States at Bonhomme County, South Dakota in 1873, stowed away in a Russian immigrant's sack of flax seed.

Not all farmers viewed the thistle as a threat. A 1902 Kansas State Board of Agriculture report showed that 80 percent of the farmers surveyed favored the Russian thistle for emergency forage. In one testimonial, a farmer wrote that livestock "greedily" ate the young tender plants. Another farmer wrote that thistles were good milk producers.

Fowler speculates that farmers turn to Russian thistle during drought when other plants fail to produce. "Russian thistle is a crop that fits environments characteristic of arid lands agriculture, including salinity." he says. To an extent, Fowler says salinity may actually trigger growth in the plant with yet another alias -- saltwort.

In 1984, Fowler and Hageman again collaborated to test the thistle's salinity tolerance. New Mexico has an abundant supply of saline water, which is unsuited to irrigation for most crops. Under a WRRI grant, they conducted greenhouse tests of the thistle's response to different levels of saline irrigation during three growing stages.

They found that saline irrigation caused a 50 percent drop in germination, but that during the seedling stage, salinity tolerance increased with time. The plant responded to moderately saline (5,000 ppm TDS) irrigation by increasing its biomass yield by 56 percent at 64 days after planting compared to the control treatment.

Fowler says the plant should be field tested for feeding trials. From the 500 thistle varieties the two researchers collected, seven show promise as good forage. "If we had five years and a half a million dollars, we could put it on the market," Fowler says.

The Russian thistle also has a potential market for its chemical components. Biodyne, a California corporation, has taken interest in thistle cellulose for use as a filler in pills and paper, and in thistle protein for use in chicken feed supplements. Hageman says the corporation has visited Las Cruces twice looking for pilot plant sites.

The researchers are ready. They already have designed field plots where they can grow one crop that is high in fiber, another with high protein, another with citric acid and a fourth with fiber/protein balance.

"Weeds and crops have many common characteristics," Fowler says, "they're fairly easy to grow and they're adaptable. Their status as either a weed or valuable crop is just a matter of economics."

Movie Making

Robert Redford and other characters

by Linda G. Harris

Just outside of Truchas, New Mexico, "The Milagro Beanfield War" is in its fifth day of filming. A New York artist, up from Santa Fe, leaves her card with the security guard with a message for her friend, the movie's assistant something or other. Two other women wait beside the dusty road for Robert Redford to return from lunch.

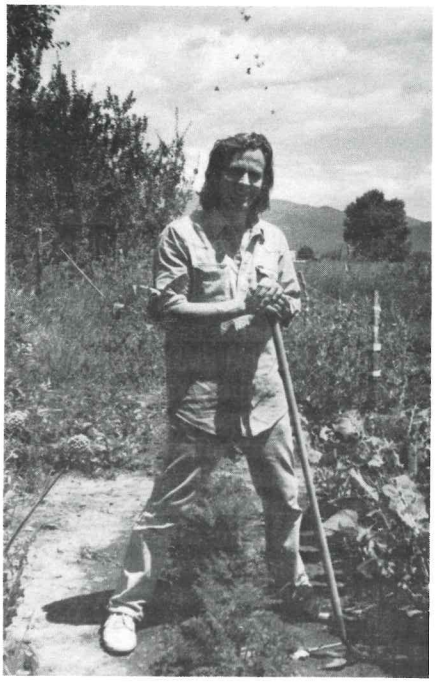
While Redford may be the sideshow, the real story lies with two other characters. One is "Milagro's" author John Nichols, who fled to Taos in 1969, a refuge from the anti-war movement. The other is State Engineer Steve Reynolds, who has held power over the state's water resources for the past 30 years.

"Milagro" is the ficticious account of a community's successful fight, led by the unintentional hero Joe Mondragon, against the formation of a water conservancy district. Joe, in a small defiant gesture, let water into his beanfield, water he had no legal right to use. The community rallied around Joe, in the end creating such a fuss that the developers, the conservancy district and the state engineer finally gave up the fight.

Nichols based his novel on a 1971 water battle in Taos between the Tres Rios Association and the U.S. Bureau of Reclamation over a proposed conservancy district and the Indian Camp Dam. The real ending five years later was not as dramatic. The court approved the formation of the district but the association appealed to the State Supreme Court which overturned the case on a technicality. Today, Taos is still not part of a conservancy district.

Reynolds, who resembles Nelson Bookman, "Milagro's" state engineer, admits that the Taos case was "botched up." Part of the problem with a conservancy district, he says, is that every landowner within the district is taxed to support the district, which usually includes dams and levees. "It causes a lot of hassles because nobody likes to pay taxes," he says.

A conservancy district is formed for flood control, irrigation, drainage and other water conservation purposes. A district can be formed simply by petitioning the conservancy court, which is also the district court. The district court judge decides the outcome. The decision can be appealed, which is the route the Tres Rios Association took.



The author and his butterflies. John Nichols leans on his hoe beneath a halo of yellow butterflies in his Taos garden.

An irrigation district, on the other hand, is formed after petition by the majority of the landowners and an election. The district's only purpose is irrigation and only the farmers are taxed.

Nichols' book *If Mountains Die* recounts his involvement with the Tres Rios Association. "I got my education in water law through dozens of meetings about the Indian Camp Dam," he says.

At one of the first meetings soon after arriving in Taos, Nichols who calls himself a semi-Marxist Leninist, plunged into the controversy with an emotional speech about poverty, land ownership and dispossession. Charlie Bloom, the young legal aid lawyer in "Milagro" gives nearly the same speech at a community meeting.

Nichols' politics are not much changed in the 15 years since that impassioned speech. On this cool summer morning he sits in his kitchen where a filing cabinet next to the refrigerator and books like *Settlement and Subsistence Along the Lower Chaco River* on the bookshelf hint that his conversation will lean toward talk about class struggle and exploitation.

"New Mexico is like a colonial state where there are the poor people and the people who get fat off the poor people," he says. "Nobody is interested in maintaining a poverty culture, but if the people are displaced from their land by an 'economic miracle' such as a dam, these people will end up sewing jeans at Levi Strauss."

He says he is not against progress, but believes in a balance between growth, cultural values and natural resources. Although Taos is clogged by seasonal tourists, the county is characterized by a subsistence economy that ranks it 23rd in per capita income for the state.

The engineer and his trophy. Steve Reynolds keeps his "proudest possession" tacked to the back of his office door.

"There are huge pressures to change the nature of who uses water. It's especially obvious in Taos where the bankers and realtors wanted a reservoir for industrial and recreational development," Nichols says.

(Continued on back page)

Redford cont.

Reynolds believes, however, that the state's water rights system is fair. "I don't know how the law could work any better," he says. Reynolds explains that a water right is like a property right, which can be bought or sold separately from the land. Also, cities and counties can condemn water rights for their fair market value. "A water right is as solid as your house that's bought and paid for," he says.

While the desire to limit water rights transactions to preserve the culture is noble, he says the limitation also could be "depriving owners of the value of their land."

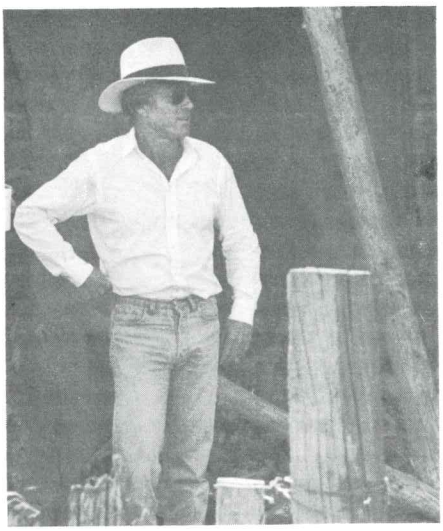
Reynolds, like Bookman, knows every twist and turn of New Mexico's water law. Bookman, Nichols wrote, "was more responsible than any other person or group for what water the state had obtained during that time through interstate compacts and reclamation projects and so forth."

Reynolds' office is hung with the spoils of his political, diplomatic and legal victories -- plaques, photos and a handle from the spillway gate at Elephant Butte Dam. A teeshirt tacked on the back of his door reads "Viva Milagro Beanfield." It's hard to imagine him ever wearing it.

He looks more like an intellectual than the former captain of the University of New Mexico football team.

He and Bookman also share a way with words. Nichols describes Bookman as using language "like a scalpel. He cut carefully and cleanly, never misstepping, building arguments that were irrefutable, even if erroneous or morally repugnant."

Reynolds says when the book came out, he took it "largely in good humor, but pointed out a "certain illiteracy" to the book. As proof, he retrieves a hardbound copy stuffed with newspaper clippings and small slips of paper marking where



The director and his white hat. Looking every inch a movie star, Robert Redford ponders the next scene.

Nichols had misused words like "laconically."

He also thinks Nichols' portrayed the Hispanics in his book as "dissolute, immoral and illiterate." The Anglos, he said, were "just amoral, but reasonably intelligent."

"I hope, "Nichols says, "that my characters are real to people and reality is not perfect. You can have the stupid idiot who follows the Cisco Kid or you can portray the people in a realistic, sympathetic way."

He says the two dozen characters in his book operate in a wide range of reality, both good and bad. Even the developer had good qualities. "But," he adds, "the book is less about characters than social systems."

Nichols, the radical novelist farmer, is no stranger to Hollywood. His books *The Sterile Cuckoo* and *The Wizard of Loneliness* also were made into movies, and he rewrote the script for "Missing."

Los Angeles producer Montesuma Esparza picked up the movie option for "Milagro" and got the production rolling. Esparza then contacted Redford who became one of the coproducers and its director.

Nichols hasn't even been to the "Milagro" set. He's too busy rewriting the script so the changes can be shipped out on the bus each day.

Reynolds also has a part in the filming. He says officials from Milagro Productions called asking for water rights to irrigate some plastic beans on the film set. "Do you know who you're talking to," Reynolds says he asked the caller? "This is Nelson Bookman." He told them he didn't let the character in the book have water to irrigate his beans and he wouldn't let them have it now. "I did it just to follow the script," he laughs.

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