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ON THE COVER

Joe Morris sits his horse in a stand of belly-high creeping wildrye on one of the ranches managed by T.O. Cattle Company, San Juan Bautista, California.

GRAZING FOR CHANGE

Range and Watershed Management Success Stories in California

WRITTEN BY DAN MACON
FOREWORD BY DAN DAGGET



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FOREWORD

BY DAN DAGGET

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When Dan Macon and I gave a talk to a group of ranchers, urban environmentalists, government staffers and just plain folks in East Quincy, California, recently, Dan asked the audience, “What does a ranch produce?” Since that gathering took place not too long after the Columbine, Colorado, tragedy I remember that one response was: “Kids who have a strong sense of right and wrong.” I don’t remember exactly what the other responses were, but to the best of my recollection they were things like: food for the U.S. and the world, jobs, healthy rural economies and things like that.

The stories that the California Cattlemen’s Association (CCA) and Dan tell here expand that list significantly, not just in terms of the number of things that ranches produce but in terms of types of things. In addition to commodities such as beef, lamb, wool and other types of food and fiber, Dan gives us examples of ranches producing open space, native grasses, functional watersheds, and healthy wildlife habitats.

These stories are heartening for anyone who values open, uncluttered landscapes inhabited by healthy populations of plants and animals and people. And they are encouraging for those of us who take heart in examples of people living in harmony with Nature and with one another.

These stories are so heartening in fact that they may give some of us cause to sit back a bit and rest on the laurels of the good stewards CCA profiles here. Today, with the winds of conflict blowing hard across America’s rangelands and with beef and other commodity prices yo-yoing as usual, with the weather being even more unpredictable than most of us remember it, and with one third of the ranches in the West up for sale, who could blame ranchers for resting on anything that even resembled laurels. Certainly, I couldn’t.

So, sit back and take pride in what these exceptional stewards have achieved. But don’t settle too deep into that easy seat. This book is as much a beginning as it is a celebration. And as is the case with all beginnings, it portends that there is work to do, hard work for anyone interested in the future of the rangelands of California and anywhere else.

This book remains a beginning in spite of the fact that it is not the first book chronicling the successes of ranchers in achieving environmental goals. It remains a beginning because all of those books have yet to achieve the desired result – to bring ranchers and environmentalists together in a broad, effective and sustainable synergy that makes them both better able to achieve the interests they have in common. I wrote one of those books in 1995. It was called, *Beyond the Rangeland Conflict, Toward a West that Works* and gained fairly broad recognition because I am a life-long environmentalist. Traditionally, environmentalists have written books to bury ranching rather than to praise it. Books have been written about the value of good ranching stewardship in Colorado and Montana and I don’t know where else, but none before this have been written about California and the unique challenges and opportunities that exist there and about the people who are successfully addressing those challenges and opportunities.

That is what CCA and Dan have done, and we are all in their debt for it. We are in their debt because without this account we face the challenge of shaping a sustainable, healthy future for the rural lands of California

seriously blinded: Blinded to some of the most effective tools we have to address those challenges – tools that CCA has described in this book. Blinded to the capabilities of individuals who have skills vital to effectively address those challenges – skills of which CCA has made us aware in this book. And blinded to the best we can achieve if we reject the assumption that merely removing rural land managers from the land and accepting whatever ensues as somehow “natural” will get us what we want.

I’ve taken the message that CCA and Dan make here – that the best way to achieve what is natural is to manage for it – to venues across the West, and I’ve presented it to audiences that range from ranchers and private property rights advocates to gatherings of vegetarians and preservationists who advocate an end to all ranching. Encounters of the latter sort have been the most instructive. Those who are actively working to remove ranching from the public and in some cases private land, have remained skeptical and even hostile, until I’ve showed them photos of results such as those described in this book.

At that point, the dialogue inevitably changes. Some of the responses I have received have included: “I never knew anything like this was happening.” “It’s just the opposite of what we’ve been told.” and “These people should be commended. How can I help.” In fact, all except those who have had a vested interest in the rancher/environmentalist conflict have responded in a supportive manner when I showed them examples of ranchers achieving environmental goals – their goals.

What that means to me is that even those people who are opposed to ranching want the environmental values ranchers can produce. If that’s not a bridge waiting to be built, I don’t know what is. If that’s not a new market awaiting some pioneering entrepreneurs to develop, I don’t know what is.

With that in mind, if those of us who read this book want it to amount to more than the welcome but fleeting glow most of us will get from reading it, there are a couple of things we can do. We can treat these success stories as a catalogue of environmental values ranchers can produce for a public which has identified the environment as one of its top priorities. And we can start working to develop the means to market those values to the people who want them.

The end result of that, the success of the free market tells us, will be an increase in the amount of environmental value produced by ranchers and greater prosperity for the ranchers that produce it. That, in turn, will be good for both ranchers and for those of us who call ourselves environmentalists, and for the land as well.

I realize that some of us are already doing this – selling or donating conservation easements, marketing beef, lamb or wool that is natural or organic or warranted to be produced in a manner that is beneficial to the environment. In fact, CCA is doing that through the creation of the California Rangeland Trust. However, the stories that the California Cattlemen’s Association and Dan give us here confirm that well-run ranches have plenty more to offer than we have yet given them credit for.

Dan has given us a beginning. It is up to us to put that beginning to work.

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The following individuals provided nominations of ranches and watershed groups and helped identify the tools and strategies highlighted in this publication. Their input helped ensure a broad perspective in evaluating the success of each operation.

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INTRODUCTION

Like all other businesses, the business of ranching continues to evolve. Ranchers blend new ideas with proven range management methods to improve both the environment and their bottom line. While domestic livestock grazing has had a controversial past, land managers and policy makers are beginning to understand its value in improving rangelands and restoring native species.

The ranches and groups highlighted in this publication are outstanding examples of innovative range and watershed management. They are proving that economic and ecological success can go hand in hand. While each of these ranches is an outstanding example, it is by no means the only example of success in California. Ranchers throughout the state are finding ways to improve the economic positions of their operations through ecosystem improvements.

The California Cattlemen's Association would like to thank the individuals and organizations that made this publication possible. First and foremost, we would like to thank the U.S. Department of Agriculture Natural Resource Conservation Service for providing an Environmental Quality Incentives Program education grant to help produce this booklet. In addition, the U.S. Environmental Protection Agency and the Livestock Memorial Research Fund have supported this project through grant funding. Our steering committee helped provide clear direction about the types of innovations we have highlighted. Our steering committee also helped us understand the partnerships that will help the ranching community address ecological matters in an economically sustainable manner. Finally, we wish to thank and commend each of the ranchers and groups that are included – your creativity and willingness to share your operations made this effort possible!

A NOTE ON PHOTOGRAPHY

Most of the photographs in this publication were taken between July 1999 and November 1999.

Given California's Mediterranean climate and our dry spring in 1999, most of the rangelands featured here had not received significant precipitation for several months at the time that these photographs were taken.

Even so, the management employed by each of these ranchers speaks for itself. We especially want to thank photographer and wildlife biologist Kent Reeves for his outstanding work.



PG&E's Diablo Canyon power plant, adjacent to the Pecho Ranch.

BLANCHARD RANCH

*Bob and Terri Blanchard
Cayucos, California*

Few ranches are as spectacular as the Pecho Ranch that Bob and Terri Blanchard lease from Pacific Gas and Electric (PG&E) on California's central coast near Los Osos. Rolling hills drop suddenly to the Pacific Ocean along more than three-and-one-half miles of coastal frontage. In stark contrast, the neighboring Montaña de Oro State Park, which has not been grazed for some time, lacks the ecological health and biodiversity of the Pecho Ranch. "Experiencing and analyzing the evidence available right here, it is easy to conclude and demonstrate that flora, fauna and the natural resources are worse with the prolonged exclusion of grazing," says Bob.

The Pecho Ranch includes roughly 3,500 acres of steep mountain country with a predominately flat, narrow coastal shelf. The ranch produces a mix of grass, forest and brush species and supports a wide variety of animal species including deer, quail, bobcats, mountain lions, burrowing owls, eagles, and other coastal birds and mammals. The balance of the Blanchard's operation is on 3,500 acres of leased land surrounding their headquarters in Cayucos.

"Although we deal with a wide variety of terms and conditions in our leases – including three verbal agreements – we've had basically the same operation for 30 years," explains Bob. "We believe that our continuous efforts to improve our land stewardship practices are largely responsible for our longevity on these leases."

HISTORIC MANAGEMENT

Like many ranches in California, the ranches leased by the Blanchards had been managed using continuous grazing and large pastures. Crossbred cows weaned large 650 to 700 pound calves, but historic stocking rates resulted in high production costs and lower returns. Higher stocking rates, on the other hand, led to poor conception rates and other challenges, including environmental problems that also added costs to the operation. The lack of acceptable returns and Bob and Terri's concern for the environment caused them to look at and experiment with other alternatives.

CURRENT MANAGEMENT

In 1985, the Pecho Ranch was purchased by PG&E, who maintained the previous owner's desire to run as many cattle as possible to

maximize rental income. In 1990, PG&E formed a Land Stewardship Committee, consisting of PG&E employees, to take over management of the ranch. "They were mostly environmentalists," laughs Bob, "and a conflict seemed inevitable between them and me, the traditional rancher." Rather than butt heads, Bob and Terri met with the committee to compare goals. "We found that we had more in common than we had differences," recalls Terri.

Beginning in 1992, the Blanchards implemented a high density, short duration management strategy. "We just call it 'managed grazing' as opposed to continuous grazing," explains Bob. The Pecho Ranch is now divided into 25 pastures. The entire herd grazes a pasture for several days, creating a brief period of intense impact on the rangeland vegetation. Following each grazing period the pasture is rested for 45 to 60 days (or more). According to Bob, "the point is to mimic the beneficial effects of the migratory herds present during the evolution of our grasslands while eliminating or at least minimizing any negative impacts associated with continuous grazing. This helps us meet our environmental and economical goals."

STEWARDSHIP GOALS

Bob and Terri understand that establishing clear goals indicates the proper path. Working with their lessors, the Blanchards have established the following goals:

- Gain further understanding of responsible, sustainable use of natural resources within an economically viable grazing operation.

"Grazing is so essential to California's rangeland that striking a balance between the environmental and economical needs of a ranch in California is very achievable," says Bob. "We are not doing anything radical with our management. In fact, many ranchers in California are working hard to strike the same balance. We are just fortunate in that we have been recognized for our efforts."

- Re-establish (to the extent possible) the natural coastal prairie ecosystem, focusing on native perennial grasses and plants.

As with most resource goals, a long-range plan is needed to accomplish the task. By shifting some paradigms, the Blanchards are providing much-needed time to re-establish species. The benefits are increased productivity and biodiversity.

- Educate others as to the essential role that grazing animals play in maintaining a healthy, diverse ecosystem.

Bob and Terri have always been strong grazing advocates and have challenged other producers to share their knowledge with the public. "Many ranches have been in the same family for generations and could not be in any better ecological condition. I just wish all producers could take the time to show their communities all the environmental benefits resulting from their grazing operations," says Terri.

INNOVATIONS AND TOOLS

Water and water systems: The Blanchards use gravity-distributed spring and creek water, as well as some seasonal pumping, to distribute water to



NCBA PHOTO

Terri and Bob Blanchard

The western edge of the Pecho Ranch ...
 "Managed grazing is justified on economic issues," Bob believes; "the environmental benefits come along for free!"



NCBA PHOTO

“It is a source of great personal satisfaction for Terri and me, and I believe for the folks at PG&E, to be involved in these projects. As time goes on, we expect to find better answers to the questions we have today, probably come up with many new questions, and hopefully continue to seek answers to them.

We know we are working on some issues regarding sustainable agriculture and the responsible use of natural resources that have importance far beyond the benefits that may accrue directly to ourselves.”

– Bob Blanchard

their livestock. While Bob and Terri have not completed a formal Rangeland Water Quality Management Plan, they evaluate water quality and distribution continuously. Bob points out, “As ranchers know, high quality water and proper distribution are essential tools in proper grazing management. Having good water in strategic locations has also attracted the diversity of other animals we see on our ranches.”

Vegetation: Using high density, short duration grazing with cattle, and now browsing coastal scrub with goats, the Blanchards aim to restore the remnant population of native perennial grasses on the ranch.

The Blanchards are using Spanish meat goats to control vegetation to reduce the threat of wildfire near the Diablo Canyon power plant (adjacent to the ranch). Rather than using the traditional approach of confining goats in a given area until all of the vegetation is removed, Bob and Terri manage these brushy plants much the same way they manage the grass – by rotating through a given area two to three times per year. “We believe that we’ll be able to demonstrate effective and environmentally sensitive vegetation management within the scope of an economically viable meat goat business,” says Terri.

By feeding hay to cattle confined in an isolated area of coastal scrub habitat, the Blanchards have broken down old, decadent brush and encouraged the reintroduction of younger stands of brush and perennial grasses. Though very effective, the practice is expensive and has been replaced by the use of the goats.

Wildlife: Bob and Terri focus on the dramatic differences in the number and diversity of wildlife between the ranch and the adjacent state park. Their integrated approach to grazing management appears to have tremendous benefits. The most visible example of this has to do with bird populations. Informal counts indicate a greater than ten-fold increase in the number and species of birds that occupy a given area of the ranch vs. a similar area in the park. The explanation is simple – grazing gives rise to a higher level of plant diversity and productivity, in turn supporting a larger and more diverse population of insects and small animals like birds, reptiles, and rodents, which in turn are available to support a

much larger population of predatory birds and mammals. All this complex life activity contributes ultimately to the health of the soil and more productive plants. “In the absence of the ruminant animal this process just grinds to a halt!” insists Bob.

Soils: Soil tilth and fertility are managed by influencing the uniform distribution of manure and urine (which Bob says “are not pollutants, but important results of the grazing/browsing process.”) Bob also believes that grazing management that encourages larger plants will improve soil condition by increasing above and below ground decomposition.

ENVIRONMENTAL BENEFITS

All too often, the only remedy offered to continuous overgrazing is the elimination of grazing. The proximity of the Pecho Ranch to Montaña de Oro State Park offers a unique chance to compare the Blanchards’ managed grazing approach to the absence of grazing.

Increased production of higher quality forage has benefited both wildlife and livestock. The ranch is home to diverse wildlife, while the adjacent park is home to fewer animals and less diverse species. The burrowing owl, for example, requires a gopher or squirrel hole that has been routed out by a badger or coyote in an area that is fairly clear of vegetation for good visibility. The occurrence of these conditions declines rapidly with the exclusion of grazing.

While the Land Stewardship Committee originally insisted on fencing cattle out of riparian areas, the Blanchards’ success in managing the rest of the ranch has led to the reintroduction of grazing (plus browsing by goats) to reduce the buildup of thatch and overgrown, inefficient plants that had begun to choke these areas in the absence of livestock.

Grasslands on the ranch have shifted to a more desirable mix of common rye, burr clover and filaree. Relatively nonexistent native perennials have also recovered.

Erosion along cattle trails has been eliminated as pastures are seldom used long enough for trailing to occur or for vegetation to be completely removed from those trails that do develop.

Brush management has improved wildlife habitat and reduced the potential for catastrophic wildfire.

Soil fertility has increased with more uniform distribution of manure and urine. “We’ve also observed increases in bird activity in the fields where cattle are or have recently been,” Bob explains, joking, “The cowpie is the key!”

Better management has increased the amount and distribution of residual dry matter (both above ground and in the root zone). As a result, water penetration and retention have improved and soil erosion has been prevented.

ECONOMIC BENEFITS

Economic benefits have been significant and numerous. “Managed grazing is justified on economic issues,” Bob believes; “the environmental benefits come along for free!”

Carrying capacity has increased by 30 percent. As a result, fixed costs per cow have dropped from over \$18 to under \$14 per month.

The Blanchards now feed no hay except for the rare occasion that animals need to be confined to the corrals. Even the horses now graze year round with the cattle.

At the Pecho Ranch, a previously significant parasite problem has been eliminated by the rotational grazing system.

Bull costs have been reduced from over \$55 per weaned calf to just \$25. Previously, Bob and Terri used five to six bulls per 100 cows – while just two bulls can do the same job today.

Management efforts were greatly reduced once ranch improvements were completed. Cattle become very easy to handle. “We used to think we needed eight to 10 saddle horses to be prepared for busy seasons,” Terri laughs, “but now we’re down to five – and we wouldn’t need that many if we didn’t like to team rope.”

MONITORING

The Blanchards have used photo monitoring techniques extensively and have documented conditions both before and after their change in management. “Short-term and long-term trends have to be monitored to see if you are moving in



the direction of your goals. For us, photo monitoring has been the simplest and most productive approach,” says Terri.

FINAL NOTE

Bob says, “It is a source of great personal satisfaction for Terri and me, and I believe for the folks at PG&E, to be involved in these projects. As time goes on, we expect to find better answers to the questions we have today, probably come up with many new questions, and hopefully continue to seek answers to them. We know we are working on some issues regarding sustainable agriculture and the responsible use of natural resources that have importance far beyond the benefits that may accrue directly to ourselves.”

Bob and Terri also note that most ranchers do a great job with their cattle and their land and that we all need to work together. The answers we find and share will benefit us economically and the state environmentally.

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Bob and Terri are using Spanish meat goats to control vegetation and reduce the threat of wildfire at the Diablo Canyon facility.

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BYRNE BROTHERS RANCH

Mike and Dan Byrne Tulelake, California

Mike and Dan have managed their family operation since their father's passing in 1988. The ranch was established in the very early 1900s by their grandfather.

With headquarters in Tulelake, California, the operation consists of both private land and approximately 100,000 acres of public lands. The private land consists of irrigated pastures, meadows and some dry land range. The public lands vary from low sagebrush to western juniper uplands, with riparian draws and flats scattered with volcanic rocks and ledges. The area receives average annual precipitation of 11 to 12 inches, mostly in the form of winter snow and summer thunderstorms.

HISTORIC MANAGEMENT

Prior to 1950, the Byrne Ranch used herding to move their cattle over a 50-mile circle of public lands during an 11 month grazing season. After 1950, the area was fenced into several pastures and cattle were rotated through these fenced areas. The Byrne brothers, as with many western ranchers, have witnessed a positive change in weaning weights and production as they have implemented rotational grazing and other innovations in range and livestock management. As Mike points out, "Years ago if we had a calf that weighed 500 pounds by the end of January we were thrilled – now we look for 600 pound calves by early December."

CURRENT MANAGEMENT

In the early 1980s, Mike and Dan began working with the U.S. Forest Service to increase the number of pastures so that a new rotation system would mimic the original herding regime. By strategically placing 15 miles of fence to create 12 individual pastures, Mike and Dan can graze two separate herds in a five-year rotation system. They have also developed eight solar wells in upland areas to create off-stream watering opportunities. These wells disperse animals more evenly, achieve greater late season grazing use of upland areas, and relieve pressure on riparian areas during the hot



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Overhanging vegetation along a
creek on a U.S. Forest Service
grazing allotment managed by
Mike and Dan Byrne.
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Few ranchers are as active in their local communities and industry organizations as Mike and Dan Byrne. In addition to serving in leadership roles in the California Cattlemen's Association, the California Farm Bureau Federation, the National Cattlemen's Beef Association and numerous local organizations,

summer months. Finally, Mike and Dan have removed western junipers from areas that still have adequate understory vegetation and soil depth to respond to such treatment. While the Byrnes have attempted to employ controlled burning to remove juniper from the most heavily infested areas, to date the only method of removal available to them has been to cut the trees down.

STEWARDSHIP GOALS

- Manage private lands in conjunction with public lands to enhance the vegetation communities across the entire landscape.
- Improve the shrub and vegetation component of the upland ranges through juniper removal.
- Improve riparian systems on public and private lands.

INNOVATION AND TOOLS

Water and Water System: The Byrnes have installed eight wells and solar-powered pumps to provide off-stream watering sites. This system

better distributes livestock, relieves pressure on streams, and creates new water for wildlife.

Vegetation: Western junipers are removed by cutting, especially near riparian areas to encourage grass and shrub reproduction

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A solar well installed by the Byrnes to provide offstream water for livestock.
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Mike and Dan Byrne

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The Byrnes' rotational grazing system results in high quality forage production, benefitting both wildlife and livestock.
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The Byrnes' management approach has benefited a wide range of wildlife.
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"The Byrne brothers have been at the forefront of pushing better collaboration between agencies and landowners. They have the unique ability to blend the differing point of views of the agencies into a cohesive management plan."

*– Rick Delmas,
Farm Advisor*

and growth. Rotational grazing has provided periods of rest, allowing plants to regenerate.

Wildlife: By managing for increased shrub growth, especially bitterbrush, the Byrnes are also benefiting the deer population.

ENVIRONMENTAL BENEFITS

The Byrne's management strategy has improved water quality by increasing vegetation in riparian zones, which increases sediment entrapment. Increased riparian vegetation has also increased shading along stream courses, resulting in cooler water temperatures that are beneficial to native fish populations.

Increased forage production on lands cleared of western juniper benefits both livestock and wildlife. The management changes have created a situation that allows the native plant communities to take advantage of weather conditions conducive to maximum plant growth, seed production and regeneration.

ECONOMIC BENEFITS

Improved wildlife habitat on public lands has increased the recreational value of the areas grazed by the Byrnes. While the Byrnes do not benefit directly, their communities benefit through increased recreational use.

In the face of pressure to decrease stocking rates on public lands allotments throughout the West, the Byrnes have been able to maintain stocking rates due to improved range conditions and livestock distribution patterns.

MONITORING

Mike and Dan, in cooperation with U.S. Forest Service, U.S. Fish & Wildlife Service, National Resource Conservation Service (NRCS), University of California Cooperative Extension and Tulelake High School, monitor riparian systems using permanent channel transects and annual stubble height measurements. They also record stream temperatures to evaluate the effects of increased shading. Finally, riparian habitat is monitored for successful willow regeneration and plant community composition.

FINAL NOTE

Mike and Dan Byrne are working closely with the U.S. Forest Service, the U.S. Fish and Wildlife Service, the Natural Resource Conservation Service and the University of California Cooperative Extension to monitor riparian improvement and water quality.

Says farm advisor Rick Delmas, "The Byrne brothers have been at the forefront of pushing better collaboration between agencies and landowners. They have the unique ability to blend the differing point of views of the agencies into a cohesive management plan."

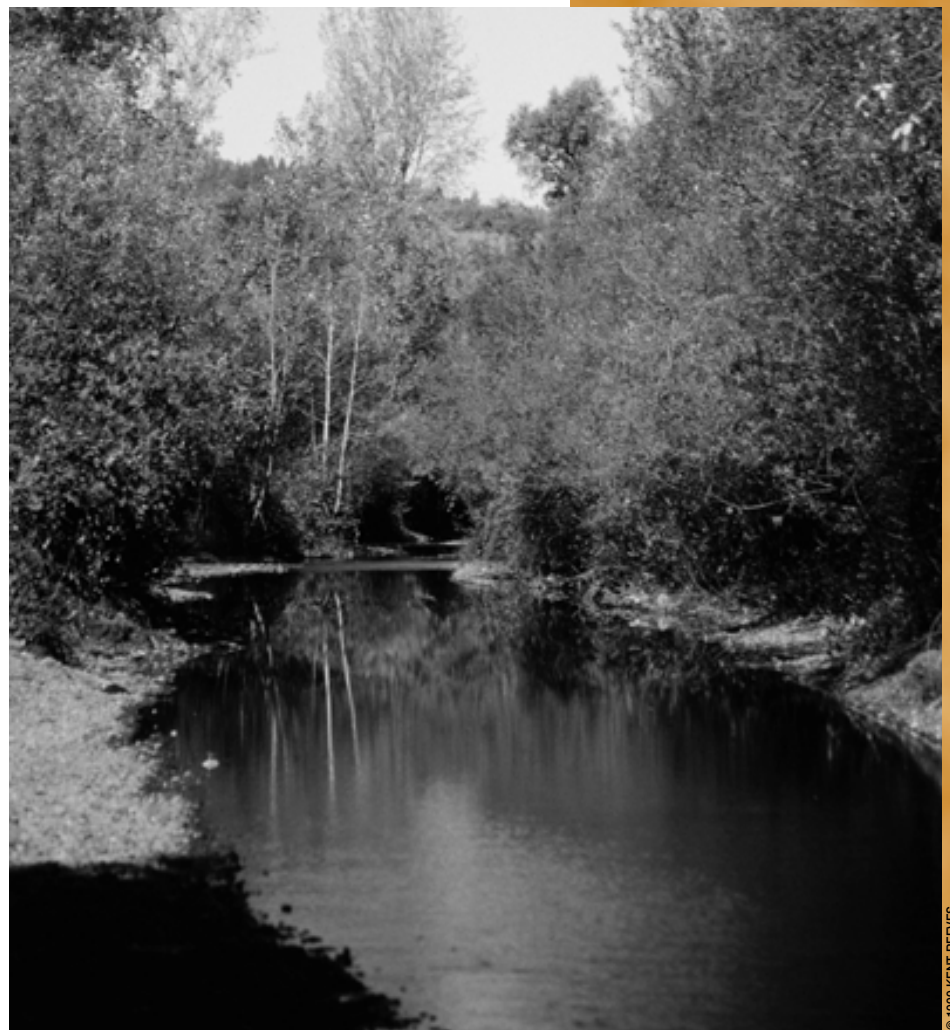
FORD RANCH

John and Charline Ford Willits, California

The Ford Ranch, just north of Willits in Mendocino County, appears to be a typical north coast ranch at first glance. At approximately 1,175 acres, the property sits in Little Lake Valley. Like most of California, the region is characterized by warm, dry summers and wet winters. The ranch, which is grazed primarily in the spring, summer and fall months, receives an average of just over 54 inches of precipitation each year, most of it coming November through April. Since the majority of the ranch was originally a large, shallow lakebed, it is characterized by relatively flat, deep, fertile soils. After purchasing the property in 1979, the Fords established lush stands of grass and clover on much of the ranch. These fields are grazed and hayed during the growing season under an intensively managed and monitored system.

HISTORIC MANAGEMENT

In the mid 1800s, a large, shallow lake occupied the north end of the Little Lake Valley. By the turn of the century, the lake had been drained to make way for agricultural development. Ditches were dug by hand or by teams of horses to discharge the water that flowed into the area. "Most of those early efforts were ineffective," says John, "and we have had seasonal flooding ever since." Little was done with the waterways in the valley until the mid 1950s, when heavy storms caused extensive flooding. This resulted in an effort to remove the debris and excess vegetation that clogged the waterways. Again, however, the streams were virtually neglected until the mid 1980s when the Fords, in close coordination with California Department of Fish and Game fishery biologist Weldon Jones, began a concerted, major effort to restore the creeks on the ranch and improve water quality and drainage.



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In 1998, the Fords completed a Rangeland Water Quality Management Plan for the ranch. The plan itself has provided the Fords with a valuable tool to articulate their accomplishments as well as monitor and measure the effects their efforts have had on production and the environment.

CURRENT MANAGEMENT

The Fords currently run a commercial cow herd on the ranch, grazing 160 cows, six bulls and 30 replacement heifers year round. The cows begin calving in early October, while the first-calf heifers begin calving a month earlier. Calves are weaned in late June or early July and, depending on the market, are sold or retained as stockers. In addition, the Fords purchase up to 700 stocker calves in August through February, marketing them as 850-pound yearlings or feeding them out in Colorado. When feed conditions are appropriate, the Fords will also run an outside herd of 450 mother cows from late May into October.

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Riparian vegetation along
Baechtel Creek.
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Using treated wastewater, the Fords have increased forage production significantly.

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All the cattle remain on seasonal grasslands in the area from November through late spring. The cattle return to the ranch in late spring and remain there until the rains return in the fall. From late spring through early autumn when the ground is dry, the Fords use a rotational grazing system to maximize forage use and production. Each pasture is rested for 21 to 25 days between uses, which allows for irrigation and disrupts the parasite cycle, reducing the need to deworm the cattle. In the fall, after the rains begin, the cattle are again moved to nearby winter pasture.

Using treated effluent from the city of Willits, the Fords irrigate pastures and put up about 400 tons of grass and clover hay each year. Fields are rotated on a three-year cycle for hay production.

The Fords are strong believers in keeping detailed records. "One of the ways that we work to increase the pounds of beef this ranch produces," relates John, "is to maintain detailed records on each cow. If a cow doesn't breed back quickly and wean a heavy calf, we sell her."

STEWARDSHIP GOALS

- Increase perennial grasses and clovers.
- Ensure open passage for migrating salmon and steelhead.

- Correct minor erosion problems as they occur, rather than letting them escalate into major problems.
- Continue to install rock weirs and riprap to control erosion and stabilize the creek banks.

INNOVATION AND TOOLS

Water and Water System: The Fords work closely with the California Conservation Corps to keep Baechtel, Berry, Davis and Mill Creeks free from debris and log jams, allowing migrating salmon and steelhead to continue on their way to spawning grounds. The Fords have also worked extensively with the California Department of Fish and Game to rechannel the streams resulting in improved drainage and fish habitat. They have then used riprap, weirs, grade stabilization structures and grass seedings to stabilize stream courses and reduce erosion. To substantially reduce the use of the streams by the cattle for stock water, the Fords have installed four wells, over 35,000 feet of water lines and 30 water troughs. Additionally, to minimize erosion and soil compaction, the Fords mounted the troughs on cement pads and gravel.

Vegetation: Rotational grazing has increased plant vigor and growth. The Fords also plant native and hybrid perennial forage species to boost production and lengthen the growing season. Any bare ground, especially on stream banks, is immediately seeded with perennial grasses. Brush lands have been maintained for wildlife habitat, as has adequate riparian vegetation for fisheries, deer and upland game birds.

Wildlife: In addition to the federally listed salmon and steelhead species that pass through the property, the Ford Ranch is home to wild turkeys, deer, pheasants, quail and numerous duck species. Brush lands are maintained as cover areas for deer, pheasants and quail, and the Fords maintain high quality riparian habitat on at least one side of the creeks on the ranch. These riparian zones provide cover for wildlife and provide shade for the streams, keeping the water cooler for migrating and resident fish. Finally, the Fords worked with a local Eagle Scout in 1994 and with the California Waterfowl Association in 1995 to place more than 25 wood duck nesting boxes on the ranch.

.....

Under the Fords' management, riparian vegetation and forage production are compatible and even complimentary. This is the outside portion of the same riparian area pictured on page 13.

.....



Manure: Corrals and cattle working areas are at least 600 feet from the nearest stream with concrete slabs where necessary to avoid excessive mud and erosion.

Erosion: The Fords closely monitor and maintain the amount of residual dry matter, retaining between 750 and 1,000 pounds per acre at the end of the grazing season to catch sediment and disburse the water during the winter months.

ENVIRONMENTAL BENEFITS

Stream channel improvements have reduced the number of young fish that are stranded and die in the flooded fields. Nearly 50 miles of spawning and nursery habitat have been reopened and maintained for Chinook Salmon and Steelhead Trout.

Ponding time on the northern end of the ranch has decreased, thereby increasing soil fertility and productivity.

The wood duck nesting program is the most successful of those run by the California Waterfowl Association, according to Malcom King, Mendocino County coordinator. In 1998, 100 ducklings were hatched in 25 nest boxes.

ECONOMIC BENEFITS

Improved drainage has lengthened the growing season on the northern end of the ranch. Increased access to treated effluent will allow the Fords to irrigate more land, increasing forage and hay production.

Stocking rates and forage production have increased substantially over the years. The Fords have controlled the annual flooding and erosion and constantly work to fine-tune their inputs and to optimally use the natural resources available on the ranch.

MONITORING

Since their most substantial and environmentally beneficial effort to date has been the cleaning and rechannelization of the creeks on the property, the Fords, both visually and with



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the use of gradient stakes, closely monitor the creeks for undesirable sediment deposits. They are removed annually with the approval of the California Department of Fish and Game.

FINAL NOTE

The Fords are an excellent example of the proactive approach taken by some landowners to improve both the economic and ecological health of their property. "We believe doing what is good for the environment translates into doing what is right for our agricultural operation," says John. As with many cattle ranchers, the Fords are also evaluating opportunities for diversifying into other crops such as berries and artichokes. John explains, "Fixing the small problems before they get big is just good management." Since the Ford Ranch remains near the bottom of the valley downstream from an urban, industrial area, John is constantly dealing with an unbelievable amount of manmade debris that washes down the creeks during the rainy season. "We get little help in this area," according to John, "and it remains as one of the ranch's greatest environmental challenges."



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John and Charline Ford

.....
"We believe doing what is good for the environment translates into doing what is right for our agricultural operation," says John Ford.
.....

FORT BAKER RANCH

*John Rice, Humboldt
County, California*

HISTORIC MANAGEMENT

John Rice indicates that the management of the ranch has changed over the years. "In the 1950s," he says, "we ran 1,000 cows with a calf crop of 80 percent or less." Calves were weaned at 350 pounds and the cowherd ran year around in most of the pastures.

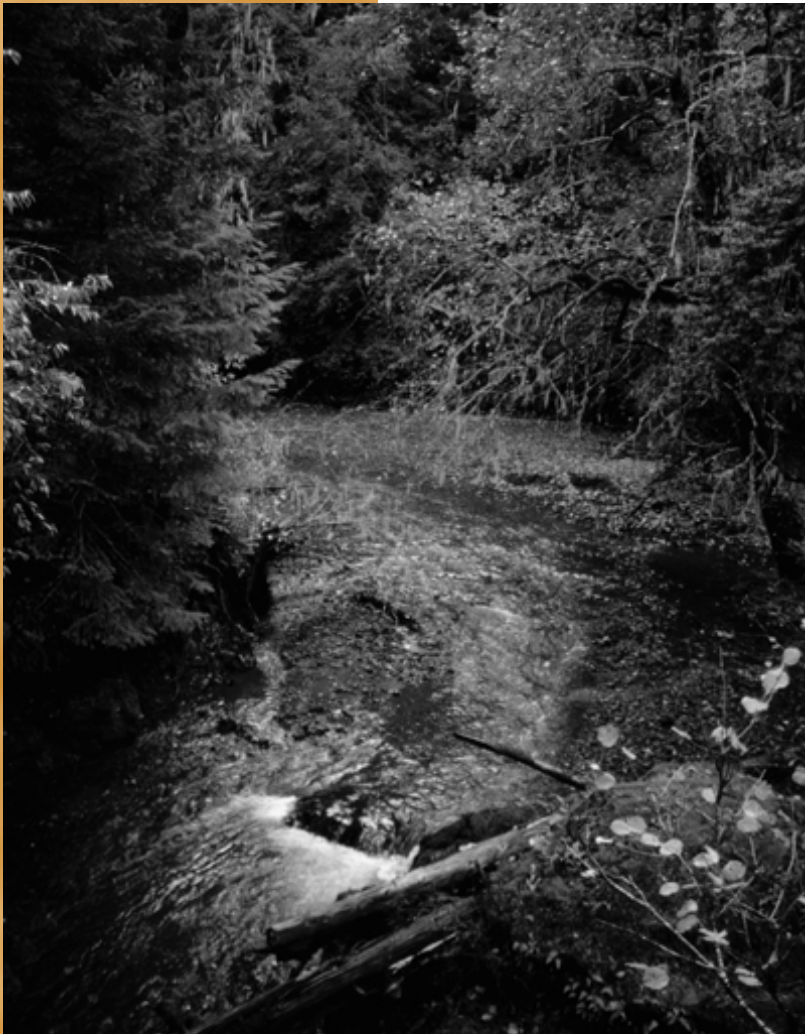
While the logging practices in the 1940s and 1950s were more lax than today, John's father still paid particular attention to water quality in the streams. He insisted that logging contractors "pay close attention to protect water bodies when constructing roads and log decks," John explains, "and went beyond what was required when reclaiming logged areas."

CURRENT MANAGEMENT

While John has reduced his cowherd to 700 to 800 females depending on the year, his current management produces a 90 percent calf crop and weans 600-pound calves (thus marketing more pounds of beef). John's strategy includes moving the cattle to different pastures an average of four times per year, rather than allowing the entire ranch to be grazed all season long.

Since severe winter weather is always a concern, John manages the cattle carefully through the winter months. Cows are moved into winter range in November or December. During good weather, the Rices push the cattle to the upper parts of the winter range to give the lower, more protected reaches of the ranch a short rest. Cattle are sorted and separated in late April. Steer calves are shipped in late September.

The Rice family has recently entered the Partnership of Quality Program with Harris Ranch Beef to market its calves. "We hope this program will greatly improve the genetics of our bulls while improving the quality of our calves – ultimately adding value to our calf crop," says John.



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.....
A riparian zone on the
Fort Baker Ranch.
.....

Located in northeastern Humboldt County, Fort Baker Ranch is a family-owned operation run by three generations of Rices. The ranch sprawls over 24,000 acres, and like most Humboldt County ranches, Fort Baker Ranch includes open grasslands, oak woodlands, and fir timber. Geologically speaking, the region is relatively young, making the terrain extremely rugged and naturally unstable. While average precipitation is roughly 75 inches per year, annual rainfall can be as high as 100 inches. Located in the heart of salmon and steelhead habitat, water quality and fisheries habitat are of primary concern.

STEWARDSHIP GOALS

- Continue to improve water facilities for livestock and wildlife.
- Continue to use controlled burns to improve forage production for livestock and wildlife, as well as to control brush encroachment.
- Reduce erosion potential.

INNOVATION AND TOOLS

Water and Water System: The Rices use 10,000-gallon tanks that fill with rainwater during the winter months. This water is used by the livestock during the dry season and may be supported with a water truck if necessary. The Rices are continually fencing and developing springs and piping water into troughs.

Vegetation: Like many ranchers in northern California, John Rice occasionally harvests timber on the Fort Baker Ranch. While his logging operation complies with California's Forest Practices Act, John adds the extra steps of removing logging roads after use, restoring all creeks to their original channels, and piling slash.

Finally, all logging sites are immediately seeded with perennial grasses. The Rices have had some limited success with controlled burns to manipulate vegetation. John says, "When conditions are good for a fire, you can't do it." Further, John expresses the opinion, "That the only good fire scares you to death." They have had some cool controlled burns; however, these fires have produced minimal long-term benefits.

Wildlife: The Rice's water and spring development, along with their burning and reseeding programs, have had a positive effect on deer populations; however, this has been more than offset by a dramatic increase in the predator population.

Soil: By reseeding logged areas, John holds soils in place, reducing erosion and sedimentation.

Manure: To mitigate the effects manure has on water quality, all areas where cattle are confined, such as corrals and small holding fields, are sloped away from creeks or have ample grassland buffers to filter and trap manure before the runoff enters the streams.



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*John and Peggy Rice
with three of their seven
grandchildren, T.J., Skylar
and Mackenzie Rice.*

*"My feeling is that if you take
good care of your cattle, your
grass and water will also
benefit. For example, keeping
cattle healthy and in reasonably
good shape requires taking
good care of the grass above
the ground and the roots
below. The same principle
applies to water, I believe."*

— John Rice

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*Typical north coast
rangeland. Steep terrain
and high rainfall can make
ranching challenging.*

In-stream Structures: John has installed culvert crossings in creeks to be used by cattle as they enter the corral areas, eliminating cattle activity in the streams. In the larger pastures, John has installed hard rock crossings in the creeks where cattle tend to cross, which has successfully reduced bank chiseling and streambed disturbance.

ENVIRONMENTAL BENEFITS

Water quality has improved and erosion has been reduced through the use of culverts, rock crossings and rock weirs.

Feed quality has improved along with pasture recovery by moving cattle more frequently, which benefits wildlife and livestock.

Controlled burning programs have improved wildlife habitat and increased soil productivity by adding potash to the system.

Off-stream watering sites and reseeding in logged areas has reduced the potential for erosion and sedimentation.

ECONOMIC BENEFITS

Weaning weights have increased from 375 to 400 pounds in the 1950s to 600 to 625 pounds in the late 1980s and 1990s. While the Rice family has reduced the total number of livestock that run on the Fort Baker Ranch, the total pounds of beef sold have increased.

John's burning program has had a positive effect on the health of deer herds; however, the lack of effective predator control has severely modified any gains in the overall deer population. John has, therefore, seen only limited improvement in his hunting program.

MONITORING

"Since I've been on this ranch for 48 years," John says, "I do most of the monitoring by sight. I keep a close eye on the grass and check the cattle often. Based on these observations, I make decisions about when to move cattle and how heavy to stock the ranch." The Rices have started a detailed photo-monitoring program that has been enhanced by using his mother's collection of historic photos to graphically validate improvements.

FINAL NOTE

Like the Fords (see pages 13-15), little things seem to make a difference with the Rice family. University of California watershed specialist Ken Tate relates, "John carries a shovel with him in his pickup. You'll be driving over the ranch and John will stop the truck, jump out and fix a plugged culvert or blocked drainage ditch before it becomes a washout."

John says, "My feeling is that if you take good care of your cattle, your grass and water will also benefit. For example, keeping cattle healthy and in reasonably good shape requires taking good care of the grass above the ground and the roots below. The same principle applies to water, I believe."

.....
To distribute cattle more uniformly and protect springs and seeps, John Rice has developed a network of 10,000-gallon water tanks and troughs.
.....



McDONALD RANCHES

*Merv, Dorothy and Mike McDonald, Owners
Petaluma, California*

The McDonald family has ranched near the Marin County coast north of San Francisco Bay for 55 years, 20 years at the present location. Located 14 miles west of Petaluma, their home ranch sits at the upper end of Walker Creek, a major tributary to Tomales Bay. Merv and Dorothy McDonald and their son Mike manage 1,400 acres of their own land along with 3,450 acres of leased private and public land. Their operation ranges in elevation from sea level to 2,000 feet and receives average precipitation of 35 inches per year. Most of their rain comes from October to May. Typical of the ranches in the area, most of the McDonald's rangeland produces annual ryegrass and clover.



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HISTORIC MANAGEMENT

Merv McDonald has lived in Marin County his entire life. "We ran cattle at Pierce Point in the Point Reyes National Seashore until the Park Service pushed us out to increase the elk population," he says. Merv bought his current ranch in 1980. "We run Angus and Hereford cattle, as well as Angus-Hereford crosses," he explains. Initially, Merv stocked the ranch at 20 acres per cow per year. Weaned calves weighed just over 600 pounds.

CURRENT MANAGEMENT

Through improved management, the McDonalds have increased their stocking rate to 10 to 15 acres per cow per year. They currently run 400 mother cows and 40 heifers on the ranch year round. The

cows calve in the fall and calves are marketed in July. Bulls and replacements are purchased from similar ranches throughout northern California. Current weaning weights are between 750 and 800 pounds. An aggressive marketer, Merv has installed a scale at the ranch to allow him to sell cattle directly to Midwest feedlots. He has also implemented an extensive vaccination and backgrounding program prior to shipping.

To improve their rangeland resources, the McDonalds have developed multiple water sources to minimize the travel of cattle to water and to reduce impacts on riparian areas. Additional water sources also improve the distribution of grazing over the ranch. Merv leaves enough forage to ensure fall regrowth of desirable plants.

.....
McDonald Ranch headquarters. Even in a dry year like 1999, the McDonald's leave sufficient residual dry matter to prevent erosion and sedimentation.
.....

*"If you don't take care
of the land, it won't
take care of you."
– Merv McDonald*



Merv McDonald

A lush setting along
Walker Creek.

"Merv is very conscious of water quality issues," says livestock farm advisor Stephanie Larson. "He began water quality projects on his ranch 15 years ago before anyone was even aware of nonpoint source pollution." In addition to developing offstream water sources, Merv has fenced portions of Walker Creek to protect water quality.

Finally, the McDonalds have used the information garnered at a University of California Cooperative Extension ranch planning short course to develop a ranch plan that addresses water quality issues. "We hope that our plan will enable us to maintain our family operation,

enhance our agricultural production and maintain water quality," says Merv.

STEWARDSHIP GOALS

- Keep the ranch in the family and maintain its agricultural viability.
- Leave the ranch in better condition than when it was purchased in 1980.
- Maximize production while minimizing erosion.
- Maintain adequate residual dry matter levels to enhance fall regrowth of important forage plants.
- Reduce brush cover.
- Balance grazing program with calf management to utilize grass resources at their optimum level.
- Ensure that water is as clean when it leaves the property as it is when it enters.

INNOVATIONS AND TOOLS

Energy: Rangelands are properly grazed to maintain adequate residual dry matter.

Water and Water Systems: The McDonalds have developed 11 stock ponds and 26 spring-fed troughs, which have all been rocked to reduce hoof impact. These water systems are designed to aid in the distribution of livestock.

Vegetation: Several acres of coyote brush have been removed by chopping and management to improve forage vegetation. The McDonalds have also planted willows in riparian zones to increase water-holding capacity and reduce erosion.

Wildlife: Deer are managed using selective harvesting techniques on private land. Targeted brush removal favors bird species by providing nesting habitat and increasing grass seed production.



Soils: Erosion control projects, including placing feeding racks on ridges away from streams and rock armored roads, have been implemented to prevent further loss of soil. Adequate amounts of residual dry matter are retained to hold soil at the beginning of the rainy season. The McDonalds have also constructed an extensive alleyway that allows cattle to be moved from pasture to pasture and back to the home ranch and corral system, reducing trailing impacts and subsequent erosion.

Manure: Cattle are distributed so that excessive manure is not deposited in sensitive areas, like riparian zones.

ENVIRONMENTAL BENEFITS

In nearly 20 years of management, the McDonalds have provided the following environmental benefits:

Improved water quality has benefitted terrestrial and aquatic wildlife.

Better livestock distribution has improved forage quality and diversity, also benefiting wildlife.

ECONOMIC BENEFITS

Stocking rates have improved from 20 acres per animal to between 10 and 15 acres per animal, and weaning weights have increased by over 200 pounds.

By using four corrals and an alleyway system to move and process cattle, the McDonalds have reduced animal stress.

Improved cattle health management has resulted in lower veterinary costs and a 95 to 98 percent conception rate.

MONITORING

The McDonalds weigh calves periodically to determine performance, which also allows for long-term tracking of weaning weights. Farm advisor Stephanie Larson attests to the fact that the McDonalds leave plenty of grass. "They run



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cattle here year round," she says, "But only about five percent of the cows are ever fed any hay."

FINAL NOTE

Merv McDonald has been involved in conservation programs for many years, serving on the Sonoma-Marín Farm Services Agency Board and the Tomales Bay Watershed Group.

"If you don't take care of the land, it won't take care of you," Merv believes, adding, "it's a landowner's responsibility to maintain the health of the land and the quality of the water for all that use it, including cattle and wildlife."

.....
**McDonald Ranch
grazers at work.**
.....



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.....
**Merv McDonald uses
historic photos of the ranch
to evaluate the benefits of
his current management.**
.....

PETE'S VALLEY RANCH

Pete's Valley Partnership Susanville, California

*Pete's Valley Partnership consists of:
Darrell Wood, General Partner; Rick Harrison;
Richard Steward; and Kimball Timothy.*

to graze an allotment on these BLM lands. Average annual precipitation in the region is 9 to 12 inches, with most of it coming in the form of winter snow or summer thunderstorms.

HISTORIC MANAGEMENT

From 1945 to 1970, the ranch supported approximately 200 cow/calf pairs. As the ranch was not cross-fenced, the entire property was grazed season long. Calves were weaned at 400 pounds, fed hay all winter, and pastured again the next spring. While no formal marketing strategies existed, most calves were sold in the late summer as 850 to 900 pound yearlings. Season long grazing led to heavy grazing in riparian areas and wet meadows. Lack of vegetation along streambanks caused substantial erosion and downcutting, resulting in a lower water table and sagebrush encroachment.

CURRENT MANAGEMENT

Darrell manages the Pete's Creek Ranch as a commercial cow/calf operation. Cows are wintered in the Sacramento Valley and arrive on the ranch with 400-pound calves in mid-April to early May. These calves are weaned at 650 pounds and backgrounded in a nearby feedlot for several months. Heifer and steer calves are marketed from the feedlot weighing approximately 800 pounds. The cow herd is shipped back to the Sacramento Valley in November after the first rains have fallen.

The ranch is divided into seven grazing units and livestock are rotated in a short-duration grazing pattern, keeping forage plants in a phase II condition (high quality, high quantity) for the entire grazing season. Darrell spreads water throughout the ranch through a series of irrigation ditches. Ceci Dale-Cesmat of the USDA Natural Resource Conservation Service (NRCS), who works with Darrell on the project,



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.....
Lasson County's
Pete's Creek.
.....

The Pete's Valley Partners purchased the Pete's Valley Ranch, about 12 miles east of Susanville, in 1993. The ranch had been in Darrell Wood's family once before – his great grandfather purchased the property in the early 1940's, building a reservoir and irrigation system during his tenure.

The ranch consists of over 1,200 acres of wet meadows, wetlands, riparian habitat (adjacent to Pete's Creek), and sagebrush-covered uplands. Typical of many of the ranches in northeastern California, the private lands are surrounded by public lands managed by the Bureau of Land Management. The partnership also has a permit

says that the ranch does not have a formal grazing plan. “We developed objectives for improving habitat and water quality, and Darrell has developed a grazing strategy that is moving us toward these objectives.”

The Pete’s Creek Ranch has developed a Rangeland Water Quality Plan in conjunction with a Conservation Plan. Both were developed in collaboration with NRCS and the U.S. Fish and Wildlife Service.

STEWARDSHIP GOALS

- Increase water-holding capacity of the land by restoring the riparian habitat along Pete’s Creek, thereby increasing the amount and diversity of vegetation.
- Decrease the amount of erosion on the streambank and from upland areas.
- Restore the trout fishery on Pete’s Creek by using the reservoir to maintain perennial flows.

INNOVATIONS AND TOOLS

Water and Water Systems: The Pete’s Creek Wetlands Restoration Project was initiated in

1996 in partnership with NRCS and the U.S. Fish and Wildlife Service Partners in Wildlife. Currently in the second year of a ten-year project, this effort has already produced dramatic improvements in riparian condition and forage quality and quantity. The creek is being placed back into its historic channel and the reservoir structure is being improved to provide perennial flows.

Vegetation: An enclosure fence has removed roughly 345 acres of the ranch from grazing and willows have been planted to stabilize streambanks and provide shade. Later in the project, cottonwoods will be planted as well. The project cooperators have chopped encroaching sagebrush on about 100 acres and re-seeded limited areas with native grasses (although Darrell indicates that most of the grass has come back on its own). Improved livestock management has allowed native grasses to colonize formerly bare areas.

Wildlife: The project cooperators are managing for sage grouse, antelope, waterfowl, quail, deer, neotropical migratory songbirds, sandhill cranes, bald eagles and shore birds. The Pete’s Valley



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Darrell Wood

.....

“Darrell’s efforts have benefited both his own ranch and the landowners downstream from the project.”

– Ceci Dale-Cesmat, National Resource Conservation Service



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.....

Willows and other riparian vegetation shown at left provide streambank stability and shading along Pete’s Creek.

.....

Ranch is also involved in the Wildlife Habitat Incentives Program and the Wetlands Reserve Program through NRCS. The California Department of Fish and Game provides technical assistance on fisheries issues. Finally, Darrell manages the ranch to provide waterfowl and upland game bird hunting, which brings in additional ranch income.

Soils: Brush chopping in the upland areas of the ranch has shifted species composition from woody sagebrush to herbaceous vegetation, which has increased groundcover and reduced wind, sheet and rill erosion. In the riparian zone, groundcover is increasing on the streambank and floodplain, also reducing the potential for erosion.

Manure: Darrell's rotational grazing system has improved nutrient cycling by spreading livestock and manure more evenly throughout the fields. The wetland and riparian management practices retain moderate stubble heights to filter nutrients that might otherwise reach the watercourse.

ENVIRONMENTAL BENEFITS

While Darrell's new management strategies have been in place for only two years, remarkable improvements have occurred.

Vegetative diversity and quantity have increased in the riparian area. New grazing practices have increased the native perennial grasses present in the uplands, improvements in forage quality and quantity

have benefited wildlife as well as livestock. Increased vegetation has improved water quality.

ECONOMIC BENEFITS

Livestock carrying capacity has increased from 200 to 300 pairs, and weaning weights have increased

from 400 to 650 pounds. The partners have achieved a 90 percent calf crop. Hunting of waterfowl, upland game birds, deer and antelope has diversified ranch income.

MONITORING

Darrell monitors livestock performance on a computer spreadsheet that tracks animal performance based on calf crop, calf weight, weaning weights, grazing period in each pasture and length of grazing season. Hunting use is monitored by tracking income derived from users.

Environmental monitoring includes the use of photo points along the creek and vegetation transects in the riparian and upland areas. Seeding trials are being monitored for germination rates based on soil types and seeding rates.

For Darrell, such monitoring is critical. "Our monitoring in the enclosure area shows that we'll need to graze it soon," he says, "but our agency partners won't agree unless we have the numbers to back it up."

Darrell is also involved with a fecal analysis profiling program developed by NRCS and Texas A&M. This new program provides producers with information on feed quality through fecal analysis and helps them determine if supplemental feeding is necessary. The two-year pilot program with which Darrell is involved will provide information regarding diet quality for this region of northeastern California.

FINAL NOTE

Darrell is actively involved in cost-share projects with NRCS and the U.S. Fish and Wildlife Partners for Wildlife program. "These programs have allowed me to make improvements to the ranch that would not be financially feasible otherwise," he says.

Ceci Dale-Cesmat of the NRCS adds, "Darrell's efforts have benefited both his own ranch and the landowners downstream from the project."



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Great Basin wild rye is being
re-established on the ranch.
.....

THREE CREEKS RANCH

Chet Vogt, Elk Creek, California

The Vogt family has owned the Three Creeks Ranch in Glenn County since 1993. The ranch, which consists of 5,000 deeded acres and an adjacent 6,000-acre property that the Vogts lease, varies in elevation from 900 to 1,500 feet above sea level. Located on the eastern edge of the northern Coast Range, the Three Creeks Ranch receives approximately 20 inches of precipitation annually. The terrain varies from broad, open valleys to steep, brushy hillsides.

While the Vogts have owned the ranch for a relatively short time, their management has created tremendous change on the land. Many of these changes have been implemented in partnership with government agencies and nonprofits, both traditional partners like the Natural Resource Conservation Service (NRCS) and nontraditional partners like the California Wildlife Conservation Board and the California Waterfowl Association.

Like many innovators, Chet's ability to think outside of the box of traditional ranch management is often met with skepticism (if not outright opposition) by some neighbors.

"Traditional ranchers really struggle with some of my concepts," explains Chet. "The thought that grazing may be for the benefit of the land rather than the land always being for the benefit of grazing is pretty hard for some to swallow."



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HISTORIC MANAGEMENT

For the last 50 years, cattle were turned out onto the Three Creeks Ranch in the fall and gathered in the spring with little or no regard for grazing or grass management. "Overgrazing happens one plant at a time," Chet explains, "and the ranch had become a monoculture through selective grazing." He relates that the ranch was "loaded with medusahead" (an invasive grass that reduces rangeland productivity and health) when he purchased it.

Past grazing management had also allowed livestock to congregate along stream corridors and reservoirs, damaging and destroying sensitive riparian zones.

.....
Even in autumn when this creek is no longer running, riparian vegetation flourishes. "This creek will be in good shape during next year's high water," says Chet.
.....

CURRENT MANAGEMENT

The Vogt family utilizes a base cow herd of 200 mother cows on the ranches year round. With

more than 70 paddocks, cattle are rotated every few days depending on grass growth and paddock size. Each paddock is grazed for about 15 days per year, or as Chet likes to say, “each paddock is rested for 350 days per year.”

Chet sees livestock as a tool for restoring the land. By controlling and intensifying grazing time periods and by providing long rest periods following such intensive use, Chet hopes to make the ranch economically and ecologically sustainable. “We plan to increase carrying capacity by increasing forage quality, quantity and diversity, while protecting fragile

riparian zones,” he says, adding, “we have two growing seasons here – spring and fall, as well as a green dormant season in the winter and a dry dormant season in the summer.”

While the growing seasons are the traditional grazing seasons in the area, Chet believes that cattle are a critical tool during the summer months as well. “We manage for the land during the summer,” he explains. Chet uses cows during the summer to incorporate seeds and other plant material into the soil and to knock down medusahead.

Three Creeks Ranch calves are born in the spring, weaned in the fall, and carried over to the next spring. Additional stocker cattle are purchased depending on feed conditions.

The management changes outlined below have been accomplished in partnership with NRCS, the California Department of Fish and Game, the Wildlife Conservation Board and the California Waterfowl Association. Monitoring programs have been developed with the Point Reyes Bird Observatory and the National Fish and Wildlife Foundation. “We’d have made these changes on our own,” Chet remarks, “but government assistance has sped up the process.”

STEWARDSHIP GOAL AND EXPECTED RESULTS

Chet’s goal is to “create a landscape diverse in both flora and fauna that allows for maximum harvest of grasses and forbs for livestock.” He expects the following results from his management:

- More efficient water cycle through less capped soil, higher plant populations, and expanded perennial grass production.
- More effective mineral cycle because of better incorporation of organic material plus dung and urine into soil through high density grazing.
- Higher energy cycle utilization because plants are in the growth stage for a longer period and are better able to photosynthesize.

INNOVATIONS AND TOOLS

Livestock are run in high density herds with short duration grazing and long rest periods through the creation of many paddocks. According to Chet, cattle learn when it’s time to move, making herding them from one paddock to the next extremely easy.

Water systems have been developed for each paddock to provide clean, fresh drinking water while avoiding loitering by cattle in riparian zones along creeks and reservoirs.

Working with the Wildlife Conservation Board, the California Waterfowl Association, the local Resource Conservation District and NRCS, the Vogts have constructed fencing around Mad Creek and Clover Creek as well as around two



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.....
Vogt studies a perennial
bunchgrass that has
sprouted through a
stand of yellow starthistle.
.....

*“Livestock are a tool that
can benefit the land.”*

– Chet Vogt

large reservoirs. These fenced corridors exclude approximately 130 acres from grazing for most of the year. The corridors are up to one-half mile wide in places, and they are each grazed for short duration (12 to 24 hours) at least once per year by very high concentrations of cattle.

The ranch is fenced and cross-fenced using both barbed wire and electric fencing to provide better cattle distribution. "All of our barbed wire fencing is 'wildlife friendly,' with a smooth wire both top and bottom," says Chet.

Soil erosion is controlled by stabilizing roads. "Put them in once, grade them so that the water runs off as naturally as possible, and then leave them alone," Chet explains, adding that he owns no road grading equipment. Erosion is further reduced by allowing streams to re-vegetate, which stabilizes streambanks.

ENVIRONMENTAL BENEFITS

While Chet admits that many of his management changes are still too new to be able to measure objective improvements, many of the changes are startling:

The re-growth of riparian areas with willows, cottonwoods, redbud, mule fat and other woody plants has provided tremendous foraging and nesting habitat for neotropical birds.

All other types of wildlife (deer, bear, mountain lions, quail, doves, and ducks, to name a few) also benefit from these improved riparian zones. Summertime green feed is an important source of protein for the resident deer herd.

ECONOMIC BENEFITS

Chet acknowledges that he has had to subsidize the management changes on the Three Creeks Ranch with income from other enterprises, but the ranch is now beginning to provide sufficient cash flow to be self sustaining and profitable. Chet has measured these economic benefits:

After many years of declining stocking rates, current stocking rates are higher than they were prior to Chet's ownership.

Since perennial grasses green-up earlier than most annuals, Chet is able to extend his grazing season. This higher quality forage has increased gains per animal, and put cattle on a higher nutritional plane, increasing conception rates.

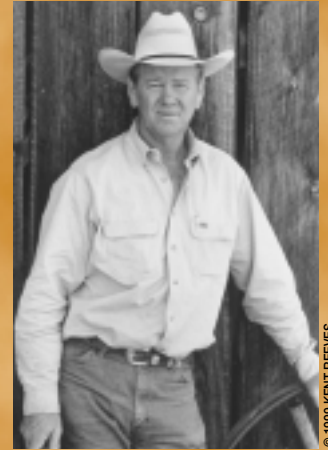
MONITORING

The Vogts initiated an extensive photo monitoring program upon purchasing the ranch, which vividly demonstrates their progress. In 1998, the Point Reyes Bird Observatory and the National Fish and Wildlife Foundation began monitoring neotropical migratory birds in the ranch's riparian areas. "They feel that these birds are early indicators of habitat recovery and are comparing our restored areas to control areas of traditional grazing," Chet explains.

FINAL NOTE

In Chet's mind, livestock are a tool that can benefit the land. A strong believer in setting management goals for his operation, Chet says, "You've got to know where you want to go."

The marked improvement in rangeland and riparian health on the Three Creeks Ranch indicates that the Vogts are well on their way to getting where they want to go.



Chet Vogt

.....
Under Chet Vogt's management, native bunchgrasses like this deer grass are making a comeback on the Three Creeks Ranch.
.....



.....

The Morris family's Holistic Management™ approach uses grazing animals as a tool for achieving a variety of goals, including ecological restoration.

.....

T.O. CATTLE COMPANY

*Joe and Julie Morris,
San Juan Bautista, California*



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HISTORIC MANAGEMENT

Before the Morris family took over the management of these ranches, they were run as fall calving cow/calf operations. Stocking rates averaged 8 to 12 acres per cow/calf unit year round. Calves were traditionally weaned in June and weighed about 600 pounds.

CURRENT MANAGEMENT

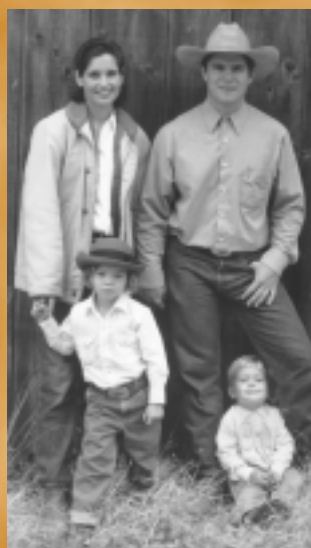
Currently, T.O. Cattle Company owns cows and calves, rents a cow herd from another owner, owns stocker cattle, and runs yearlings for other ranchers. Cows now begin a 45-day calving season in late March. "We set a target for conception rate at 96 percent in 45 days," says Joe, "which we exceeded last year." Heifers are bred at 15 months. Any cows that are not bred are exposed to bulls again in November and December and then sold as fall calving females during the next summer. Calves are weaned onto green grass in December or January (if the weather cooperates), weighing an average of 450 to 475 pounds. Stocker cattle generally gain 275 to 325 pounds and are marketed in June.

The Morris family ties its marketing strategy to the ten-year cattle market cycle. "We try to invest in cows at the bottom of the cycle," explains Joe, "and then sell them at the top." T.O. Cattle Company uses English cross cows and Angus bulls, and has been able to sell yearlings at a premium without using implants. "We're also experimenting with a fledgling direct marketing program," says Julie.

"T.O. Cattle Company uses the Holistic Management™ decision-making process, grazing and animal impact to manage watersheds. We use these tools to improve the effectiveness of the water and mineral cycles while enhancing biodiversity," explains Joe.

The Morris family, owners of T.O. Cattle Company, spend a great deal of time on the road. With grazing operations on four ranches in four counties (San Benito, Santa Cruz, Santa Clara and Monterey), the mileage adds up quickly. Joe and Julie manage approximately 5,500 acres of coastal rangeland comprised of gently rolling to steep annual grasslands, oak savannahs and woodlands, and redwood forest.

The San Benito County ranch, which is part of the Hollister Hills State Vehicular Recreation Area, receives a meager 14 to 16 inches of precipitation in an average year. The ranches in Santa Cruz, Santa Clara and Monterey Counties receive a bit more. Each of the four ranches includes remnant populations of native grasses.



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*The Morris Family:
Julie, Joe, Sarah and Jack*

.....

The Morris operation uses a holistic grazing plan to time the grazing and animal impact to the recovery needs of the perennial plants. Their grazing plan is adjusted throughout the grazing season to address actual weather conditions, growth patterns and unforeseeable management needs.

STEWARDSHIP GOALS

- Move the lands managed by T.O. Cattle Company to a more complex and stable state of community dynamics using animals to encourage the vigor and proliferation of perennial plants and to maintain organic matter cover on the soil surface.
- Manage watersheds so that intermittent creeks and springs run year round.
- Increase the diversity and abundance of wildlife, again using animal impact and careful planning.
- Produce excellent food for the human community while producing the values outlined above.

INNOVATIONS AND TOOLS

Joe and Julie believe that their management is unique because of their understanding that “rangeland is comprised of the communal values inherent in the capture and storage of water and solar energy.” Joe adds, “Our use of the land must simulate the natural processes through which these lands evolved.” Annual planning and monitoring are also critical components of their management approach.

To optimize their stewardship of energy, water, air, vegetation, wildlife, and soil, the Morris family has worked to use larger herds of animals with greater control and with as little stress as possible. Using grant funding in 1998, Joe and Julie experimented with high-density short-duration grazing, using a minimum stocking density of 30 pairs per acre.

“We even raised the density to 300 pairs per acre at times,” says Joe, “for anywhere from several hours to a day and a half.” Post-project

monitoring revealed remarkably even utilization of forage, universal litter coverage of the soil surface, and almost no trailing impacts. “Because of the high stocking rate,” explains Julie, “we wasted almost no forage, which translates into the ability to run more cattle on the same number of acres.”

ENVIRONMENTAL BENEFITS

Even in the short period since the Morris family began its management changes, remarkable improvements are taking place on the land.

Native perennial grasses (purple needle grass, California brome, California oat grass, blue wild rye and creeping wild rye) have proliferated on parts of the ranches, especially in drainage and riparian zones.

.....
Managed grazing has
increased biodiversity.
These wildflowers are on
one of the ranches managed
by the Morris family.
.....



JOE MORRIS PHOTO

Coast live oaks, valley white oaks and blue oaks have shown rapid seedling and sapling growth. Natural recruitment has been tremendous.

Riparian areas have experienced recruitment of willows, grasses, sedges and forbs, dramatically improving coverage.

Nutrients from manure and urine, as well as plant litter, are universally dispersed.

Animal impact has opened brush thickets for wildlife access and has maintained chaparral in a succulent, vegetative form edible for wildlife.

The water cycle shows evidence of improvement. Creeks begin to run with water sooner and run longer into the spring and summer. Ponds remain wet longer, and the grass season has extended.

Soil loss is impeded by the near elimination of trailing and by more complete coverage of the soil by plants and litter.

ECONOMIC BENEFITS

According to Joe, "The economic benefits of using Holistic Management™ are, in a word, increased profits."

While moving to spring calving has reduced weaning weights, lower input costs for feed, labor and machinery, coupled with improved

reproductive efficiency and forage use, have dramatically improved the bottom line.

Subdividing pastures has improved control over animals and has allowed T.O. Cattle Company to more closely imitate the patterns of wild ungulates. This has allowed for increased stocking rates, producing more pounds of beef per acre.

"The financial planning process has encouraged greater creativity and control. The Holistic Management™ decision-making process has helped us do the things we want to do and produce profit, while eliminating the things we don't enjoy and that don't produce profit," Julie explains.

MONITORING

The Morris family monitors its management decisions in two ways. "First," says Joe, "by more or less having a daily presence on our ranches, we ensure that our plan is being implemented and that the outcomes are positive." Second, T.O. Cattle Company monitors permanent transects on each ranch, providing information on the diversity and density of perennial plants as well as soil cover. Finally, the financial plan is monitored regularly and controls are applied as necessary.

FINAL NOTE

Joe and Julie are not shy about sharing their approach when invited. "We host field days at the ranch and participate as a guest speaker at conferences throughout the state," says Joe. "We tell people that there are several reasons for implementing these or similar practices:

- *It's good for you.*
- *It's good for the land.*
- *It's good for the community.*
- *It's good marketing.*
- *It's profitable.*

It's intellectually challenging and emotionally satisfying to learn about and implement better, more sustainable ways to steward our lands. Cattle producers should understand their work in terms of maintaining and enhancing the communal values inherent in the watersheds they manage, as well as producing valuable food and fiber."

.....
Native oaks have responded tremendously to the Morris family's management. The recent growth on this tree shows exactly when management changed.
.....



JOE MORRIS PHOTO

VINA PLAINS PRESERVE

*The Nature Conservancy,
Tehama County, California*

The 4,600-acre Vina Plains Preserve is situated in the northern Central Valley on the eastern edge of the Lassen foothills. The Vina Plains are an undulating, open, treeless grassland dominated by annual grasses. The thin soils are underlain with a hard pan that causes winter rains (20 to 25 inches) to collect in vernal pools. The pools and surrounding grasslands are rich in rare plants, animals, and aquatic invertebrates.

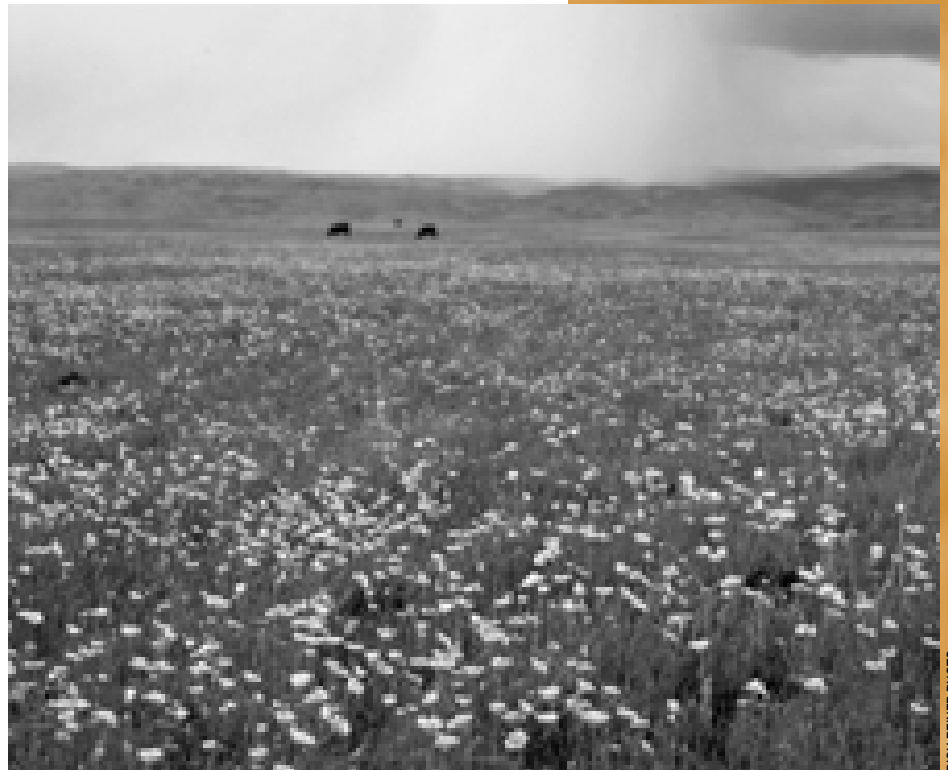
The Nature Conservancy (TNC) owns and manages this preserve as a demonstration cattle ranch. "Our vision," says TNC's Rich Reiner, "is to show that grasslands can be managed for both livestock production and endangered species."

HISTORIC MANAGEMENT

Vina Plains has been grazed by livestock for over 100 years. As part of the historic Stanford Ranch, it was first grazed by sheep and then cattle beginning in the 1940's. "We acquired a portion of the Preserve in 1982 to protect endangered plant species found in and around the vernal pools," Reiner explains. TNC discontinued grazing in 1986, thinking this was the best way to protect the endangered plants. By 1995, weedy annual grasses had come to dominate the Preserve at the expense of many native plants. Monitoring in 1995 revealed nearly twice as much medusahead on the Preserve as on an adjacent grazed property. Grazing was reestablished in 1996 and an intensive monitoring program begun.

CURRENT MANAGEMENT

The preserve is currently leased to two local cattle operators – one runs a commercial cow-calf operation and the other, a stocker operation. Cattle are grazed on a rotational basis in conjunction with prescribed burning and rest.



RICH REINER PHOTO

Pastures are periodically rested to allow grassland bird nesting and for perennial grasses to set seed. Rodenticides are prohibited because bird species, like burrowing owls and raptors, depend on ground squirrels for burrows and food. In partnership with the U.S. Environmental Protection Agency, TNC has been intensively monitoring grazing and its effect on the plant and animal communities at Vina Plains for the past three years in an effort to develop a more fine tuned approach to grazing vernal pool grasslands. An annual workshop is held with local ranchers and government agencies to encourage communication and discuss results.

STEWARDSHIP GOALS

"We are working with partners at Vina Plains to develop and demonstrate range management techniques that are compatible with both

.....
A profusion of wildflowers
on the Vina plains.
.....



.....
 Prescribed fire is an important
 tool on the Vina Plains.

ranching and the conservation of vernal pool ecosystems,” Reiner says. Toward that end, specific resource stewardship goals include:

- Maintaining rare species (plants and invertebrates) populations.
- Improving forage quality and native plant composition.
- Controlling noxious weeds.

INNOVATIONS AND TOOLS

Rotational grazing: Cattle are grazed in a single herd to improve distribution of livestock on the Preserve. Grazing removes annual grass mulch, which if allowed to accumulate would decrease the abundance of native wildflowers.

Prescribed burning: Each year the weediest pasture is selected for burning. Livestock are removed in April to allow fuels to accumulate. The pasture is then burned in the late spring, with the help from the California Department of Forestry Vegetation Management Program, when exotic weed seeds are ready to set. Monitoring has shown that the burns will nearly eliminate medusahead (*Taeniatherum caput-medusae*) and will begin to control yellow star-thistle (*Centaurea solstitialis*).

University collaborations: TNC encourages academic research on the Preserve. TNC is cooperating with C.S.U. Chico students and faculty on projects that increase understanding of grassland ecology. Professor Rob Schlising completed a study on the demographics of rare vernal pool grasses. Dr. Doug Alexander has studied the vernal pool invertebrates and Jay Bogiatto has been quantifying the use of the Preserve by waterfowl. All of this information helps fine tune the ranch management.

Conservation easements: The Nature Conservancy was able to reduce the cost of purchasing portions of the Preserve by selling a conservation easement to the Natural Resource Conservation Service (NRCS). The Wetland Reserve Program allows private ranches with wetlands such as vernal pools to sell the subdivision and development rights. Because grazing can be a compatible use with wetland protection, the ranch may be grazed for profit after developing a management plan with the NRCS. Private ranchers can also sell conservation easements to nonprofit private conservation groups and to land trusts such as the California Rangeland Trust.

ENVIRONMENTAL BENEFITS

- Protection of endangered grassland and vernal pool plants and animals.
- Improved nesting for waterfowl and grassland birds in pastures deferred from grazing.
- Reduction in weed abundance.

ECONOMIC BENEFITS

While TNC’s foremost goal is not monetary, Reiner explains that the organization “feels that the stewardship programs we are advocating are best demonstrated within a economically productive ranch setting.” Thus the Preserve leases forage to local ranchers at a competitive rate. “To date our lessees say that the conservation techniques used on the Preserve benefit their operations,” Reiner says, adding, “there is also preliminary data indicating that the rotational grazing and burning program is

increasing the abundance of desired forage species.” In addition, an ongoing study of cattle fecal nitrogen by Texas A&M and the NRCS indicates that cattle which graze the burned pastures receive higher quality diets than those grazing weedy pastures.

MONITORING

Monitoring plays a critical role in management decisions at the Preserve. Intensive baseline surveys have been completed for the grasslands and all the major vernal pools. The Preserve is systematically monitored annually for both species composition and for the amount of residual dry mater remaining after the grazing season ends. This information is used as part of an “adaptive management strategy” to annually adjust the ranch’s management. Monitoring to date has shown a reduction in weeds, an increase in native plants, and higher forage protein in pastures that have been grazed and periodically burned.

FINAL NOTE

“The Vina Plains Preserve is managed as part of a program of the Nature Conservancy called the Lassen

Foothills Project,” says Reiner. The project’s vision is to protect in perpetuity the biodiversity of a large landscape of working cattle ranches in eastern Tehama County. The strategy is to protect this landscape in private ranch ownership, mostly by conservation easements. This year the Nature Conservancy negotiated and purchased an easement over a 36,000 acre working ranch, the largest easement in California history.

A second objective is to help develop sustainable ranching techniques that are compatible with biodiversity protection. Both Vina Plains and Dye Creek Preserves are used by TNC for this purpose.

In 1998, TNC expanded its medusahead burning program onto private ranch lands in the project area and in 1999, with its private and public partners, burned over 6,000 acres of weed infested grasslands. “Our hope is that by working cooperatively with the cattle industry and our neighbors, the Preserve can be used to develop conservation practices that will be viewed as useful for ranchers.”

“The project’s vision is to protect in perpetuity the biodiversity of a large landscape of working cattle ranches in eastern Tehama County. The strategy is to protect this landscape in private ranch ownership, mostly by conservation easements.”

– Rich Reiner



GARY N. GRABBE PHOTO

.....
Wildflowers and vernal pools.
.....

WATERSHED GROUPS

While individual ranchers throughout California are using innovative tools to improve ecosystem health and economic viability, others are discovering the strength of working together. These group efforts are generally organized around a watershed or other geographic boundary, or around a specific issue. The following information highlights three rancher-based groups that are addressing economic and ecological issues in California

address public health and safety concerns while maintaining grazing operations. On August 22, 1997, a Grazing Management Accord was signed, signaling a new chapter in the history of the South Alameda Creek watershed. The San Francisco Public Utilities Commission, the Alameda County Resource Conservation District, the California Cattlemen's Association, the University of California, San Francisco AIDS activists and the USDA Natural Resource Conservation Service (NRCS) signed the accord, which adapted a Hazard Analysis Critical Control Points (HACCP) approach typically associated with food safety. The plan defined strategies for grazing and feral pig management.

San Francisco's mission for managing the watershed is to provide the highest quality water possible for its urban and suburban customers. The SFPUC seeks to accomplish this by developing, implementing and monitoring its HACCP-based resource management plan. Grazing lessees play a critical role in devising and implementing this plan. Grazing is managed to provide for proper ecosystem function, including management of fire fuel loads.

In addition to protecting water quality and enhancing wildlife habitat, group participants hope that their innovative approach will improve livestock health and rates of gain. Improved stock water distribution should provide for a more efficient pattern of range utilization. More efficient distribution also reduces the need for supplemental feeding. Revised leasing contracts link lease rates with current market conditions, and the SFPUC has developed a strong relationship with its lessees, giving these ranchers an ownership interest in resource-based range management.

YAGER/VAN DUZEN ENVIRONMENTAL STEWARDS (Y.E.S.)

Humboldt County, California
Dina Moore, President

Geologically, California's Humboldt County coast is one of the youngest regions in the state. Steep slopes and average precipitation between 60 and 120 inches per year mean that the north coast's watersheds transport a large amount of water quickly. While the area is generally associated with productive redwood and fir forests, its oak woodlands and open uplands support numerous grazing and browsing animals – both wild and domestic. Yager Creek and the Van Duzen River support steelhead and coho salmon, both of which are protected as endangered species by the National Marine Fisheries Service.

SAN FRANCISCO PUBLIC UTILITIES COMMISSION GRAZING LESSEES

Alameda and Santa Clara Counties, California
Tim Koopmann, Watershed Resource Specialist

The San Francisco Public Utilities Commission (SFPUC) provides water for more than 2.5 million people – roughly 8 percent of California's population. The commission owns approximately 40,000 acres in the Southern Alameda Creek watershed on the border between Alameda and Santa Clara Counties. These lands encompass about 30 percent of the watershed for SFPUC's storage/distribution reservoirs (San Antonio Reservoir and Calaveras Reservoir). Both SFPUC and its predecessor, Spring Valley Water Company, have leased these lands for grazing for more than 100 years. Currently, 17 lessees graze cattle and horses on more than 32,000 acres.

In addition to providing important water catchment and storage benefits, these lands are home to diverse plant and animal life. Vegetation is predominantly oak grassland with interspersed bay laurels and sycamores. These rangelands are home to black-tailed deer and tule elk, as well as to such endangered and special status species as the California red-legged frog, the western pond turtle, the great blue heron, and the Cooper's hawk. These lands also support the largest population of nesting golden eagles in North America. While the watershed also supports a sizeable feral pig population, efforts are underway to reduce this population due to the ecologic damage it creates.

In 1997, the commission was pressured to terminate grazing on these lands immediately to eliminate the threat of contamination by *Cryptosporidium parvum*, a waterborne organism that can be carried by most warm-blooded mammals and transmitted to humans. People whose immune systems have been compromised are especially vulnerable. Rather than accept the uninformed decision to eliminate grazing on SFPUC lands or take their battle to court, local ranchers sought a wide range of partners to



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Top: The SFPUC grazing lessees have completed many fencing projects under the new management plan.

SFPUC grazing lessees, left to right, Bud Nielsen, Paul Banke, Tim Koopman, Russell Fields, Robert Nielsen, Jim Coehlo, Jeff Nielsen, Darrel Sweet and John Cronin.



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THE YAGER/VAN DUZEN ENVIRONMENTAL STEWARDS

Back row, left to right: Graham Cotrell, Denver Nelson, John Rice, Mark Moore, Ron Samuelson, Philo Barnwell, Mel Shuman, Kim Lucas, Sean O'Day, Howard May and Don Tuttle.

Front row, left to right: Gloria Cottrell, Christine Barkdull, Peggy Rice, Dina Moore, Karen Fredrickson, Gloria Barnwell and Jorie Brundy.

Each of the 16 ranches in these watersheds is privately owned. Most ranchers run commercial cow-calf pairs and some stocker cattle. All of the group's goals are designed to "ensure the environmental integrity of our watershed while maintaining our heritage and the economic sustainability of our endeavors," says Y.E.S. president Dina Moore. Each individual ranch has established its own management and stewardship goals. To be an active member, the group's bylaws require that a ranch or individual have a Rangeland Water Quality Management Plan or any other plan that incorporates best management practices designed to protect water quality.

The group hopes that its efforts to protect water quality on and below their ranches will reduce the need (and therefore the cost) of implementing state and federal water quality and endangered species regulations. In addition to enhancing water quality, Y.E.S. works toward increasing forage production and maintaining or increasing important native grasses – benefiting both wildlife and livestock. The group hopes that the economic benefits of increased forage production, as well as voluntary compliance with regulations will be substantial enough to keep them in business.

"As a group, we have participated in the University of California Cooperative Extension's water quality course and hosted field days," says Y.E.S. president Dina Moore. "We have had goal setting sessions, we are drafting our own best management practices, and we have entertained agencies and politicians." She adds, "We are now more than neighbors, we are proactive partners in resolving natural resource issues from the range up. We love this land and know it more intimately than anyone else. We want to manage this working landscape in a manner that will ensure its sustainability for the next generation."

BRIDGEPORT VALLEY RANCHERS ORGANIZATION
Mono County, California; Hunewill Land and Livestock; Plymouth Land and Livestock; Ascuaga Ranch Company; Lacey Livestock – Point Ranch; F.M. Fulstone, Inc.; Jackie D. Sceirine Ranch

Few places in California are as spectacular as the Bridgeport Valley. Nestled between the sagebrush uplands of the Sweetwater Range and the Bodie Hills and the granite spires of the Sierra Nevada, the Bridgeport Valley was created to grow grass. Situated at 6,500 feet in elevation, the valley floor consists of flood-

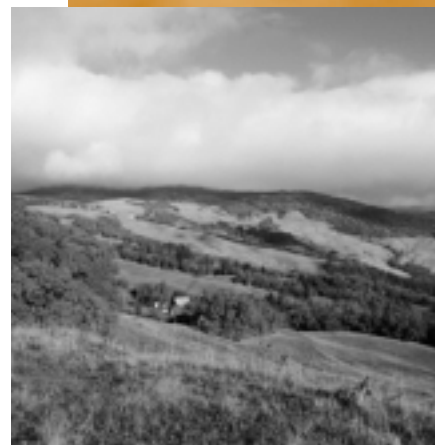
irrigated pasturelands that support a mixture of native and improved grasses and legumes. Several year-round streams flow through the valley, including the East Walker River, Virginia Creek, Green Creek, Robinson Creek, Buckeye Creek, Aurora Creek and Swauger Creek. The Walker River Irrigation District of Nevada has developed Bridgeport Reservoir in the northern end of the valley. The Twin Lakes reservoirs, above the valley and to the southwest, store irrigation water for valley ranches and provide recreational opportunities to the area's many visitors.

Settled in the early 1860's, the Bridgeport region has provided summer grazing for domestic livestock for more than 130 years. Indeed, most of the ranches in the valley were founded in the 1860's, and at least one ranch is still owned by one of the pioneering families who settled the valley. Today, most ranches include a mix of public and private land and are managed to provide summer range. While individual ranchers vary in their grazing management strategies, most practice some form of rotational grazing. Cows and calves, as well as some stocker cattle, are brought into the valley in May and are shipped out in October.

Obviously, water is a critical resource in the valley – both wildlife and ranchers depend on it. Bridgeport Reservoir and the East Walker River are internationally recognized blue ribbon trout waters, and the valley's waterways are home to a number of migratory duck species. To protect this resource, the Bridgeport Valley Ranchers Organization and individual landowners have implemented an extensive water quality monitoring program. Most ranchers are also working to improve irrigation ditches, stabilize streambanks, improve fencing and enhance vegetation through the use of fire and weed control. While each rancher is working on his or her own Rangeland Water Quality Management Plan, the group works together to monitor the success of their efforts.

While the environmental issues outlined above are important to the group, their concerns go beyond ecosystem health. "This effort is unique," says University of California Cooperative Extension farm advisor Rhonda Gildersleeve, "because each of these ranchers is committed to maintaining the local environment, their ranching heritage, and the economic sustainability of their individual operations."

"In Bridgeport, we use the water over and over as it passes from the higher ranches to the lower lands, so it makes good sense to look at the water quality from the perspective of the whole valley," explains Jeff Hunewill.



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Top: Humboldt County's Van Duzen River drainage.

Looking south from the Bridgeport Valley toward the boundary of Yosemite National Park.



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Bridgeport Valley ranchers, left to right, Stan Hunewill, Todd Sceirine, Jeff Hunewill, researcher Linda Vance and Devere Dressler.

TECHNICAL ASSISTANCE AND COST-SHARE OPPORTUNITIES

Contact the following organizations for technical assistance or cost-share programs:

University of California Cooperative Extension:
Dr. Ken Tate, Watershed Specialist,
(530) 754-8988

Local Livestock and Natural Resource Farm Advisors:
Check Local Listings

USDA Natural Resource Conservation Service State Office:
(530) 792-5502
www.ca.nrcs.gov

California Association of Resource Conservation Districts:
(916) 447-7237
www.carcd.org

Wildlife Conservation Board:
Marilynn Cundiff, (916) 445-1093
Scott Clements, (916) 445-1072

Society for Range Management:
Ceci Dale-Cesmat, President,
(530) 257-7271
www.casrm.org

California Board of Forestry Range Management Advisory Committee:
Tom Randolph, (916) 653-9449

California Cattlemen's Association:
(916) 444-0845
www.calcattlemen.org

California Rangeland Trust:
(916) 444-2096
www.rangelandtrust.org

California Farm Bureau Federation:
(916) 561-5500
www.cfbf.com

The Nature Conservancy:
(415) 777-0487
www.tnc.org

Sierra Nevada Alliance:
(530) 542-4546,
www.sierranevadaalliance.org

TOOLBOX

	BLANCHARD RANCH	BYRNE BROS. RANCH	FORD RANCH	FORT BAKER RANCH	MCDONALD RANCHES	PETE'S VALLEY RANCH	THREE CREEKS RANCH	T.O. CATTLE COMPANY	VINA PLAINS PRESERVE	GROUP EFFORTS
Rotational grazing.	X	X	X	X		X	X	X	X	X
Offstream water development.	X	X		X	X		X	X		X
Brush and woody vegetation control/removal.	X	X			X	X				
Rangeland Water Quality Management Plan or other management plan in place.	X	X	X	X	X	X	X	X	X	X
Riparian restoration	X	X	X		X	X	X	X		X
Controlled burning program.				X					X	
Native perennial grass restoration.	X	X	X	X		X	X	X	X	
Conservation Easements									X	

PARTNERS

	BLANCHARD RANCH	BYRNE BROS. RANCH	FORD RANCH	FORT BAKER RANCH	MCDONALD RANCHES	PETE'S VALLEY RANCH	THREE CREEKS RANCH	T.O. CATTLE COMPANY	VINA PLAINS PRESERVE	GROUP EFFORTS
Natural Resource Conservation Service		X				X	X			X
U.C. Cooperative Extension		X		X	X		X			X
Research Institutions									X	X
U.S. Fish and Wildlife Service		X				X			X	
U.S. Forest Service		X								
U.S. Environmental Protection Agency									X	X
Bureau of Land Management										
California Department of Fish and Game			X							
Wildlife Conservation Board							X			
California Department of Forestry and Fire Protection									X	
California Department of Parks and Recreation								X		
Resource Conservation Districts										X
Private Foundations								X		

PROJECT MANAGEMENT

This project was managed by Dan Macon of AgResource Solutions, a rural-based firm dedicated to enhancing the economic and environmental sustainability of ranching and farming. ARS provides conflict resolution services, organizational and project management services and diversification planning for landowners, businesses and organizations.