

HUNTING FOR HABITAT

A Practical Guide to
State-Landowner Partnerships

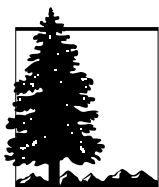
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CONTENTS

ACKNOWLEDGMENTS	iv
INTRODUCTION	1
BACKGROUND	3
TEXAS: A MODEL	5
BENEFITS	7
CONTROVERSIES	12
MAJOR STATE PROGRAMS	17
FLEDGLING STATE PROGRAMS	35
OTHER PROGRAMS	42
THE FUTURE OF RANCHING FOR WILDLIFE	47
CONCLUSION	55
NOTES	55
REFERENCES	57
APPENDIX A: TYPICAL HABITAT IMPROVEMENTS	61
APPENDIX B: RANCHING FOR WILDLIFE PROGRAMS	63
APPENDIX C: ADDITIONAL CONTACTS	65
ABOUT THE AUTHORS	67
ABOUT PERC	68

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INTRODUCTION

At first glance, the way that Jarrell Massey and his family run their two Colorado ranches may seem strange. Taking land out of wheat production, Massey and his sons have reseeded it with legumes, grasses, and flowering plants. They have planted willow saplings and set fires to encourage native vegetation. They have dug water holes, developed springs, and created ponds, and they keep their cattle away from some prime grazing land.

These activities, still unusual among ranchers, have a payoff—for the Masseys, for hunters, and for wildlife. Streams flow through the property. Deer and elk thrive, as do beavers, muskrats, game birds,

Ranching for wildlife encourages landowners to improve hunting and enhance habitat.

and rabbits. Golden eagles and song-birds, including the mountain bluebird, abound.¹ Hunters are eager to hunt there, even for premium prices, because the land is uncrowded and they have a very good chance of harvesting either a mature bull elk or a buck mule deer.²

The Masseys' success at improving wildlife habitat has won them a burgeoning consulting business (Fears 1996; Gooch 1998b).

Jarrell Massey credits Colorado's Ranching for Wildlife program for spurring these activities. Ranching for wildlife, now in eight states, is a state-managed program based on cooperative agreements between landowners and state wildlife agencies. The programs encourage landowners to invest time, money, and resources to increase wildlife and hunting opportunities on their properties. In return, the state modifies hunting regulations on those ranches so that landowners can capture more benefits from fee hunting. The modifications typically include longer

hunting seasons, ranch-specific harvest limits, and an opportunity for hunters to obtain game tags from landowners without having to go through the state lottery system.

Don't let the name "ranching for wildlife" put you off; this is not "game ranching" behind fences. Rather, such programs are designed to increase the quality of *free-roaming* wildlife populations as well as improve the experience for hunters. The payoff for state wildlife officials is that the market, rather than already strained agency operating budgets, provides incentives for landowners to improve habitat and hunting. The reward for hunters is a

**Be assured
that ranching
for wildlife
is *not*
game ranching.**

substantial increase in land where the quality of the game is high and where hunting pressure is low.

Despite the benefits, these programs are controversial. Started in the 1980s, they

build on the growing practice of fee hunting, which some hunter groups vehemently oppose. High-quality hunting sometimes commands high prices, and some hunters cannot or do not want to pay high fees. Thus, political opposition to fee hunting leads to political opposition to ranching for wildlife.

This manual explains the details of ranching for wildlife. Our goal is to provide a better understanding of the programs. It is our hope that with more knowledge people who are skeptical of ranching for wildlife may become advocates for well-designed programs in their own states.

BACKGROUND

In the United States, the state governments regulate most game species and therefore hunting (Lueck 1995). Through their wildlife agencies, the states set hunting seasons, determine daily and seasonal bag limits, and decide how many licenses for specific game animals will be sold. They set the fees for these licenses and allocate them between resident and nonresident hunters. They also regulate the sale of wildlife products such as antlers and meat, as well as the hunting tactics and weapons that can be used.

Yet politics often thwarts the goal of achieving healthy big game populations. In most states, political pressures keep the price of hunting licenses low—at least for state residents. This means that the size of an agency's budget is largely determined by the number of licenses sold. Agencies are left with only one option: Sell more licenses. To do this, states maximize game numbers. Such an approach inevitably leads to herds with many females and young males and few mature males (Wenders 1995, 91).

In addition, since state agencies can, at best, control the number of licenses issued on a regional basis, they cannot directly control the number of hunters on specific ranches. Small areas with abundant game can be overrun with hunters. In sum, the lack of trophy animals and lack of local control of hunting pressure lead to dissatisfaction among many hunters (Anderson and Houser 1995).

Enter the landowner. Most of the prime habitat in the United States is held privately, so that landowners play a pivotal role in creating an environment conducive to wildlife (Langner 1987; Wigley and Melchior 1987; Gerard 1995). Additionally, because landown-

ers have rights against trespass, they can control the number of hunters on their land to keep hunting pressure low. In response to a growing demand for better hunting, many landowners are charging fees to hunters for limited access to their lands.

However, landowners are constrained in what they can do to improve hunting on their property. While

Landowners and state agencies cooperate to achieve healthy animal populations.

they can upgrade habitat, they are not completely free to manage their hunts. For example, they cannot freely harvest animals to control the ratio of females to males in a herd—an important step, wildlife biologists say, in managing for

quality game. Ranches may have an overabundance of cows or does but the state may issue too few tags, or the season may be too short, for landowners to reduce the ratio.

Ranching for wildlife addresses these limitations by involving both landowners and state agencies in achieving healthy wild animal populations. As long as state governments control the taking of game, completely free markets in hunting cannot exist. However, ranching for wildlife helps landowners manage wildlife on their property so that they contribute to the goals of the public as well as their own.

A more fundamental achievement of ranching for wildlife is to improve the environment for many kinds of wildlife, from beavers to warblers—not just game animals. Environmentalists increasingly recognize that if landowners are to maintain open space and natural landscapes, they must have incentives. Ranching for wildlife allows the market to provide these incentives. “As human populations

continue to rise, so do market pressures to convert land into subdivisions and shopping malls,” says Alan Christensen of the Rocky Mountain Elk Foundation. “If conservation groups do not step forward to work with private landowners, other interests will” (quoted in Stalling 1999, 73).

Similarly, the Greater Yellowstone Coalition proposes ranching for wildlife as one way of protecting natural habitat around Yellowstone National Park. “Most open private lands that have not been developed belong to farmers or ranchers,” says a paper by the coalition (Glick et al. 1998, 8). Incentive-based programs like ranching for wildlife “increase the profitability of maintaining working ranches as open space and wildlife habitat” (Glick et al. 1998, 19). Aldo Leopold (1991, 202), the prominent early environmentalist, wrote that “conservation will ultimately boil down to rewarding the private landowner who conserves the public interest.”

TEXAS: A MODEL

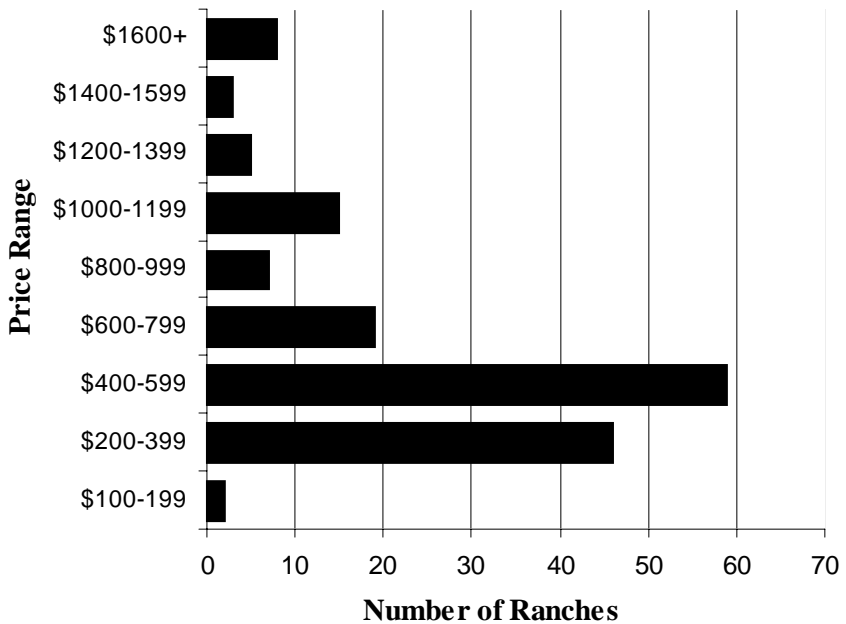
Ranching for wildlife is not the only way to achieve quality wildlife conditions and better hunting opportunities. Although Texas has no formal ranching for wildlife program, the state as a whole has achieved many of the goals of these programs. Because more than 97 percent of the land in Texas is private, owners rarely compete with free hunting on public land, so they have an incentive to manage their land to appeal to fee-paying hunters.

The state furthers these goals by allowing long deer seasons (two to three months) and liberal bag limits

(hunters are allowed as many as four deer in some regions). Landowners control their harvests because they have a financial stake in ensuring that abundance and quality of wildlife on their properties is maintained from year to year. Less regulatory interference gives these landowners latitude in organizing and managing hunts, leading to better management and to a wide variety of hunting opportunities.

Texas has the flexibility and incentives for which ranching for wildlife strives. It is by far the leader in terms of the number of landowners who have insti-

FIGURE 1: HUNTING PRICES IN TEXAS



Source: Baen (1997)

tuted fee hunting. A study by Butler and Workman (1993) found that 52 percent of the Texas ranches surveyed offered fee hunting. The result is a wide array of hunting opportunities and price ranges in Texas (see Figure 1).

Yes, luxurious trophy white-tailed deer hunts in Texas can cost from \$2,000 to \$4,000 per hunt, but other hunts are much less expensive. According to a 1996 survey of Texas landowners, the average annual lease-price charged to a hunter was \$634 (Baen 1997). This is \$224 less than big game hunters in the United States in 1996 were willing to spend just to travel to a hunting site, obtain lodging, and obtain the desired equipment to hunt (U.S. Department of the Interior et al. 1997, 24).

In addition to its private hunting market, Texas has cooperative game management, which allows some modification of the state's already-liberal regulations. Landowners with a state-approved wildlife management plan can receive managed lands deer (MLD) permits. These allow hunters to take more deer than can be taken under standard regulations (Texas Parks & Wildlife Department 1999).

BENEFITS

In other western states, ranching for wildlife provides many of the benefits found in Texas. In these states, much of the land is public and access has been traditionally free. Until recently, this free access discouraged private landowners from even maintaining habitat, let alone planting forage or building ponds to attract game animals. Landowners could not

earn enough from fee hunting to justify the expense.

With the decline of quality hunting opportunities on public lands, however, more hunters are willing to pay for better hunting, and landowners are responding to this demand by offering hunting access for a fee. Through ranching for wildlife, state wildlife agencies can build on this foundation.

To appreciate ranching for wildlife, it is necessary to review the benefits it provides. All participants—landowners, wildlife officials, and hunters—make gains.

LANDOWNERS

Ranching for wildlife gives landowners incentives to earn a profit from enhancing wildlife conditions and makes it easier for them to integrate hunting with other activities such as raising livestock. These benefits come through regulatory changes in three areas:

- *Longer seasons.* In general, states keep hunting seasons short in order to protect wildlife from overexploitation. However, longer seasons are appropriate when landowners limit the number of hunters and control the number of animals taken on their properties. In Utah, for example, the general rifle season for deer and elk begins in mid-October and lasts only ten days. But landowners in the state's ranching for wildlife program are at liberty to set their individual seasons anywhere between September 1 and October 31.³ Washington's ranching for wild-

life program offers a three-month mule deer season, compared to nine days outside the program.

With the additional hunting days, landowners can time hunts farther apart to minimize hunting pressure on the animals, schedule hunts before or after general hunting seasons when animals are more active and easier to find, and include small-party hunts. They can also shut down hunting while rounding up cattle or preparing soil for next year's crop—and then open it up again after these activities are over. Because a longer season offers a better chance of harvesting trophy animals, more hunters are willing to pay landowners a premium for these hunts.

- *Transferable game tags.* Normally, in addition to a general hunting license, each hunter must acquire a tag to hunt a particular big game species, available only from the state. Under ranching for wildlife, a participating landowner is guaranteed from the state a mutually agreed-upon number of big game tags each year, good only for the owner's property but transferable to other individuals. Transferability is valuable when a state limits the number of general-season tags, as it typically does for out-of-state hunters.

Transferable tags allow landowners to select whom they want to hunt on their land and to assure these hunters that tags will be available the following year. Guaranteed tags encourage hunters to treat the property with respect, because the landowner has the power to decide if they return or not. The tags also give landowners an

incentive to offer a quality hunt, so that desired hunting clients will return.

- *Ranch-specific harvests.* Because each property has a limited number of tags, state wildlife managers can allow harvest levels that reflect the wildlife conditions of the property and the goals of the landowner. Landowners with too many elk or deer on their property are able to harvest more females than would be allowed under typical regional bag limits. Similarly, landowners who want more trophy bucks or bulls for their hunters can reduce competition for food and habitat through higher harvests of females.

In return for these advantages, typical programs require landowners to follow a ranch-specific wildlife management plan. The plan is designed by the landowner in conjunction with the state agency.

STATE WILDLIFE AGENCIES

Ranching for wildlife opens up opportunities for state agencies to extend their game management to private lands. Benefits come in three areas:

- *More precise management.* Ranching for wildlife specifies harvest limits on each ranch, outlines planned habitat improvements on the property, and describes the methods by which a landowner will monitor and report on wildlife and harvests. Because landowners work closely with the state agencies, they become important allies, and state managers have a better chance of achieving their wildlife goals.

- *More leverage with landowners.* State wildlife managers are often frustrated by their inability to influence what private owners do on their property. Ranching for wildlife allows state officials to work with landowners, offering longer seasons and ranch-specific harvest strategies to make wildlife and hunting more compatible with agricultural operations.
- *Greater agency savings.* Ranching for wildlife can reduce the costs of compensating ranchers for crop or forage depredation since game numbers are better controlled. It can also take the place of expensive land purchases or cost-sharing programs to improve habitat.

HUNTERS

The new freedom for landowners leads to new opportunities for sportsmen. They now have an alternative to the crowded conditions and the poor game prospects that plague many public lands. Specific attractions include:

- *Better hunting.* In Colorado from 1993 to 1997, elk hunters had a 70 percent success rate on ranching for wildlife lands compared with 38 percent on other lands (Buschena, Anderson, and Leonard 1998). Data from this study indicate that lottery hunters are willing to pay more to hunt on ranching for wildlife lands.⁴ Moreover, the benefits of ranching for wildlife extend beyond individual properties because herds of mature game animals roam from ranches to federal, state, and other private lands.⁵ In addition, by providing high-

quality hunting, the program alleviates some of the pressures on public lands. According to one commentator, the availability of hunting licenses from private landowners in New Mexico caused a 20 percent decline in competition for the 1987 big game lottery (see Arha 1994, 15). Less crowding also means fewer people will quit hunting. This helps maintain political support for the sport.

- *Longer seasons.* Hunters have a chance to hunt longer and more often and are better able to fit hunting in with their other activities.
- *Another source of licenses.* For the out-of-state hunter, who in many states must obtain a license by lottery, ranching for wildlife ends the uncertainty of not knowing whether a hunting license will be available. Now hunters can plan their hunting trips.

In sum, cooperation between the landowner and the state agency harmonizes the public's interest in sustaining wildlife populations with the landowner's desire to manage wildlife on his or her property. The result is better hunting and greater abundance of wildlife.

CONTROVERSIES

In spite of these benefits, ranching for wildlife has been held back by controversy. Some landowners object to its provisions, and many wildlife officials are cautious. The most vociferous opponents, however, have been some (but certainly not all) hunting groups. These opponents contend that ranching for wildlife encourages "privatization" of

wildlife and closes access to the nonpaying hunter. The Montana Wildlife Federation recently issued a discussion paper challenging “the threat of privatization.” Privatization of wildlife, the paper says, “threatens to alter a vital and honored part of Montana’s cultural foundation.” It will turn Montana into a “state of ‘haves’ and ‘have-nots’ in regards to hunting, angling, and other forms of wildlife recreation” (Montana Wildlife Federation 1999).

The objections are understandable and worth reviewing. However, as we will see, the criticisms of ranching for wildlife are exaggerated.

Is fee hunting (an element of ranching for wildlife) unfair?

No. Landowners must pay the costs of damage caused by wildlife, and fee hunting is one way that they have found to help cover these costs. While a few landowners still allow hunters on their property free of charge, the tradition of welcoming hunters with a handshake is no longer widespread in the West, if it ever was. Problems of liability on the landowner’s part and irresponsibility on the hunter’s part have virtually eliminated free access. Paying a rancher for access is not only fair to the landowner, but it encourages the landowner to welcome wildlife and foster its growth rather than exclude it.

Does ranching for wildlife encourage high-priced trophy hunts?

Yes and no. It makes high-priced trophy hunts

attractive to some landowners, but not all ranching for wildlife hunts are expensive. Trophy blacktail deer hunts in California can cost \$5,000, but in Tehama County, Bill Burrows and his family provide a fully guided, fully housed, three-day blacktail deer hunt with all the amenities and a 70 percent success rate for \$800. Eight hundred dollars or nearly \$275 a day may sound like a lot for a hunt, but it includes meals, lodging, and a guide. A two-day wild pig hunt with the same amenities and a 98 percent success rate goes for \$400. “We don’t cater to the trophy market; we cater to quality of life,” says Burrows.⁶

When comparing seemingly high prices to hunting on public land, critics sometimes ignore the fact that hunters spend money when they hunt on public land, too. As noted above, the big game hunter in the United States spent an average of \$858 in 1996 for travel, lodging, and equipment to hunt—and undoubtedly additional funds on food and drink (U.S. Department of the Interior et al. 1997, 24). The prices of trophy hunts cover food and lodging, often over several days, as well as the services of a guide. Thus, access represents only a portion of the fee. Guided backcountry trophy hunts on public land can be expensive as well.

Information about sixteen ranching for wildlife packages for deer hunts in California (Gooch 1998b) indicates a range of prices. Three of the hunts cost less than \$1,000, five cost between \$1,000 and \$1,499, and three were between \$1500 and \$1999. Only two cost more than \$2,000. Prices are generally higher in Colorado,

possibly because the state limits the number of ranches in the program to thirty. However, New Mexico, which has over 1,400 ranches in the program, has a broad range of prices (see table 3 on p. 34).

As ranching for wildlife grows, we can expect a greater diversity of prices because competition for hunters will increase. The recently formed Great Western Hunting Club is already lowering the costs of big game hunts. Composed of hunters who want access to quality lands but do not want or need the services of guides, the club leases lands in western states for its dues-paying members. Many of these lands are ranching for wildlife lands. In Utah, for example, the club welcomed members on such properties for \$1,250 a person for a five-day buck deer hunt in 1999 (Causey 1999b). This is well below the 1998 average of \$3,172 for guided buck deer hunts in Utah under ranching for wildlife.⁷

Does ranching for wildlife restrict hunters' access to land?

No. The evidence suggests that it enhances access. For example:

- In Colorado, 22 of the 26 ranches in the 1998 program were off-limits to public hunters before the program was implemented, including the 260,000-acre Forbes Trinchera Ranch and the 55,000-acre Wolf Springs Ranch.⁸
- Of the sixty ranch units operating in California's program in 1998, about one-third had

been closed to the public for hunting before they joined the program. They now are open. Another one-third still allows only friends and family, and the final third has allowed the public to hunt both before and after joining the program.⁹

- Many ranching for wildlife programs require participating landowners to accept some hunters without charge. Although this aspect of the program may raise the costs for landowners (and thus lead to higher prices for hunts), it is a way for state agencies to obtain political support for the programs.

Ranching for wildlife offers more quality hunting opportunities for hunters willing to pay landowners for these experiences. Previously, hunters had difficulty finding hunts on public lands, which are becoming barren of mature animals and inundated with hunters. In addition, private landowners were constrained by season and harvest restrictions when they tried to create attractive hunts under general

MAJOR STATE PROGRAMS

hunting regulations.

To better understand the benefits of ranching for wildlife, we must consider the details of each state's programs. Eight states have ranching for wildlife. Four—California, Colorado, Utah, and New Mexico—have comprehensive programs, while four others—Oklahoma, Washington, Nevada, and Oregon—have fledgling programs. The remaining western states do not have ranching for wildlife but have programs that could provide the basis for such partnerships in the future. (See tables 1 and 2, which summarize characteristics of the programs.)

TABLE 1: RANCHES AND ACRES ENROLLED

State	Number of Units	Number of Acres
California	55	685,378
Colorado	24	900,920
Nevada	—	—
New Mexico	1,442	~8,000,000
Oklahoma	75	250,000
Oregon	—	—
Utah	66	1,069,652
Washington	3	200,000

Source: Data provided by state agencies (see appendix B).

TABLE 2: CHARACTERISTICS OF STATE PROGRAMS

State Program	Date Established	Extended Seasons	Hunter Permits for Landowner	Minimum Acreage	Wildlife Management Plan Required	Habitat Improvement Required	Public Access Required
California	1984	yes	yes	none	yes	yes	no
Colorado	1989	yes	yes	12,000	yes	yes	yes
Nevada	1998	see note	yes	none	no	no	no
New Mexico	see note	no	yes	none	no	no	yes
Oklahoma	1992	see note	yes	1,000	no	no	yes
Oregon	1995	no	yes	40	no	no	no
Utah	1994	yes	yes	10,000	yes	no	yes
Washington	1997	yes	yes	5,000	yes	yes	yes

Notes: The Nevada program allows some flexibility in when the hunter can go on the land. New Mexico's program evolved from state recognition of landowners who helped reintroduce elk to the state in the early 1900s. Oklahoma extends the season minimally to increase doe removal.

Source: Data provided by state agencies (see appendix B).

CALIFORNIA: THE FIRST OFFICIAL PROGRAM

Formally, ranching for wildlife began in California. Because land is continually being developed in California, state officials face high costs as they try to preserve open space and hunting land through land acquisition or conservation easements. The Private Lands Wildlife Habitat Enhancement and Management Area program, authorized by state law in 1984, was designed to lower the cost of protecting wildlife habitat (Mansfield, Mayer, and Callas 1989). The program followed a three-year pilot program on five ranches.

The state gives landowners transferable hunting permits, extended seasons, and ranch-specific harvest limits. In return, landowners agree to specific steps to improve habitat on their properties, as well as to carry out other wildlife and hunter management activities.

A landowner who wishes to participate must complete a wildlife management plan that inventories the wildlife and habitat on the property and proposes specific objectives and improvements. These may include such actions as creating fence openings to ease wildlife movement, installing wood duck nest boxes, planting cereal grains and native grasses for animal forage, and reestablishing riparian habitat by planting trees. (See appendix A for examples of habitat improvements.) The completed plan is submitted, along with an application fee of \$1,250 to \$2,000, depending on the size of the property, for review by the California Department of Fish and Game.¹⁰

Upon approval, the landowner receives a license to operate a Private Lands Management Area for five years. In the first year, the property must follow the state's general hunting regulations, but after that the Fish and Game Commission (which has authority over the Fish and Game Department) may authorize an extended hunting season on the property as well as harvest limits that differ from the general regulations. Such changes depend on the landowner's progress in improving habitat and managing wildlife and must be consistent with the commission's regional game management objectives.

**In 1984,
eight landowners
participated in
the California
program;
in 1998, the
number was sixty.**

The longer hunting season “allows them to close the ranch down for a week if they so choose,” says Ken Mayer, Senior Wildlife Biologist and former Deer Program Coordinator for the department. “Then, when they reopen a week later, it’s like the beginning of hunting season.”¹¹

In 1998, sixty properties representing nearly 700,000 acres were enrolled, ranging in size from 320 acres to 270,000 acres on the Tejon Ranch.¹² Most properties are managed for deer, but other managed species include antelope, elk, wild pig, wild turkey, and black bear. A few properties offer quail and grouse hunts. Deer hunters on these lands had a 53 percent chance of harvesting a deer, compared with only 18 percent statewide (Gooch 1998b).

Prices for deer hunting vary according to the length of hunt, level of service, and the quality of experience desired. Here are some examples (Gooch 1998b):

- Five Dot Ranch in Lassen County charges a fee of \$1,700 per buck taken on its Avila unit. According to ranch manager Tom Swickard, “These are big mountain deer” (Gooch 1998a).
- Meissner Ranch in Shasta County manages for blacktail deer and has had a 100 percent success rate on deer hunts since 1988. The ten tags for bucks available on the property each year cost \$500 apiece. Each entitles the hunter to full guide service, lodging, meals, and field transportation, and a hunt that usually lasts three days.
- Prather Ranch has available ten buck tags, good for either blacktail or mule deer. Tags cost \$800 each. They entitle the purchaser to hunt the ranch for any length of time over the two-month season.
- The Burrows Ranch, discussed on p. 14, offers a fully guided, fully housed, three-day blacktail deer hunt for \$800 (with a 70 percent success rate).
- At present, most of the elk hunts under the program are for the Roosevelt and Tule subspecies. These hunts are for trophy-sized animals, and hence they command a high price—the low-end price is around \$5,000 and the average price around \$10,000.¹³

Overall, “strong support for the program has come from hunters seeking high-quality hunting opportunities,” writes Kaush Arha (1994, 9), a member of the Wyoming Game and Fish Department who studied landowner-incentive programs while at the University of California at Berkeley. Many landowners have renewed their licenses, and the number

of participants has increased from eight ranches or farms in 1984 to sixty in 1998.¹⁴

The program has experienced some bumps along the way. While enrollment has generally been upward, it peaked in 1988 with fifty-six units enrolled, then fell to forty-three in 1993. After that, the numbers rose again. The cause of the decline seems to have been higher fees for landowners and policies that reduced landowners' flexibility or raised operating costs. Between 1987 and 1988, for

**Ranchers
are planting
forage, reducing
livestock grazing,
and upgrading
water supplies.**

example, the application fee more than doubled to \$800, and fees for transferable buck tags went from \$20 to \$35 (Fitzhugh 1989).

As for habitat improvement, interviews with fifty-five ranchers revealed that

ranches conducting fee hunting inside the program did more to enhance the environment than those outside the program (Fitzhugh 1989). Ranching for wildlife has led ranchers to improve forage with controlled fires, plant a variety of food for wildlife, reduce livestock grazing, and upgrade water supplies (California Department of Fish and Game 1995).

The program's more precise management of harvests appears to be leading to more male animals for individuals to hunt (Mansfield, Mayer, and Callas 1989). Nongame species have also benefited. For example, nesting habitat for sandhill cranes has improved in northern California (Arha 1994). The Burrows Ranch installed "wildlife access boards"—reinforced concrete boards one foot wide and six feet long—into water troughs to help snakes and small birds get to the water for a drink without

drowning. In Mendocino County, the Potter Valley Ranch installed nesting boxes for bluebirds (California Department of Fish and Game 1995). See appendix A for typical habitat improvements.

The experience of Multiple Use Managers Inc. (MUM), a company that specializes in wildlife recreation, indicates how a high-end program can operate. At the 17,000-acre Shamrock Ranch in Mendocino County, California, MUM runs four-day trophy hunts for the Tule elk. The price is \$10,000 per tag. The hunts generate revenues of about \$160,000 per year, while allowing the herd to grow. The firm has started a permanent pasture for the elk by planting 100 acres of timothy, wheat grass, and clover.

On MUM's Eden Valley Ranch, a four-day Tule elk hunt costs \$11,000, and a four-day trophy blacktail deer hunt costs \$3,500. Every blacktail buck taken during 1997 scored over 120 points in the Safari Club International measurement system. Revenues from the hunts fund habitat improvements such as clearing decayed brush and controlled burning to eradicate yellow star thistle. They have also funded the planting of wild rice for blacktail deer, turkey, and ducks.

A hunter visiting a MUM property has no problem seeing between 100 to 300 deer daily, and a number of those are quality bucks, including some that would qualify as trophies according to Safari Club International standards. Some hunters have returned for twenty consecutive years.

COLORADO: SMALLER, MORE EXPENSIVE

Colorado's program was patterned after California's program and like California's began with a pilot, which became permanent in 1989. Colorado's formal name, Ranching for Wildlife, has become the generic description of these programs.

The landowner is eligible for transferable game tags, extended seasons, and flexible bag limits. As in California, the landowner must produce a wildlife management plan that includes proposed harvest levels and a schedule of habitat improvements.

A participating landowner pays the same price for tags as does a hunter purchasing a tag from the state (in 1998, \$250 and \$150 for nonresident elk and deer permits respectively; \$30 and \$20 for resident permits). The landowner can use the permits as he or she sees fit (Colorado Wildlife Commission 1993). Most market them, but one coal company gives them to employees as a perquisite.

Prices for mule deer and antelope hunts tend to be higher than in California. Across fifteen ranches in the program, a five-day guided mule deer hunt averages approximately \$3,750, and a five-day guided antelope hunt runs around \$3,000. A five-day guided bull elk hunt costs from \$4,000 to \$6,000 on most ranches.¹⁵ At the upper end of the price scale is Crazy French Ranch. At most, four hunters are allowed on the 40,000-acre ranch at one time. This region of high mesas and 300 days of sunshine per year has many trophy animals. The price of trophy hunts can range from \$3,200 for antelope to \$17,500 plus a trophy fee if the hunter shoots a trophy elk.¹⁶

Three factors contribute to Colorado's higher prices.

- Colorado limits the number of ranches allowed in the program to thirty. (Only twenty-four are currently enrolled, but the cap was just recently raised from twenty-four.) Although the limit has never led to a denial of entry into the program, it may discourage ranchers with lower-priced hunts from applying.
- To be considered for the program, a property must consist of at least 12,000 contiguous acres.¹⁷ While smaller adjacent ranches can join together, not all suitable ranches have adjoining landowners interested in and capable of joining. Thus, the acreage limitation reduces the number of potential suppliers and may lead to higher prices.
- Colorado requires landowners to provide access at no charge to a limited number of hunters whose names are drawn by lottery.¹⁸ The requirement to provide access for nonpaying hunters reduces political opposition, but it raises the landowner's cost of operation and probably leads to higher charges for those willing to pay to hunt. It also reduces landowners' freedom to decide who can hunt and may eliminate potential entrants who value this freedom highly.

Removing the limit on the number of participating ranches and the minimum acreage could bring in ranches with more affordable hunts. If landowners are required to take some free-access hunters, finding a way to compensate them for the additional costs would also help reduce prices for paying hunters.

Opening the program to more landowners might change the attitude of disgruntled landowners who covet more flexible regulations. Ron Tipping, a Colorado landowner, points out that ranches outside the program are limited to twenty-six days of elk hunting, while ranches in the program have an elk season that can last ninety days.¹⁹ The longer season allows landowners to hold hunts before and after the general elk season, ensuring prime hunting conditions. Furthermore, if landowners don't allow hunting during the general season, their property becomes a safety zone for elk. Says Tipping: "They allow them to hunt when others can't, and then they quit hunting when others can" (Stalling 1999, 71).

The program has demonstrated an ability to grow. Starting with six ranches in 1989, the program now

"They've taken a real ecosystem approach," says a former Colorado official.

includes twenty-four ranches encompassing over 900,000 acres.²⁰ Ranches range in size from 10,000 acres to the 137,000-acre Kim Wildlife Ranching Area. They offer public hunting for some or all of the following species: elk, deer,

antelope, black bear, and turkey. Elk and deer are the most widely offered, followed by antelope.

A study of thirteen participating ranches found that all were carrying out wildlife management practices such as grazing management, game counting, managing population structure, and recording harvest statistics (Davis 1995, 116–18). A majority of the landowners were providing supplemental forage, restoring streams, distributing mineral salt, developing new water sources, and controlling poaching. "They've taken a real ecosystem approach," says John Seidel, former Statewide Coordi-

nator of Ranching for Wildlife in Colorado (quoted in Stalling 1999). The program also has reduced some of the state's costs of compensating landowners for game damage (Arha 1997, 107).

There is still room for improvement. According to a 1997 study, the Department of Wildlife has been lax in confirming that ranches are complying with the agreed-upon plan (Arha 1997, 107–108). But the state may be becoming more vigilant. The department told three ranches that they had to comply with the plan or the contract would be terminated. Two remain on probation (Stalling 1999, 70) and one was eliminated.

The state is exploring modified programs for landowners with as few as 160 acres. Legislation authorizing such programs died in 1998. According to a state official, legislators are reluctant to provide landowner licenses without requiring habitat management plans. State officials doubt that there is sufficient agency personnel to adequately administer an expanded program.

UTAH: FEWER DEMANDS ON LANDOWNERS

Although nearly three-quarters of Utah is public land, big game populations—deer, elk, antelope, and moose—depend on private land (Larson and Bunnell 1989). In 1990, Utah's Wildlife Board approved a three-year pilot program known as Cooperative Wildlife Management Units for managing big game species on private lands. In 1994, it became law.

As in California and Colorado, landowners in the program are allowed longer hunting seasons, transferable game tags, and flexible bag limits. The most attractive feature of the program appears to be the ability to schedule hunts outside the state's relatively short big game hunting season. Rifle seasons for mule deer and elk last at most two weeks in Utah and are held in mid-October. Participants in the program, however, can schedule hunts for mule deer and elk between September 1 and October 31.

**More than
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Utah were seeded in
native vegetation to
attract and support
wild animals.**

Landowners who want to participate must work with state biologists to prepare an application for the Utah

Wildlife Board, which can approve or deny it. An application contains information on the size, location, and ownership of the land proposed for enrollment, the big game species to be managed, the number of requested permits, and a management plan. Landowners whose applications are accepted receive a certificate of registration that defines management guidelines. The certificate costs \$150. No limit has been placed on the number of units.

Unlike California and Colorado, Utah does not require a schedule of habitat improvements. However, the state is considering rewarding landowners who specify habitat improvements by approving plans for a four- to five-year period instead of one year.²¹ Even without such requirements, more than 11,500 acres were seeded in native vegetation in 1996 (Messmer et al. 1998, 329). Most participating landowners also promise to monitor habitat conditions and wildlife populations (Messmer et al. 1998, 329).

A property must be at least 10,000 acres in size, a requirement similar to Colorado's. Landowners with adjacent tracts can form one management unit to qualify, and the Utah Wildlife Board may waive the minimum-size rule to achieve an objective such as increasing big game populations for a long period on a specific tract of land. The number of units enrolled in the program has gone up steadily from fewer than thirty in 1993 to seventy-one in 1999.²² In 1997, the sixty-six cooperative units enrolled in the program totaled over one million acres.²³

As in Colorado, a portion of the hunting permits allocated to landowners must be given to nonpaying hunters, with a choice of options for allocating these permits between paying and nonpaying hunters.²⁴ Paying hunters can obtain permits directly from landowners or from outfitters who purchase permits from landowners. Free-access hunters take their chances in Utah's big game drawing. (In this drawing, residents may apply for bucks and bulls and antlerless permits; nonresidents are restricted to antlerless permits.)

The program includes ranches that are nationally renowned for the quality of hunting they offer. The 201,000-acre Deseret Ranch has become a showcase for integrating wildlife with a cattle operation. Fee hunting generates from 25 to 50 percent of the ranch's net income each year, depending on the price of cattle. The ranch today supports 2,000 elk; in 1976, elk numbered only 350. Other animals include 5,000 mule deer, 500 antelope, and between fifty and one hundred moose. Nongame species have also increased. Surveys show that there are growing numbers of squirrels, jack rabbits, beavers, mink, moun-

tain lions, and black bears. Birds in residence include bald eagles, golden eagles, cormorants, egrets, terns, and sage grouse (Anderson and Leal 1997, 80–81).

The 55,000-acre Alton unit is in one of the best mule deer areas in the country, the famed Paunsaugunt region of southwestern Utah. For this unit, thirty-six

**Landowners
and hunters alike
have expressed high
satisfaction with
Utah's program.**

permits are allocated for fee-access hunters and five permits for public-lottery hunters. One landowner in the Alton unit notes that there is a better than 80 percent chance of harvesting a buck with a rack spread measuring more than 28 inches.²⁵

An outfitter who specializes in these hunts offers a six-day mule deer hunt for \$9,000.²⁶ The price includes one-on-one guiding, cabin lodging and meals, and a chance for a trophy buck.

Not all mule deer hunts are this expensive, says Utah hunting consultant Rich LaRocco (quoted in Causey 1998). One of the Manti Mountain ranches offers a fully guided mule deer hunt for \$2,000 (minus \$500 if the hunter does not get a shooting opportunity). An East Canyon ranch charges \$4,000 for a bull elk hunt that has a 75 percent success rate, mostly for animals with between four-point and small six-point racks (as measured by western count). Although this fee is substantial, LaRocco notes that it is not much more than the price hunters pay for many backcountry public-land elk hunts led by outfitters, which have a success rate of between 20 and 50 percent.

Statistics gathered by the Utah Division of Wildlife Resources show the following average fees per client: For buck deer hunts, the average is \$3,172; for bull elk, \$4,125; for bull moose, \$5,438; and for

buck antelope, \$1,692.²⁷ However, as we saw earlier, one hunting club is already bringing down the fees for trophy hunts by allowing members to lease lands in the program without guides.

Landowners and hunters alike have expressed high satisfaction with the program.²⁸ A 1994 survey of Utah participants (Messmer et al. 1998, 328–29) found that both fee-access and free-access hunters (those who obtained access by lottery) cited “less hunting pressure,” “less hunter crowding,” and a “chance for quality hunt” as primary reasons for participating. They differed in what they considered a quality hunt, however. Nearly half the fee-access hunters wanted “greater trophy potential,” while nearly two-thirds of the public hunters wanted a “greater chance at harvesting an animal.”

The program appears to be satisfying landowners and hunters. And, according to agency officials, the program has also reduced the costs of compensating landowners for damage from game (Messmer et al. 1998, 330).

NEW MEXICO: BUILDING ON THE PAST

Although California was the first state to institute ranching for wildlife, New Mexico’s program for encouraging hunting on private land has a much longer history. The Land Owner Sign-up System (LOSS)²⁹ illustrates the benefits that come from allowing private landowners flexibility in game management. However, it may also illustrate the limitations when a customized management plan is not part of the program.

The history begins with the role that some private landowners played in helping to reintroduce elk in New Mexico early in the twentieth century. In recognition of these efforts, the state designated several ranches as “Class A Parks.” These ranchers could “set their own bag limits, seasons and hunter numbers on their entire ranch” (Arha 1997, 62). In nearly every instance wildlife populations grew as a result (Arha 1997, 62).

As elk expanded their range beyond these ranches, demand to hunt elk increased, and in 1933 the state began requiring hunters to have a state license to hunt elk on land outside Class A Parks, whether public or private. In 1937, Class A landowners were required to obtain elk-license “authorizations” for their hunters. Each authorization entitles the holder to purchase an additional elk hunting license good only for that property.

Before 1988, there was no set policy for determining who would get authorizations or how many would be allowed on each ranch. Authorizations spread to other landowners through a process of “barter, negotiation, and abuse,” according to one commentator (Arha 1997, 63). In response, the state developed a formula for determining the number of authorizations each landowner is allowed. The formula takes into account elk density in the region and the number of acres owned by the landowner within occupied elk habitat.

To participate, a landowner must allow access to a number of hunters (selected by lottery) who hunt for free. The percentage of licenses allocated to the landowners and to the public hunters is based on an aerial survey and an estimate of how many animals

the department believes will be taken on public land and how many on private land in the region.

Authorizations for antelope, the other species in LOSS, are determined by spring population surveys from the air and by landowner acreage. In past years, about one antelope permit has been issued per 1,000 acres, although due to drought and a low number of fawns, the number may be one per 1,500 or 2,000 acres in 1999.³⁰ As with the elk program, ranches must provide access to a set number of public hunters, based on an aerial survey.

At about eight million acres, New Mexico's ranching for wildlife is the nation's largest.

New Mexico's program does not require the landowner to develop a wildlife management plan. As long as elk or antelope inhabit the land, a property owner can obtain authorizations. While the program does not require that a property be a minimum size, landowners with properties greater than 10,000 acres may get longer hunting seasons. However, very few ranches use this option.³¹

In 1997, 1,442 landowners enrolled in the elk program for a total of more than 3.5 million acres. The ranches ranged in size from the nearly 600,000-acre Vermejo Park Ranch to a mere five acres. Adding ranches that receive antelope authorizations, the number of private acres enrolled in the program totals about eight million (Arha 1997, 68), making it by far the most extensive ranching for wildlife program.

While five-day quality elk hunts are typically priced at around \$4,000, Jack Diamond of Beaver Outfitters offers such a hunt for \$2,700 on his 100-square-mile working cattle ranch. Diamond and his

associate Ken Swaim encourage their clients to take only mature, branch-antlered bulls that score a minimum of 275 Boone and Crockett points. Each year three to five bulls are taken that exceed 350 Boone and Crockett points (Stapleton 1998).

As for antelope, outfitted hunts for nontrophy bucks can be found for \$1,750 (guided) and \$750 (un-guided), reports Rich LaRocco of Associated Hunting Consultants, who says they have a hunter success rate of 100 percent. LaRocco books trophy hunts as well. Most range from \$2,250 to \$3,000, but he recently found an outfitter who offers a \$1,750 guided trophy hunt for antelope on private land (Edvalson 1997). On the last three trophy hunts, hunters averaged just over 82, 81, and 80 Boone and Crockett points for the bucks taken. A score of 82 qualifies a buck for Boone and Crockett designation (Edvalson 1997).

Available figures suggest that hunting prices vary widely. Ranchers appear to be responding to demand

TABLE 3: PRICES FOR HUNTS IN NEW MEXICO (1995)

Species	Average Price	Price Range
Bull Elk	\$ 1,907	\$250 to \$7,500
Buck Pronghorn Antelope	\$ 869	\$100 to \$3,000
Deer	\$ 1,092	\$15 to \$4,000

Source: Wright (1997).

with an array of choices, as indicated in table 3. For state wildlife officials, the LOSS program has both strengths and weaknesses. On the positive side, state officials say that they are better able to manage game populations, particularly in areas dominated by private land. In addition, LOSS increases license revenue. Hunters who don't win a permit through a public drawing now have an alternative way to obtain a tag, landowner authorization. Authorization sales also enable landowners to recover the costs of game damage without draining the department's budget through damage compensation programs.

However, allocating authorizations to landowners on the basis of animal populations alone discourages ranch-specific management. This may explain why excess elk populations are still causing damage in the northeastern part of the state. The formula funnels many authorizations to a few large ranches but few authorizations to smaller ranches that may be suffering damage from game (Arha 1997, 69). Nor does the formula take into account the quality of habitat a landowner offers (Arha 1997, 70).

FLEDGLING STATE PROGRAMS

The four states discussed above represent the major ranching for wildlife programs. Several other states have less-developed programs that provide a portion of the benefits found in the states discussed so far.

OKLAHOMA: DEER MANAGEMENT

Oklahoma provides landowners with transferable hunting permits for antlerless deer. Established in

1992, the Deer Management Assistance Program determines the number of permits based on a survey of the animals on the property, the size of the property, the property's deer-carrying capacity, and the landowner's management objectives. The landowner may want to reduce game damage, produce trophy deer, or produce as many deer for hunting as possible. The state also provides technical assistance to participating landowners.

The landowner is free to charge hunters for access and decide who receives the permits. They are good for an antlerless deer on any day of the primitive-firearms or deer-gun season (Arha 1997, 135).

To join, a property must be at least 1,000 contiguous acres. About seventy-five owners enrolled more than 250,000 acres in the program in 1998,³² the first year that the program allowed a seven-day period for hunting does after the regular season ended. According to Jerry Shaw of the Oklahoma Department of Wildlife Conservation, "the landowners really like the fact that they have seven days more to hunt the does. Then, they can let the hunters concentrate on the bucks during the regular season and worry about getting the does after."³³ The program appears to foster mature game. Shaw says, "If they follow our recommendations, we see pretty drastic improvements in the herd. The properties willing to put in the time do real well."

Outside this program, the state allows landowners who are having a crop depredation problem to harvest deer out of season. The Department of Wildlife Conservation can authorize shoot-to-kill permits, which the landowner can assign to others.

These have been used to keep deer from damaging orchards and crops but, according to Shaw, are a last resort. During hunting season, the landowner and his or her immediate family do not need a hunting license to hunt on their own land, but they must purchase deer tags from the state.

WASHINGTON: EXAMPLES STILL RARE

Washington's Private Lands Wildlife Management Area program is still rudimentary. Initiated as a pilot program in 1992, it was renewed for another five years in 1997.³⁴ Landowners are allowed longer hunting seasons and transferable hunting permits in return for making habitat improvements and achieving specific wildlife management objectives. However, only three properties have joined the program—two commercial forests and an agricultural cooperative unit composed of about twenty landowners—for a total acreage of 200,000 acres.

So far, only three properties have joined Washington's program.

A landowner's property must be at least 5,000 acres, and the management plan

must be approved by the Washington Fish and Wildlife Commission. Landowners must allow access to some hunters who pay, at most, small daily charges for access.

Champion Pacific Timberlands joined the program to control its deer and elk population, encourage better relations with local residents, and obtain revenue from hunting (Eskow 1998). At Kapowsin Tree Farm on the western boundary of Mount Rainier National Park, Champion charges a daily fee to hunt buck

blacktail deer during the regular hunting season and sells raffle tickets for special blacktail hunting opportunities beyond the regular season. Fifty-one permits were issued through the raffle for 1998.

Although the original goal with elk was to keep the numbers below carrying capacity, the company is currently trying to build up its male elk population, which declined after 1992 due to overharvesting and poaching. The company is seeding more forage (such as orchard and timothy grass) and conducting controlled elk hunts to increase the ratio of bulls. According to Champion's 1998 annual report on the program, elk numbers are starting to improve (Eskow 1998, 5).

Champion holds a raffle for its annual Quality Bull Raffle Hunt, which allows a few public hunters to hunt bull elk on Kapowsin for two weeks after the regular season. In 1998, a raffle ticket cost \$10 (\$15 in 1999), and 2,800 tickets were sold.³⁵ Hunters with winning tickets need only pay for a license from the state and they are ready to hunt (Eskow 1998, 5).

David Stevens, a wheat farm owner, heads the Wilson Creek private management area, a cooperative of about twenty landowners located in Washington's Grant County. Stevens has about fifty permits for hunting mule deer bucks, which he may sell or give away. Outside the management area, the mule deer season is nine days; inside, it is three months.

Last year, Stevens sold six permits, gave twenty away (many to landowners in the cooperative), and did not use the other twenty-four. For those he sold, he

received about \$6,000 a permit.³⁶ Hunters were willing to pay Stevens that amount because his property has trophy bucks. Through the state lottery, the state provides 100 doe permits for one-day, free-access hunts on Wilson Creek from September 1 to December 31. Hunters can also obtain a few free-access buck permits through the lottery.

The deer population on the Wilson Creek area increased from 1,100 to 1,300 between 1992 and 1998. As part of his management plan, Stevens has created ten forage plots (which cost him approxi-

**David Stevens
has planted corn,
alfalfa, and sunflow-
ers to ensure food
for deer.**

mately \$30,000 a year in electricity to operate sprinklers). He has planted corn, alfalfa, and sunflowers. Additionally, he holds some of his acres out of wheat production to maintain native habitat for deer. He eliminated livestock grazing,

developed springs and water holes, and planted shrubs and trees for food and cover. In addition to mule deer, pheasants and waterfowl such as mallards and geese benefit.

Stevens and the other landowners enjoy wildlife and might well make improvements without the program. However, they appreciate the fact that the program's extra revenues offset some of the costs.

While these two Washington examples suggest that the program can work well for landowners and hunters, the program is not growing. Many landowners do not even know the program exists, probably because Washington's Department of Fish and Wildlife chooses not to publicize it. The department is apparently responding to objections by sportsmen convinced that the program caters to the rich.³⁷

NEVADA: SOME TRANSFERABLE TAGS

In Nevada, a landowner experiencing damage from deer or antelope can receive one to twelve tags to hunt them through the Mule Deer and Antelope Landowner Damage Compensation Tag program, which began in 1991. The Nevada Division of Wildlife surveys the property and issues one tag for every fifty animals causing damage. A landowner may sell these tags to hunters. In 1997, the state issued a total of ninety-one deer tags and ten antelope tags under the program.

In essence, these are transferable hunting permits. One landowner's wife interviewed in *U.S. Hunting Report* said her husband sold all of the tags he was issued for \$2,500 each (Gilchrist 1997). Some hunters have paid more than \$6,000, according to a Division of Wildlife official.³⁸ Because the permits are tied to game damage and not to creating incentives for more habitat or more hunting opportunities, this is not formally a ranching for wildlife program. It could be, however, if the program allowed longer seasons and guaranteed hunting permits for landowners who increase habitat and deer and antelope numbers.

Nevada's newest management approach, the Elk Incentive Tag program, is similar to New Mexico's LOSS program. Expected to be operational in 1999, the program will issue transferable elk tags to a landowner in order to encourage private stewardship of elk. The number is based largely on the number of elk on the property. The only other way to get an elk permit in Nevada is by lottery, so landowner-issued elk permits for prime hunting areas are in high demand.

State officials also see this program as a cheaper way to deal with heavy depredation from elk. When landowners experience damage from game, they may be compensated by the state, emergency depredation hunts may be authorized, self-harvests may be allowed, or state agency personnel may conduct hunts. The Elk Incentive Tag Program is an alternative that turns a liability into an asset.

OREGON: STARTING SMALL

In 1982, Oregon began providing a number of nontransferable elk and deer tags to landowners. These tags were good only for the landowner and immediate family members. In 1995, the state expanded this Landowner Preference program to allow a landowner to transfer one-third of his or her antlered tags and all antlerless tags to nonfamily members. (Otherwise in Oregon, tags for elk and deer are allocated by public drawing.)

The number of permits issued to a landowner is extremely limited and strictly tied to acreage. For property from 40 to 1,199 acres in size, landowners can receive two antlered deer tags and two antlered elk tags,³⁹ but only one is transferable. As acreage increases, the landowner receives additional tags, but acreage must reach 10,000 before a second tag is transferable. The number of tags can rise to ten per species at most, which requires a minimum of 160,000 acres. With this acreage, three landowners' tags can be transferred.

If the landowner actively manages habitat for wildlife, two more tags can be acquired, and two addi-

tional tags can be acquired for providing public access. However, these additional tags are nontransferable and only allow hunting of antlerless animals.

OTHER PROGRAMS

We have now reviewed all ranching for wildlife programs, including the four fledgling programs. While the remaining western states (other than Texas) have moved even less in the direction of ranching for wildlife, some have laid a foundation that could become ranching for wildlife.

Over the last twenty years, state wildlife agencies have tried to encourage landowners to accept hunting and nurture wildlife. Some states pay landowners to protect habitat, some pay them to open their land to hunting, and some pay landowners to offset the costs of game damage. Whether these programs will develop into ranching for wildlife depends largely on political factors and on whether the benefits of ranching for wildlife are understood.

ARIZONA

The state's wildlife agency does little with private landowners, possibly because public lands (state and federal) represent 75 percent of the state's total acreage. However, the state recognizes the fact that its public land does not have enough mature game to satisfy hunters and is trying to address the demand for trophy hunting. To allow bull elk to grow to trophy size, the state is restricting the number of permits for hunting mature elk in designated areas.

The permits are available by lottery. However, the paperwork for applying is cumbersome and the chances of getting a permit are only 10 percent (Pearce 1997).

The state may be responding to the impressive gains made by the White Mountain Apache, who revolutionized elk hunting on the Fort Apache reservation in east-central Arizona. In 1977, the tribe took over game management on the reserva-

The White Mountain Apache revolutionized elk hunting in east-central Arizona.

tion. To build mature populations, the tribe restricted hunting for trophy elk, at first issuing only twelve trophy elk permits for the entire 1.6 million-acre reservation. The tribe also reduced its livestock grazing and limited logging

on the reservation. The program worked; in 1995, sixty-six hunters paid \$12,000 each for a six-day trophy hunt. The tribe also offers less expensive hunts (Anderson and Leal 1997, 150–52).

The state's efforts to improve habitat on private lands rest with the state's Stewardship Program, which provides technical assistance to landowners who improve their habitat as well as cost-sharing in the form of labor and materials purchased through the state procurement process. As demand for big game grows, this program could serve as a foundation for ranching for wildlife.

IDAHO

About two-thirds of Idaho's land base is owned by the state or by the federal government. As elsewhere, hunting on public lands is declining in quality

due to habitat loss and increasing hunting pressure. Because some of the best hunting is found on private lands, the state has undertaken a few programs that could become vehicles for landowner incentive programs. For example, the state issues nontransferable elk and deer tags to landowners. It also provides some cost-sharing and technical assistance for investments in habitat improvement and tries to increase public access to quality habitat through conservation easements and direct purchases.

KANSAS

The state indirectly offers incentives for landowners to improve habitat through Walk-In Hunting Areas. Under this program, the state leases access for public hunters from private landowners, paying higher per-acre prices to landowners with quality habitat. In addition, the state provides cost sharing and free technical assistance to landowners who want to improve habitat.

The program is primarily for upland birds like pheasant, but it also attempts to address habitat for white-tailed deer. It is popular among hunters, but as its popularity grows so does the need to manage hunters and to tailor harvest levels to specific areas. If the Walk-In Hunting Areas program is to do this, it must become more like ranching for wildlife.

MONTANA

Ranching for wildlife bills have been introduced over the last ten years but have failed to pass the

state legislature, largely due to opposition from a small number of vocal hunters, including the Montana Wildlife Federation. However, fee hunting is emerging in the state. A 1996 study by Erik Swensson (1996) reported that 12 percent of landowners surveyed across the state offered hunting for a fee. This compares with surveys in the early 1980s reporting that only 4 percent of the landowners offered fee hunting (Irby et al. 1997, 327).

The state's Block Management program, established in 1992, compensates landowners who accept hunters

Unfortunately, the Block Management program rewards landowners whose property is overrun with hunters.

without charge. Funding comes from the sale of a limited number of licenses to nonresident hunters at market prices. The landowner's payment rises with the number of hunters using the property during the course of the hunting season. Thus, under this reward system, a landowner is paid more if the property is overrun with hunters, and the program

offers no incentive for improving habitat.

The Montana Fish, Wildlife, and Parks Commission is considering Gameshare, which would offer landowners transferable big game licenses (Henckel 1998) that have been set aside for nonresidents. In return, landowners would be required to provide public hunting equivalent to what their paying clients receive. Missing in this approach, however, are incentives for creating more habitat for wildlife. Also, the requirement to bring in nonpaying hunters might reduce landowners' interest in the program.

Two groups oppose Gameshare. Some landowners, confused about the program, think that the public

access requirement constitutes a “taking” of land without compensation. This is a mistake, since entry into the program is strictly voluntary, although joining the program does limit landowners’ ability to select hunters. Outfitters oppose Gameshare on the grounds that it would hurt their business. Outfitters currently have an exclusive right to the licenses for out-of-state hunters that are not allocated by lottery.

SOUTH DAKOTA

South Dakota provides nontransferable deer tags to landowners and their immediate families. The state also leases private land to provide more public access and limits the landowner’s liability from recreational use of his or her land. If demand for quality hunts increases, these might be the basis of ranching for wildlife.

WYOMING

A fierce debate has raged in the state over a proposal to provide landowner-sponsored hunting tags for elk, deer, and antelope. These would go to landowners who allow some instate hunters access to their lands without charge (Krumm 1998). Currently, as in Idaho and South Dakota, the state issues landowners big game tags that only they can use on their land. The state also provides technical assistance and cost sharing for landowners who improve habitat by developing riparian areas, planting food plots, and taking other steps. The state also leases private land to provide hunting access for public hunters.

REMAINING WESTERN STATES: VERY LITTLE

The remaining western states have little or nothing in the way of incentive programs for landowners. With two-thirds of its land under federal ownership, Alaska does not have any habitat improvement programs for private lands. Nebraska offers a cost-sharing program for landowners who improve habitat, and the state will pay landowners who provide hunters access without charge. North Dakota, too, offers a cost-sharing program for landowners who improve habitat and spends some of the revenues from hunting licenses to lease private land.

THE FUTURE OF RANCHING FOR WILDLIFE

Political opposition makes initiating ranching for wildlife programs by no means easy. Consider that:

- A measure to allow ranching for wildlife failed twice in the California legislature. It finally passed in 1983 after a successful pilot program (Arha 1994, 4).
- The Colorado and Utah programs faced stiff opposition until they allowed some options for free-access hunting.
- A segment of the sportsmen in Montana, Idaho, and Wyoming is adamantly opposed to the program. As the quality of hunting deteriorates on public lands, however, more hunters will push for access to the quality habitat available on private lands. Yet access programs like

Montana's Block Management (which pays landowners for providing public access) are not structured to improve habitat or address the demand for high-quality hunting.

And, as we have seen, some ranching for wildlife programs are only partial programs.

- Nevada has ranching for wildlife for elk, but not for deer or antelope.
- Oregon's modest program, which gives landowners a few transferable elk and deer tags, could be expanded by giving more tags to landowners who improve habitat and provide hunting opportunities.
- Washington has yet to market its program to landowners or to publicize the benefits.

Yet these programs could expand, and most western states have rudimentary state-sponsored activities that could lead to ranching for wildlife in the future. For example, Idaho, Wyoming, and South Dakota issue nontransferable tags to landowners under special conditions.

ADVICE FOR STARTING A PROGRAM

It is clear that proponents of ranching for wildlife face great challenges. Yet the difficulties are by no means insurmountable. For individuals who want to encourage such programs, here are some ideas.

1. Identify existing landowner programs.

Some states offer big game licenses to landowners and their immediate families to stop game damage or as an alternative to obtaining big game tags through a lottery. If these licenses were made transferable and if the number of licenses were linked to improvements in habitat and hunting management, a ranching for wildlife program would have been started. The next logical step is to add extended seasons and landowner management plans.

2. *Start a pilot program.*

A handful of ranches should be selected to try out ranching for wildlife. Both fee hunters and a sample of public hunters selected by lottery could be allowed to hunt on these ranches. Wildlife managers, hunters, and landowners could then evaluate the program and come up with improvements. California, Utah, and Colorado initiated pilot programs and their success gave lawmakers the confidence to create permanent programs.

3. *Allow some hunters to experience the program without charge.*

To overcome protests from hunters who oppose fee hunting, most ranching for wildlife programs provide limited opportunities for nonpaying hunters, who are usually selected by lottery. Such guarantees address concerns that only the wealthy will gain access to high-quality hunting. On Deseret Ranch in Utah, the state program has dramatically increased the number of public hunters. Before the program, paying hunters outnumbered nonpayers 4 to 1; that ratio has been

reversed. (While California does not require such free access, it does provide extended seasons on public lands in areas where longer seasons are offered on ranching for wildlife lands.)

The problem with requiring participants to accept nonpaying hunters is that it takes away landowners' choice about whom they will allow on their land, and it may lead to higher prices. One way to address higher prices is to borrow a concept from Montana's Block Management program. The state could pay landowners to accept nonpaying hunters. Funds could be raised from nonresident license sales as well as from raffles for such hunts.

4. *Educate sportsmen.*

It is important to let sportsmen know that ranching for wildlife does not privatize wildlife. The state remains in charge of wildlife, and the programs give the state more influence and control over animals than it had previously. The programs open up land to hunters that previously was closed. Sportsmen should be informed of the wide range of prices for hunting available in most states with these programs.

Sportsmen should also become aware that better management on private lands often benefits adjacent public lands. When animals are abundant on private land, some are bound to roam, many onto public land. Deseret's Rick Danvir, for example, claims that only one out of three mature bull elk growing up on Deseret is taken on Deseret property. The rest are hunted on public and private land nearby.⁴⁰

5. *Encourage or require cooperative management plans.*

Ranching for wildlife will be more acceptable to state wildlife officials if it includes a state-approved wildlife management plan developed by each participating landowner. State wildlife biologists can help landowners take a census, plan habitat improvements, and determine harvest numbers. Involvement by state biologists on previously off-limits private lands should be a major selling point to state officials, whose support is critical.

6. *Show how the program can save money for the state.*

State agencies are expected to monitor wildlife, conduct research, and enforce regulations. After these costly demands are made on their budgets, there is little funding left to purchase land or easements to protect habitat. Ranching for wildlife encourages landowners to create their own habitat improvements without draining agency funds.

Ranching for wildlife is also an alternative to game damage compensation programs. Through better control of game, ranching for wildlife reduces game damage. In addition, because the marketplace compensates landowners through fee hunting, ranching for wildlife leads to greater tolerance of depredation. Indeed, landowners often deliberately provide forage for animals. Ranching for wildlife also reduces the need for cost-sharing programs in which the state agency pays landowners to improve habitat. All these

savings add up to an important selling point to wildlife officials.

7. *Point to the success of other programs.*

California, Colorado, and several other states have in essence created pilot programs for states that have not yet begun programs. The knowledge that it has been done before—and worked—should allay some fears.

8. *Make a clear distinction between privately run fee hunting and ranching for wildlife.*

Ranching for wildlife did not create fee hunting. Fee hunting entered the marketplace long before ranching for wildlife emerged, reflecting the greater demand for quality hunts and the shrinking supply of good hunting on public lands. Ranching for wildlife builds on fee hunting by enabling state wildlife managers to influence landowner decisions about wildlife habitat and hunter access.

ADVICE FOR CONTINUED SUCCESS

Once a ranching for wildlife program has begun, its benefits must be explained and its successes documented. The following suggestions will strengthen and expand a fledgling program.

1. *Market ranching for wildlife to sportsmen and landowners.*

As programs grow, privately gathered information about available ranching for wildlife programs

should increase as well. The Texas Wildlife Association puts out an annually revised directory (for \$13) listing hundreds of fee-hunting ranches in the state (Hicks 1999). *U.S. Hunting Report* (see appendix C) is providing hunters with extensive information about hunting prices and services. Such information can help proponents, including state officials, defend the program to its critics. State agencies can also increase the flow of information between hunters and landowners since they are a natural contact point for hunters who may be interested in ranching for wildlife.

2. *Minimize bureaucracy.*

Any requirements for landowner entry will require some regulation and monitoring. However, the process must be straightforward or potential entrants will be dissuaded from applying (Arha 1994). Putting a cap on the number of ranches in the program, as Colorado does, limits the provision of a full array of prices and services for hunters. A high minimum acreage can also reduce the supply by making entry difficult. According to E. Lee Fitzhugh (1989, 55), “To motivate landowners, the program must be positive, free from excessive paper work, and easy for them to market.”

3. *Continue education.*

It is important to educate the hunting and nonhunting public about the value of ranching for wildlife. Studies showing habitat improvement, better quality of wildlife, and hunter satisfaction will help the program thrive. Unfor-

tunately, surveys and dissemination of information are often one of the first things cut from state wildlife budgets. New Mexico, for example, planned to survey hunters about its program, but funding ran out.

4. *Form a trade association.*

A landowners' trade association offers numerous benefits (Fitzhugh 1989) that will encourage landowners to participate in the program. Such an association can help landowners obtain insurance, share marketing ideas, gather statistics, improve public education, procure information about what hunters want, and speak with one voice politically. Over time, the trade association could become a "brand name" indicating that participating landowners meet certain hunting and habitat standards.

5. *Hunters themselves can provide low-cost hunting through ranching for wildlife.*

Some hunts are expensive because they include outfitting services. Yet many hunters do not need a guide and should be able to find less-expensive hunts. The Great Western Hunting Club, to be financed by a one-time membership fee and annual dues, plans to book unguided hunts for members on private lands throughout the West. These include ranching for wildlife lands (Causey 1999b).

CONCLUSION

Although no program is perfect, ranching for wildlife offers many benefits. For landowners, it provides ways to realize higher returns from wildlife while reducing conflicts with agriculture and livestock grazing. It allows wildlife agency personnel an opportunity to affect wildlife management on private lands and reduce reliance on costly land acquisition, easements, and game depredation programs. For both fee- and free-access hunters, it offers more land with quality hunting. More broadly, ranching for wildlife helps achieve a goal that all Americans want—lands flowing with clean streams, enriched with natural vegetation, and full of free-roaming wild animals.

This handbook has attempted to give advocates of ranching for wildlife information that they can use to extend the benefits of ranching for wildlife throughout the West. We believe that ranching for wildlife is an idea whose time has come.

NOTES

1. Telephone conversation with rancher Jarrell Massey, Mercer, Colorado, 22 February 1999.
2. In 1995, sixty-nine elk hunters took sixty-eight bull elk and twenty-four mule deer hunters took twenty-three bucks over a ninety-day season. See Fears (1996).
3. Typically, there is a two-week break from hunting some time between 1 September and 31 October. The longer season is possible because the landowner has agreed to a specific number of animals that can be taken.
4. The study provides a way to estimate the additional value hunters place on hunting on ranching for wildlife lands versus other lands. Based on data from the study, the authors concluded that hunters are willing to pay a much higher premium for a license to hunt elk on ranching for wildlife lands than for a license to hunt elk on other lands (Buschena, Anderson, and Leonard 1998).
5. Telephone conversation with Rick Danvir, Deseret Ranch,

- Woodruff, UT, 15 March 1999.
6. Telephone conversation with Bill Burrows, Burrows Ranch, Tehama County, California, 9 February 1999.
 7. Status of the CWMU (Cooperative Wildlife Management Units) program summary from Wes Shields, Nature/Business Coordinator, Utah Division of Wildlife Resources, Salt Lake City, 7 April 1999, by fax.
 8. Telephone conversation with John Seidel, Ranching for Wildlife Coordinator, Colorado Division of Wildlife, 18 December 1998.
 9. Telephone conversation with Kenneth Mayer, California Department of Fish and Game, Sacramento, 21 December 1998.
 10. Fish and Game Commission, Title 14, Sec. 601, 300–303 (July 1994).
 11. Telephone conversation with Kenneth Mayer, 5 November 1998.
 12. A list of properties in the program is available by contacting the California Department of Fish and Game (916–653–7203).
 13. Telephone conversation with Kenneth Mayer, 21 December 1998.
 14. Figure for 1984 based on Mansfield, Mayer, and Callas (1989). Figure for 1998 based on telephone conversation with Kenneth Mayer, 21 December 1998.
 15. Telephone conversation with John Seidel, Ranching for Wildlife Coordinator, Colorado Division of Wildlife, Carbondale, 4 March 1999. Additional information received from Seidel, 1 July 1999, by e-mail.
 16. Written correspondence from Michael Robb, Crazy French Ranch, Colorado, 23 December 1998.
 17. Three ranches with fewer than 12,000 acres were in the program on 1 September 1989, and they are allowed to stay in the program if all the other criteria are met.
 18. Generally, the ranches reserve 90 percent of the male animal licenses to fee-paying hunters. Nonpaying hunters receive the remaining 10 percent as well as all female animal licenses.
 19. In some cases, landowners in the program have a sixty-day hunting season.
 20. In 1998, the number of ranches was twenty-six, but one ranch dropped out for liability reasons and another was dismissed from the program for not completing its habitat work (Causey 1999a).
 21. Telephone conversation with Mike Welch, Big Game Program Coordinator, Utah Division of Wildlife Resources, Salt Lake City, 3 March 1999.
 22. Telephone conversation with Wes Shields, Nature/Business Coordinator, Utah Division of Wildlife Resources, Salt Lake City, 7 April 1999.
 23. In addition to mule deer, elk, antelope, and moose, the division provides authorizations for small game and waterfowl.
 24. As in Colorado, this policy can lead to higher prices because it raises the cost of operation.

25. Telephone conversation with Roger Pugh, landowner, Alton unit (Utah), 26 January 1999.
26. Telephone conversation with Ray Heaton, landowner and outfitter, Alton unit (Utah), 26 January 1999.
27. Data provided by Wes Shields, 7 April 1999, by fax.
28. Telephone conversation with Mike Welch, 15 October 1998.
29. Formerly called Private Land Allocation System (PLAS).
30. Telephone conversation with Michael Catanach, Game Manager, New Mexico Department of Game and Fish, Raton, 10 March 1999.
31. Telephone conversation with Dale Hall, Landowner Sportsmen Coordinator, New Mexico Department of Game and Fish, Santa Fe, 7 December 1998.
32. Telephone conversation with Jerry Shaw, Wildlife Biologist, Oklahoma Department of Wildlife, Oklahoma City, 21 August 1998.
33. Telephone conversation with Jerry Shaw, 8 February 1999.
34. Telephone conversation with Rolf Johnson, Deer and Elk Manager, Washington Department of Fish and Wildlife, Olympia, 27 January 1999.
35. Telephone conversation with Jenny Schwab, Administrative Coordinator, Kapowsin Tree Farm, Champion Pacific Timberlands, Puyallup, WA, 27 January 1999.
36. Telephone conversation with Rolf Johnson, 2 December 1998.
37. Telephone conversation with Rolf Johnson, 30 December 1998.
38. Telephone conversation with Gary Herron, Staff Biologist, Nevada Division of Wildlife, Reno, 11 August 1998.
39. For some eastern elk and for all buck mule deer, 160 acres is the minimum for two tags.
40. Telephone conversation with Rick Danvir, 15 March 1999.

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APPENDIX A: TYPICAL HABITAT IMPROVEMENTS

FIVE DOT HORSE LAKE RANCH, LASSEN COUNTY, CALIFORNIA

Authorized Harvest: 6 buck deer, 2 buck antelope

- Maintain willow plantings on Pine Creek
- Remove junipers at spring sites to improve water availability
- Prune 50 mahogany trees
- Defer grazing on 300 acres for waterfowl brood survival
- Protect 1,000 acres of meadows for fawning and waterfowl brood habitat
- Exclude livestock from designated areas
- Provide mineral supplements for wildlife

TULE LAND AND CATTLE CO., LASSEN COUNTY, CALIFORNIA

Authorized Harvest: 3 buck deer, 2 antlerless deer, 2 buck antelope

- Maintain 15 acres of flooded swamp timothy for waterfowl, 25 acres of grain for wildlife, 35 acres of ponds for waterfowl brood habitat, and 20 acres of rose hedges, willows, and tules for wildlife cover
- Exclude cattle from ponds and food plots
- Maintain 180 acres of alfalfa and deferred harvest until after the nesting season
- Construct 600 feet of fence allowing for antelope movement
- Maintain four raptor perch poles
- Utilize flush bars on all harvesters to decrease wildlife mortality resulting from agricultural operations

PRATHER RANCH, SISKIYOU COUNTY, CALIFORNIA

Authorized Harvest: 10 buck deer, 1 buck antelope

- Maintain a 5-acre cattle enclosure for fawning habitat
- Maintain water levels in the two marsh areas to facilitate waterfowl brood survival
- Plant 200 willow cuttings along Prather Creek
- Make sure that no livestock grazing will occur on U.S. Forest Service allotment in 1998
- Maintain eight permanent and four portable perch poles to improve Swainson's hawk habitat
- Maintain 1,000 acres of irrigated alfalfa
- Eliminate cattle grazing along Prather Creek
- Maintain six burrowing-owl nest boxes

STEWART RANCH, TRINITY COUNTY, CALIFORNIA

Authorized Harvest: 40 deer of either sex

- Maintain seven wood duck nest boxes
- Maintain small animal access ramps in 25 water sources
- Maintain 15 mineral supplement sources for wildlife
- Maintain a nest protection zone for nesting peregrine falcon
- Maintain conservative rest-rotational cattle grazing
- Plant alders and willows as riparian habitat enhancement
- Modify fencing to provide for improved wildlife movement
- Create one living brush pile for upland species
- Plant two food plots for deer
- Build two additional water source ponds for wildlife

Source: Data provided by Ken Mayer, Senior Wildlife Biologist and Deer Program Coordinator, California Department of Fish and Game, Sacramento, 8 April 1999.



APPENDIX B: RANCHING FOR WILDLIFE PROGRAMS

CALIFORNIA: PRIVATE LANDS WILDLIFE HABITAT ENHANCEMENT AND MANAGEMENT AREAS

California Dept of Fish & Game
Wildlife Programs Branch
1416 Ninth Street, Rm 1280
Sacramento, CA 95814

Contact: Sonke Mastrup
Phone: (916)653-4673
Fax: (916)653-1019

COLORADO: RANCHING FOR WILDLIFE

Colorado Division of Wildlife
317 W Prospect Ave
Fort Collins, CO 80526

Contact: Rick Kahn
E-mail: rick.kahn@state.co.us
Phone: (970)472-4342
Fax: (970)442-4457

NEVADA: ELK INCENTIVE TAGS AND LANDOWNER DAMAGE COMPENSATION TAGS

Nevada Division of Wildlife
PO Box 10678
Reno, NV 89520

Contact: Gary Herron
Phone: (775)688-1500
Fax: (775)688-1595

NEW MEXICO: LAND OWNER SIGN-UP SYSTEM (LOSS)

New Mexico Dept of
Game & Fish
PO Box 25112
Santa Fe, NM 87504

Contact: Eufemia Cordova
Phone: (505)827-7824
Fax: (505)827-7915

OKLAHOMA: DEER MANAGEMENT ASSISTANCE

Oklahoma Dept of Wildlife
PO Box 53465
Oklahoma City, OK 73152

Contact: Jerry Shaw
Phone: (405) 521-2739
Fax: (405)521-6505

OREGON: LANDOWNER PREFERENCE

Oregon Dept of Fish & Wildlife
PO Box 59
Portland, OR 97207

Contact: Brenda Miller
Phone: (503)872-5265
Fax: (503)872-5311

UTAH: COOPERATIVE WILDLIFE MANAGEMENT UNITS

Utah Division of Wildlife
Resources
PO Box 146301
Salt Lake City, UT 84114-6301

Contact: Wes Shields
E-mail: nrdwr.wshields@state.ut.us
Phone: (801)538-4780
Fax: (801)538-4709

WASHINGTON: PRIVATE LANDS WILDLIFE MANAGEMENT AREAS

Washington Dept of Fish
& Wildlife
600 Capitol Way North
Olympia, WA 98501-1091

Contact: Rolf Johnson
Phone: (360)902-2200
Fax: (360)902-2162



APPENDIX C: ADDITIONAL CONTACTS

The following individuals and organizations can provide information for those interested in starting or building a ranching for wildlife program.

ASSOCIATED HUNTING CONSULTANTS

PO Box 3206
Logan, UT 84323-3206

Contact: Rich LaRocco
Phone: (801)860-4868
<http://www.hunts.net>

Rich LaRocco books hunts with ranches participating in Utah's Cooperative Wildlife Management Units (CWMU) program. He keeps abreast of changes occurring within the program.

CHAMPION PACIFIC TIMBERLANDS

1011 E Main St Ste 303
Puyallup, WA 98372

Contact: Robert Bass
Phone: (360)879-4217

Champion's 125,000-acre Kapowsin Tree Farm conducts a wide variety of game and nongame activities. It is one of the two commercial forests enrolled in Washington's Private Wildlife Management Area program.

DESERET INTERMOUNTAIN RANCHES

PO Box 250
Woodruff, UT 84086-0038

Contact: Bill Hopkin
or Rick Danvir
Phone: (801)793-4288

Deseret, which participates as a Utah Cooperative Wildlife Management unit, demonstrates how livestock and wildlife can co-exist so that both habitat and agriculture benefit. Fee hunting has paid dividends to the landowner, hunters, and game and nongame species on and near the ranch.

ENVIRONMENTAL PERSPECTIVES

0214 Prince Drive
Carbondale CO 81623

Contact: John Seidel
E-mail: jwseidel@rof.net
Phone: (970)963-1976
Fax: (970)963-8849

John Seidel retired in 1999 from the position of statewide coordinator of Colorado's Ranching for Wildlife. He now runs Environmental Perspectives, a consulting company that specializes in ranching for wildlife and similar programs.

MULTIPLE USE MANAGERS, INC.

PO Box 1210
West Point, CA 95255-1210

Contact: Wayne or Gordon Long
Phone: (209)293-7087
Fax: (209)293-7105

Multiple Use Managers, Inc., (MUM) provides fee hunting and wildlife management on three units in California and one in Colorado. An early participant in the planning stage of the pioneering California program, Wayne Long can provide valuable insights on initiating a ranching for wildlife program.

U.S. HUNTING REPORT

9300 S Dadeland Blvd Ste 605
Miami, FL 331566-2721

Contact: Don Causey
E-mail: mail@HuntingReport.com
Phone: (318)862-9561

This monthly newsletter offers reports on many hunting opportunities, including ranching for wildlife. *The Hunting Report*, also published by Don Causey, is a similar newsletter that covers international hunting opportunities. Excerpts from these newsletters are compiled periodically into hunt-planning packages for specific areas.

WYOMING GAME AND FISH

Casper Region Office
3030 Energy Lane, Ste 100
Casper, WY 82604

Contact: Kaush Arha
Phone: (307)473-3400

Wyoming does not have ranching for wildlife, but Kaush Arha is an expert on such programs. He completed his thesis at the University of California at Berkeley on the subject.



ABOUT THE AUTHORS

DONALD LEAL, a PERC senior associate, has been conducting research in natural resource and environmental issues since 1985. He is coauthor with Terry Anderson of *Free Market Environmentalism* (1991), which received the 1992 *Choice* Outstanding Academic Book Award, and the 1992 Sir Antony Fisher International Memorial Awards, and coauthor with Anderson of *Enviro-Capitalists: Doing Good While Doing Well*, which won the 1997 *Choice* Outstanding Academic Book Award. He is a contributing author of *Taking Ownership: Property Rights and Fishery Management on the Atlantic Coast* (1996), *Multiple Conflicts over Multiple Uses* (1994), *Taking the Environment Seriously* (1993), and coeditor of *The Yellowstone Primer: Land and Resource Management in the Greater Yellowstone Ecosystem* (1990). He has published numerous articles on such topics as fisheries, water, recreation, oil and gas, timber, and public land-use policy. His articles appear in newspapers such as the *Wall Street Journal*, *New York Times*, and *Chicago Tribune*, as well as specialized journals. Leal's recent studies comparing federal and state management of forests and parks have fostered a new perspective on public land management. He is currently working on a revised edition of *Free Market Environmentalism* with Terry Anderson. Leal received his B.S. in mathematics and M.S. in statistics from California State University at Hayward.

J. BISHOP GREWELL, a PERC research associate, graduated from Stanford University in 1997 with a double major in economics and public policy. He is a sixth-generation Montanan. Grewell is responsible for PERC's multimedia project and provides research assistance to PERC senior associates. He is currently working with Terry Anderson on a *PERC Policy Series* on "The Greening of U.S. Foreign Policy." Grewell began writing guest columns for the *Bozeman Daily Chronicle* in 1998 and has since become a regular columnist for the paper. Grewell enjoys the outdoors but spends much of his spare time indoors writing novels.

ABOUT PERC

PERC (the Political Economy Research Center) is a nationally recognized institute located in Bozeman, Montana. The organization's primary goal is to provide market solutions to environmental problems. PERC pioneered the approach known as free market environmentalism and conducts research in the areas of water, forestry, public lands, and endangered species, among others.

Free market environmentalism is based on several tenets: Private property rights encourage stewardship of resources; government subsidies often degrade the environment; market incentives encourage individuals to protect environmental quality; and polluters should be liable for the harm they cause others.

For more information about free market environmentalism, contact PERC at:

PERC
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