



Establishing a Shooting Preserve as a Means of Diversification for Landowners in New Mexico

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INTRODUCTION

Over the period 1950 to 2003, the average price per acre of farm or ranch land in New Mexico has increased 15.3 times from \$15/acre to \$230/acre. Although these increasing values help landowners build wealth, it forms a financial barrier for those who wish to enter a land-intensive enterprise such as farming or ranching. To overcome these financial barriers, an individual must discover a means to generate enough additional revenue to help offset soaring land costs. This publication focuses on the implementation and feasibility of accomplishing this goal by operating a licensed shooting preserve.

A shooting preserve, also known as a hunting preserve, is land—either owned or leased—upon which pen-reared game birds are released for hunting through an extended open season (five or more months). Preserves are licensed by a state's wildlife agency, which governs their establishment, maintenance and operation. In New Mexico the average age of a preserve is 9.5 years and ranges from 2 to 30 years; therefore it is a relatively infant industry. Although there were only 21 registered shooting preserve licenses in 2003, the industry appears to be growing as three additional licenses were recently issued.

Average shooting preserve size is around 2,225 acres and ranges from about 1,000 to 5,000 acres. However, actual acres hunted averages approximately 220 and ranges from about 15 to 500 acres. Shooting preserves occur on diverse terrains including irrigated cropland, sagebrush meadows, deserts with dense mesquite, and mountainous land. Pheasants and chukar are the two most commonly hunted species on New Mexico shooting preserves.

This publication is intended to be a tool to help individuals who want to establish a shooting preserve or are simply gathering information to. The information in this publication is largely based on data collected for a master's thesis titled "Shooting Preserves: A Means of Diversification to Encourage Young Farmers/Ranchers into Production Agriculture" (Roberts' 2004), which was supported by the Joe Skeen Institute of Rangeland Restoration. Data was derived by visiting individual preserves and gathering information about the operation from the manager via a questionnaire.

PEN-REARED GAME SPECIES

There are four primary species that are eligible to be used on a shooting preserve.

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Figure 1. Pheasant



Figure 2. Chukar

Photo by Peter Osenton



Photo by J.A. Spindelov



Photo by D.A. Rintoul

Figure 3. Scaled, Bobwhite, and Gambel's Quail



Photo by D.A. Rintoul

Fig. 4. Mallard Duck

They include pheasants, chukars, quail, and mallard ducks.

Pheasants (fig. 1) are large ground-dwelling game birds that have been introduced in many states but are most commonly found in grain-producing regions. They grow to a length of 30 to 36 ins. and can

weigh up to 5 lbs. Chukars (fig. 2) are stocky ground-dwelling members of the pheasant family that are not native to North America. They grow to a length of 13 to 15 1/2 ins. and weigh between 16 to 26 ozs., with males being on the upper end of this range. Quail (fig. 3) are also non-native ground dwelling game birds measuring approximately 8 ins. in length and weighing between 6 and 7 ozs. The mallard (fig. 4), probably the most widely known duck in North America, is a medium to large dabbling duck that often migrates south in winter. Adult mallards range in length from 20 to 28 ins. with a wingspan of 30 to 40 ins.

REGULATIONS

Permit applications and copies of all appropriate laws and policies discussed in this section may be obtained from the New Mexico Department of Game and Fish (NMDG&F), Special Use Permits Division ((505)476-8064; www.wildlife.state.nm.us).

Shooting Preserve License

In New Mexico, shooting preserves are required to be licensed by the NMDG&F for a fee of \$200 per year to govern the establishment, maintenance and operation of regulated shooting preserves. Regulations pertaining to shooting preserves are found in the Regulated Shooting Preserve Act (1978).

“Game bird,” as used in the Regulated Shooting Preserve Act includes pheasant, quail, chukar and mallards. All game birds

Regulated Shooting Preserve Act

The state game commission may issue licenses authorizing the establishment and operation of regulated propagated game bird shooting preserves on private lands when in the judgment of the commission such areas will not conflict with any reasonable prior interest. The commission shall govern and prescribe by regulation the following:

- A. The minimum and maximum size of the areas, including the type of fences and signs;
- B. The method of hunting;
- C. The open and closed seasons, which need not conform to the regular hunting seasons;
- D. The releasing, possession and use of legally propagated pen-raised game birds on the preserves
- E. The fee for licenses, which shall be just and reasonable.

taken from preserves must be tagged with tags furnished by the commission before being transported. Both residents and nonresidents may hunt on preserves when they possess an appropriate bird or general hunting license and have the owner's consent. The commission may issue bird licenses to nonresidents to hunt on regulated shooting preserves with the owner's consent for a fee of \$5.25 per person. Operators of private shooting preserves also have the right to charge fees for hunting and/or access.

A shooting preserve must be larger than 30 acres but not more than the number of contiguous deeded acres owned or controlled by the applicant. Preserves are required to be posted by placing signs at every primary entrance to the preserve and along each boundary that adjoins public land. The posted signs must contain the following:

Regulated Shooting Preserve

(Name of preserve)

(Shooting preserve license number)

Hunting by Permission Only

(Owner's name and address)

Shooting preserves are also required to be fenced wherever possible and reasonable. The fences can be any type and do not need to confine birds.

The state game commission has established several regulations regarding the methods of hunting on a regulated shooting

preserve. Legally propagated game birds may be taken by shotguns fired from the shoulder, any longbow and arrow, and any legally held raptor used for falconry purposes. The game birds may be taken, hunted or pursued with the use of dogs, artificial decoys, blinds, and manually or mouth-operated calls. The game birds may not be pursued or hunted from a motor-driven vehicle, powerboat or sailboat.

Open hunting season on regulated preserves is from September 1 through March 31 of the following year. Although legally propagated game birds can only be harvested during the seven-month period, they can be released in any quantity and at any time.

Hunting hours are from one-half hour before sunrise to sunset. Game found on a preserve, other than legally propagated game birds, can only be harvested in accordance with state game commission regulations set forth in the small-game proclamation.

The NMDG&F issues bird tags to shooting preserve owners or operators at \$0.10 per tag. The tags must be affixed to each bird harvested on the preserve. The preserve operator must keep records of all tags used and of the total number of birds released on the preserve. Within 15 days of the shooting preserve season, the operator will prepare a year-end report for the NMDG&F. The report must contain the tag numbers used, the number of birds by species released, and copies of invoices for birds purchased or received from licensed propagators. The NMDG&F also has the

right to inspect each shooting preserve, all birds possessed in association with the preserve, and all records associated with the preserve.

Importation Permit

There are several regulations concerning the importation of game species to the preserve. The law states:

In order to protect game animals, birds, and fish against importation of undesirable species and introduction of infectious or contagious disease, it is a misdemeanor to import any live animal, birds or fish in this state, except domesticated animals or domesticated fowl or fish from government hatcheries, without first obtaining a permit from the department of game and fish.

It is the policy of the New Mexico State Game Commission to “discourage and prevent the importation into the state of New Mexico and the possession of any non-native species of animals which may compete with, cross-breed with, displace, or otherwise interfere with native species of wild animals, or pose a threat to human health or to livestock.” The law also states:

Importation of protected mammals or birds will be considered only if they are being imported into licensed class A parks, zoos, shooting preserves, licensed game bird propagation facilities, rehabilitation facilities, educational facilities, for scientific study, for field trials, for Indian religious purposes, or by a permitted falconer, and only when accompanied by a certificate from an accredited veterinarian that each animal and/or rearing facility has been inspected and is in good general health, disease free, and that each animal or rearing facility test disease-free for any specific disease listed on the application and following the testing procedures provided with the application.

If the species imported is to be released in live condition, the importer must submit a plot of the release area. In addition according to state law, the importer must “submit verification that landowners, tribal officials, state officials, federal officials, and county officials that may be directly affected by the release have been notified of the potential release in writing and have been given 20 days to respond to the release.” Responses must be submitted with the application. It is the responsibility of the applicant to notify potentially affected individuals and submit responses to the NMDG&F.

Upon receipt of the import permit application, which can be obtained from the NMDG&F, permission will only be granted to import birds if:

- 1. The requested species does not pose a threat to human health or safety;**
- 2. The requested species does not pose a threat to livestock;**
- 3. The requested species will not be sold or distributed in any manner other than that listed on the permit;**
- 4. All necessary Federal permits have been obtained;**
- 5. The department is satisfied that adequate public comment and notification has been completed;**
- 6. The requested species does not possess or have the immediate potential to carry infectious or contagious diseases.**

If an applicant is denied a permit, the individual can submit a written appeal to the state game commission within 20 days of the denial. With 126 licensed game bird propagators in New Mexico, the importation of game birds may not even be required if an operator does not care to do so.

Game Bird Propagation Permit

A Game Bird Propagation Permit is required of operators who choose to raise (propagate) or grow their own game birds for later

release. The permit costs \$10 per year and must be applied for through the NMDG&F Law Enforcement Division. If migratory birds, such as mallards, are grown or raised, a federal permit from the United States Fish and Wildlife Service could also be required.

PHYSICAL REQUIREMENTS

Possibly the largest deterrent to embarking on a diversification activity centered on wildlife are concerns about the physical requirements. Common questions include:

- Do I have enough land to provide a successful hunt?
- Do I have adequate habitat to support a population of upland game birds?
- Can the habitat be altered or enhanced to make it more suitable for game birds?

These are all legitimate concerns. However, shooting preserves have two primary methods of operation, the “put and take” method and the “release” method. The “put and take” method provides some flexibility regarding the physical requirements needed and makes the answers to the above questions less important.

The “put and take” operating method consists of releasing the birds shortly before the hunt begins. The birds are disoriented and then placed in the field with their head tucked under their wing where they will generally remain until jumped by dog or hunter. This operating method eliminates the need for high quality bird habitat as well as the need for a large tract of land. However, it requires a holding pen and may minimize the operator’s ability to mimic a natural hunting experience, therefore limiting potential profit.

The “release” method consists of releasing the pen-reared game birds upon arrival to the preserve. It enables an operator to more closely mimic a natural hunt and eliminates the feed and labor expenses associated with holding the birds in captivity. On the other hand, it results in decreased harvest rates and can require an aggressive

predator control program in some cases. It also requires a larger tract of land with quality habitat to retain the majority of the released birds on the preserve.

ECONOMIC AND BUSINESS CONSIDERATIONS

The economic and business considerations discussed below are based on data collected from Roberts (2004). Of the eight preserves interviewed, three accommodated a big game fee hunting enterprise, two provided entertainment to ranch visitors, two were commercial preserves and one was a non profit hunting club. Finances generated from the shooting preserve, if any, were not a primary motive for any of the operations. Profit maximization was not a specified objective.

On average, each preserve accommodated approximately 70 clients per season. The majority of these clients were from states other than New Mexico. A large portion of the clientele were dog trainers taking advantage of the seven month hunting season. Over 80% of the preserves’ clients were return customers, and they harvested a season average of 421 pheasants and 199 chukars per preserve.

Visiting the existing preserves and obtaining detailed information on their expenditures and returns enabled us to develop an equipment summary (table 1) and cost and return estimates (table 2).

Several items must be emphasized when reviewing the cost and return estimates shown in table 2. First, no land or associated costs were attributed to the preserve. The rationale for this is that the shooting preserves visited were a byproduct of an existing agricultural operation and not the sole reason for owning the land. If an individual were considering a parcel of land strictly for a shooting preserve, then the land and associated costs must be determined to arrive at a return to land and risk financial measure. Second, wages paid to the employees/managers and opportunity costs,

Table 1. Equipment Summary for an Average New Mexico Shooting Preserve, 2003

Equipment	Value
Holding Pens	\$1,857
Lodging Facility	\$7,143
Hunting Dogs	\$171
Total	\$9,171

Table 2. 2003 Average Cost & Return Estimates for a Licensed Preserve

Gross Returns		
Pheasants	\$15.50/bird*	\$4,186
Chukars	\$12.75/bird*	\$2,286
Lodging		\$2,143
Sporting Clays		\$13
Membership Dues		\$2,652
Total Gross Return		<u>\$11,279</u>
Variable Cash Operating Expenses		
Bird Tags		\$60
Birds		
Chukars	\$6.10/bird	\$1,336
Pheasants	\$7.36/bird	\$3,786
Bird Feed		\$443
Holding Pen Repair		\$29
Lodging Facility Expenses		\$114
Food and Beverages		\$114
Other Operating Expenses		\$98
Hunting Dog Expenses		\$285
Fuel & Oil		\$181
Vehicle Repair		\$90
Sign Repair		\$5
Total Variable Cash Expenses		<u>\$6,542</u>
Return Over Variable Expenses		\$4,737
Fixed Expenses		
Shooting Preserve License		\$200
Game Bird Propagation Permit		\$10
Import Permit		\$2
Predator Control		\$100
Habitat Improvement		\$21
Insurance		\$393
Advertising		\$57
Total Fixed Expenses		<u>\$783</u>
Total Expenses		\$7,324
Net Shooting Preserve Income		\$3,955
Labor and Management Costs		\$1,510
Net Operating Profit		\$2,445
Capital Costs		
Interest on Operating Capital		\$238
Interest on Equipment Investment		\$596
Total Capital Costs		<u>\$834</u>
Return to Risk		\$1,611
Return on Investment		26.66%

* For those preserves that charge by the bird.

such as the interest on operating capital and equipment investment, are often not cash outflows. That is, no real cash expenditure is incurred. Opportunity costs of capital represent forgone income that could have been obtained by other investments, so it is a non cash item. Most employees and guides tended to be family members and all management costs were paid to the operator of the agricultural operation; therefore all the net shooting preserve income (\$3,955) remained in the family of the farm or ranch manager. However, because time is accrued by the manager, guides, cooks, and general laborers, there needs to be compensation, which is the reason labor and management costs are removed from net shooting preserve income to obtain net operating profit.

CONCLUSIONS AND RECOMMENDATIONS

Using a shooting preserve as a means of diversification can be a financially successful addition to an existing farming or ranching operation. With a return on investment of 26.6% and a net income of \$3,955, a shooting preserve proves to be a financially viable diversification alternative (Roberts' 2004). However, the income generated by the preserves studied may not be enough to meet an individual's goals or needs and must be carefully calculated. Costs associated with land and labor must also be considered on a site-specific basis.

Beyond financial factors, a shooting preserve can offer other intangible benefits as well. For some, a shooting preserve might fill an entertainment need such as the love for bird hunting. For others, it might enable them to use land that is not suitable for

agriculture, such as corner pieces on sprinkler pivots. However, shooting preserves may enable some agriculturalists to obtain dual crops on some of their land. For agricultural operations that employ laborers, a shooting preserve might enable farmers and ranchers to keep quality workers on a year-long basis and eliminate the need for seasonal help. A preserve might also allow other family members to earn additional income during the shooting preserve season. Improving upland game bird habitat can certainly have benefits directly relating to the preserve such as increased demand for hunts, higher hunt prices, and more operating flexibility. Improving the habitat can also benefit other game and non-game species. For example, improving wildlife habitat is often recognized as a social benefit to the public. Technical and financial support is available to private landowners to enhance their wildlife habitat through a variety of governmental programs (EQIP¹, CSP², WHIP³, PARTNERS⁴, LIP⁵, and PSGP⁶). Funding is generally done on a cost-share basis with the landowner. Funding for habitat enhancement is provided on a case-by-case basis and is worth inquiry by preserve owners who are considering habitat improvements. Nonetheless, these intangible benefits are difficult to quantify and vary from individual to individual. The worth of these intangible benefits should be carefully weighed by each individual.

In other states, the shooting preserve industry is relatively large compared to New Mexico. New Mexico's slower growth is due to the large percentage of public land available for New Mexico residents to hunt game birds. In the future, as the demand for hunting on

¹ Environmental Quality Incentive Program

² Conservation Security Program

³ Wildlife Habitat Incentives Program

⁴ Partners for Fish and Wildlife Program

⁵ State Landowner Incentive Program Grants

⁶ Private Stewardship Grants Program

public lands in the state outstrips the supply, the shooting preserve industry in the state should become a more viable form of diversification than at present. Additional research is warranted to explore the possibility of establishing a breeding population of birds by developing the necessary habitat. The authors feel that this avenue could hold significant profit potential in the immediate and near future if capitalized upon.

In conclusion, pheasants, chukar, quail, and mallards can be hunted on New Mexico preserves, with pheasant and chukar being the most common. Each preserve must be licensed by the NMDG&F, may need to obtain importation permits if the operator wishes to obtain birds from out-of-state, and will need a game bird propagation permit if birds are raised. Because of operating method flexibility—the “put and take” and “release” method—the physical requirements will vary depending on the method desired by each operator. With current preserves earning an average net income of approximately \$4,000, the diversification alternative is feasible but depends upon the goals of the preserve owner.

For additional assistance and technical information regarding habitat management for upland game, contact your local county Extension Agent.

REFERENCES

Much of the material in this publication was adapted from:

Roberts, Casey W. 2004. “Shooting Preserves: A Means of Diversification to Encourage Young Farmers/Ranchers into Production Agriculture.” M.S. Thesis, New Mexico State Univ., Las Cruces. 120pp

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