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WILDLIFE HABITAT AND ECONOMIC INSTITUTIONS:

FEAST OR FAMINE FOR HUNTERS AND GAME

By

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In Montana, few issues generate higher emotions than wildlife and hunting issues. The right of free access to game is often assumed to be a God-given, natural right. Unfortunately, the reality check of population pressures is challenging these conceptions. We recognize that many of the alternatives explored in this paper are highly controversial, but we also believe that clear and dispassionate analysis is preferable to frustration punctuated by pounding on bar tables.

Garrett Hardin, the noted ecologist, has recurrently stated that until supply exceeds demand any management system will suffice. It is only when scarcity becomes a reality that one must design institutions that give individuals incentives to take the preferences of others into account when managing resources. In the area of wildlife management, we have clearly reached that point.

Montana is indeed a treasure state, but its primary treasures are not restricted to commodities. Its aesthetic and environmental qualities are of immense value and are increasing in worth. Given that wildlife is a superior

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good—that is, that demand increases disproportionately with income—and that recreation tends to be non-taxed, we can reasonably expect our wildlife resources to come under increasing pressure. The key to meeting increased demand lies with improved management. The question is what set of institutions will generate incentives for managers to use their land to produce wildlife alongside timber, livestock, and other agricultural products. A system of property rights and private management provides the most efficient, ecologically sensitive, and equitable scheme yet designed. It is this approach that we will explore in this paper.

THE CURRENT CONFLICT

Thirty-eight percent of Montana is owned by the state and federal government, with the balance owned by individuals and corporations. With varying degrees of success, wildlife exists on much of this land. The relevant policy question is: How do we design a system that optimizes the joint production of wildlife and other values from these lands?

Although there are some areas of complementarity between big game and domestic livestock, areas of direct competition have been pronounced. Elk compete with cattle for habitat and forage, deer and antelope compete with sheep, crops are eaten by game animals, and haystacks are consumed or destroyed. In many cases, the losses caused by wildlife are less than those generated by careless hunters on private lands. Hunters commonly leave gates opened, allowing stock to be mixed, drive across wet fields, and leave litter as evidence of their expeditions.

In addition to these losses, ranchers incur costs by providing cover and habitat for wildlife on land that might otherwise be used for livestock production. The common response to these losses is for ranchers to reduce hunting access, destroy cover and habitat that attract wildlife, and discourage big game on their property.

In Montana, big game are fugitive resources, ranging across state and federal grazing allotments and private farms and ranches. State and federal lands tend to be at higher elevations, while the valley floors and gentle slopes tend to be privately owned. In general, deer and elk summer at higher elevations and winter on private lands at lower elevations. Thus, private land is critically important in providing winter habitat. Further, since nutritional needs are extremely high during late gestation and early lactation, the spring grasses on lower sites are especially important to the survival of wild game.

Under the current system, landowners who provide cover and forage for big game receive little or no compensation for the resources they provide, even though big game hunting produces substantial revenues for the state and for businesses that cater to the hunting trade. Although hunting licenses pay some of the costs of managing big game herds, they do not significantly contribute to the rancher who provides cover and habitat.

All of the above contribute to increasing conflicts between sportsmen and stockmen and wildlife and livestock. Although most ranchers tend to appreciate and enjoy the game on their land, they are incurring costs. Federal, state, and local officials are caught between the conflicting demands of this complex situation. Hunters and sportsmen are understandably concerned about license costs and big game herd size. Several organizations have lobbied successfully to have state and federal wildlife managers apply management techniques to increase the size of game herds. They have also lobbied to reduce grazing allotments on public lands where they feel livestock compete with big game. Although the results of this lobbying may in the short run lead to increased game for hunters, it also results in more damage to private lands, less grazing for domestic livestock on public lands, and more conflict.

There is, however, a potential for improving the welfare of all parties. If

we were to adopt a system that rewarded landowners for managing their lands to produce wildlife as well as livestock and crops, all parties could be made better off. The current system strongly discourages such positive outcomes.

In the following pages, we explore the alternative of lease hunting and examine the outcomes in several sites throughout the nation. It may be premature to expect such developments in Montana in the short run, but such possibilities should be explored if we are to avoid the acrimonious conflict necessarily associated with political management. While the market system strongly encourages cooperation and good will, the political arena has exactly the opposite tendencies. Thus, we should earnestly begin the search for alternative institutional arrangements for the management of wildlife.

MICHIGAN PUBLIC ACCESS STAMP PROGRAM

Now in its sixth year of operation in southern Michigan, the Public Access Stamp Program (PASP) is most notable for the way individual hunters are brought together with small private landowners through a state agency. Before discussing the program itself, however, several relevant characteristics of the state should be examined:

- (1) The southern third of the state is 97 percent privately owned and contains 90 percent of Michigan's population, including more than three-quarters of the state's hunters.
- (2) Pressures have increased on private land from hunters looking for alternatives to crowded public lands, and landowners have been increasingly unwilling to grant hunting access.
- (3) Land management costs and values have risen, seriously affecting the state's ability to purchase and effectively manage acquired land.
- (4) Open land continues to give way to suburban development and other alternative land uses.

(55 Transportation costs have risen substantially, discouraging hunters from traveling great distances to hunt.

The contribution of these factors encouraged the creation of PASP in 1977. The program, which affects only the forty-one southernmost counties in the state, pays rural landowners on a per acre basis to allow public hunting on their land. The Department of Natural Resources (DNR) appraises the land according to an established fee system, such as those listed below:

Hunting Resources	Annual Rate Per Acre
Wild natural marsh	\$4.00
Idle fields not clipped, cropped, or pastured	4.00
Brush, shrubs and trees less than 2" diameter.....	4.00
Idle orchards.....	2.00
Rotation crops and other agricultural acreage50

To be eligible for this income, landowners must post signs provided by the DNR and issue tags to PASP hunters. Leases are renegotiated every third year for renewal, but they can be terminated at any time by the landowner. Generally, no farm smaller than 40 acres is eligible for the program, since revenues generated would usually be exceeded by administrative costs.

To be eligible, hunters must purchase a \$1 access stamp in addition to the regular hunting tag. Stamp sale revenues go to the DNR, which acts as hunting broker and information clearinghouse. Although the act states that dealers must require the sale of a stamp with a hunting tag, dealers have been unwilling to enforce the mandatory stamp sale because hunters who don't (or say they don't) use PASP lands seek out dealers who are willing to sell tags without charging for the stamp. Dealers enforcing the regulation have lost hunting tag commissions to dealers unwilling to enforce stamp purchases. Dealers have not been provided with any market incentives to sell stamps. As a result, stamp sales have slipped from 448,000 in 1977 to 315,000 in 1980, even though the number of PASP hunters has more than tripled from 23,000 to 73,000. Hunters have discovered that they can

get away with purchasing a tag only, and they now hunt illegally on private lands. Fortunately for the DNR, the number of hunters who buy stamps and participate in the program has increased from 5 percent to 23 percent, helping to compensate for the decrease in stamp sales. But the increase in PASP hunter numbers doesn't come close to matching the decrease in total stamp sales.

One problem is that stamp sales and annual acre fees are not determined by market forces, but are established by the DNR on an "equity" basis. We do not mean to imply that PASP should be earning great profits, but it should be able to support itself on the revenues from stamp sales and be just as equitable as the program was designed to be. Most important, the program should encourage private landowners to manage for the joint production of crops and wildlife.

According to Tom Nederveld, director of PASP, efforts are being made to improve the situation. Stamp prices were raised last year by 10 cents, which will be kept by the dealer who sells the stamp as an incentive to enforce the law. The DNR is dropping over 85,000 leased acres from the program in order to bring expenditures down, and a temporary freeze has been placed on the annual amount paid per acre until the department can afford to do otherwise. It remains to be seen just how effective these measures will be, but they are steps in the right direction.

Although PASP suffers from many problems of both economic theory and execution, the program has opened previously closed private acres to hunters while providing landowners with an income that often is sufficient to cover property taxes. Michigan has also succeeded in giving small landowners and hunters incentives to cooperate. The problems that remain are the predictable consequences that elementary political economic theory would predict.

INTERNATIONAL PAPER COMPANY

International Paper (IP) is a giant in the paper industry, with some \$5 billion in annual sales and seven million acres in land holdings. In this intense competitive industry, IP has initiated and developed an extensive lease-hunting and wildlife management program, under which it will suspend logging and other resource-extraction activities in order to protect game habitat. IP has become so concerned for its wildlife simply because wildlife production has become profitable.

IP began leasing hunting land in 1957 when the company set up its innovative experimental station on their 16,000-acre tract near Bainbridge, Georgia. At that time, few deer roamed the area, and the population density of turkey, quail, and rabbit was also relatively low. Today, thriving populations of trophy deer and other game and nongame species make their home on the 1.65 million acres that IP leases for hunting in the southeastern United States. Average lease fees are 83 cents per acre for hunting clubs and 62 cents per acre for individual hunters. IP experts predict that prices will go as high as \$10 per acre in the near future on prime hunting lands as game continually improves. For a corporation currently leasing 1.65 million acres, \$10 per acre for even a portion of land holdings this size would be significant. Hunting leases have become one of IP's best products in terms of revenue to investment - and the ratio continues to improve annually.

IP has committed more acreage to game and nongame species production than any other corporation or public agency in the United States. Yet, obtaining information regarding IP's wildlife program has become extremely difficult due to an upper-management turnover in New York in late 1982.* Subsequent policy

* Much of the information that follows comes from confidential sources within the company and is not general available.

revisions followed, including a ban on any release of information on the lease program or the wildlife development program in general, even for academic purposes. IP is obviously protecting its investments. The frustration of working under a system that prevents the sharing and recognition of any progress and accomplishments was evident in talks with IP employees. Clearly, the lease-hunting program has evolved from the semi-profit, positive public relations phase to a program geared toward efficiency, profits, and research investment protection. It may be relevant that the public relations department will be terminated on January 1, 1984.

According to company sources, however, the lease program is becoming increasingly sophisticated. Computer simulations and refined cost-benefit analysis are continually being upgraded to optimize hunting habitat, conditions, and yields. In fact, management techniques can now improve deer herds or modify the habitats to meet the demands of the hunting clubs and corporations willing to pay for the service. Improved management has led to a doubling and even tripling of game populations on some leased tracts since 1957.

In raising per acre hunting charges, IP has discovered that demand is quite inelastic to price changes in the Southeast, probably due to the unavailability of substitutes, such as large amounts of governmentally owned land. As the leased lands become more valuable to hunters, lands open for public hunting adjacent to IP properties have been increasingly criticized by hunters for their low game populations, poor habitat management, trash dumping, and abuse by off-road vehicles.

Is the public awakening to the benefits of private land hunting-lease systems? IP personnel, who have watched wildlife thrive and revenues rise as a result of the company's wildlife management program, while receiving a growing number of complaints about their unmanaged open-access lands, would surely answer yes.

ST. REGIS PAPER COMPANY

In many ways, St. Regis is very similar to International Paper. The company owns large tracts of land and has a lease hunting system that brings in a respectable sum of money. In contrast to IP, however, St. Regis's wildlife department is free to disclose information, and it has set aside land for free public hunting and recreation.

St. Regis Corporation initiated its wildlife program in 1956 and has successfully improved wildlife populations and habitat while maintaining timber production growth.

The corporation owns 572,968 acres of land in eastern Texas and timber on this land has traditionally been the company's primary product. But natural resources such as fish and wildlife are no longer "only being promoted for the company's public image." As with IP, St. Regis found that revenues from leasing land for hunting far outweighed the costs. St. Regis leases out 59 percent (336,997 acres) of their Texas land holdings for prices ranging from \$1 to \$4 per acre, and will bring in over \$500,000 in 1983.

To enhance wildlife populations and habitat, the company's wildlife department began to make improvements in 1978, altering clear-cut shapes and distribution, leaving crucial stands of hardwood trees for habitat, and establishing brush and timber buffer zones between clear-cuts and highways. The company makes some compromises during periods of intense timber demand, just as it suspends certain logging operations for the sake of wildlife. It is not that the St. Regis managers have a preference for wildlife, but rather they are weighing marginal costs and benefits.

St. Regis also requires its lessees on tracts of 1,000 acres or more to collect biological game data. According to Charles Allen, the company's wildlife program director, such information includes age and sex of game, the field-dressed weights of deer, and antler measurements. This information is combined with deer

census data and forest management plans to form the basis for future wildlife management. Over the years, Allen claims, these lands have consistently yielded higher game populations than St. Regis's public hunting lands, since "lessees have played very well the role of surrogate landowner and have developed stringent security measures to protect their hunting rights."

St. Regis has also set aside its 23,000-acre Brushy Creek tract, which lies in the heart of the company's leased Pineywoods region in Texas, for timber production, customer and guest hunting, and optimal game management. Forest management on Brushy Creek involves state-of-the-art technology and has become the testing ground for the company's newest developments in timber and wildlife production, including 30-year pulpwood rotation, clearcutting, site preparation and planning, protection of streamside management zones, and careful prescription burning. According to Allen, who works in conjunction with James Dickson of the U.S. Forest Service on this project, approximately one percent of the area is managed strictly for wildlife forage, and springtime timber production has been restricted in the nesting range of turkey hens. Security measurements have been initiated to enforce hunting rights and to eliminate illegal hunting. Brushy Creek is divided into four divisions in which spikes and does are harvested annually in equal numbers to ensure a balanced sex-ratio. Bucks are hunted on a rotational basis, each section being hunted once every four years. Thirty-two percent of the bucks harvested in the Brushy Creek area are at least four and one-half years old or more.

J. E. Adams, professor of mathematics at Stephen F. Austin State University, has compared Brushy Creek data to statistics on 406 bucks harvested throughout the Pineywoods region (which is completely leased out by St. Regis) as well as to data from the public lands managed by the Texas Parks and Wildlife Department in the South Texas plains region. His research revealed that deer from Brushy Creek had

larger antlers than those harvested on the public lands and were slightly larger in body and antler size than other Pineywood deer. This is despite the fact that both Brushy Creek and Pineywoods have higher animal populations than the unleased public lands.

The lands opened to the public by St. Regis have come under severe criticism from those who use them. They are continually subjected to overhunting, poaching, vehicle abuse, trash dumping, and in some cases, even arson. This behavior is similar to the abuses committed on the public lands adjacent to IP's leased tracts. St. Regis has concluded that the opening of these public lands may be generating more negative than positive public relations, and the company may eventually include these lands in the lease program as well.

St. Regis has developed an effective synergy by incorporating its wildlife system into the timber management program and now manages for the joint production of timber and wildlife, generating profits, a quality environment, and positive public relations. In time, perhaps all corporate programs can boast such a record.

THE DEARBORN RANCH COMPANY

Could something similar to the Michigan, Texas, and Georgia programs gain a foothold here in Montana? Hunters who have been successful on the Montana's state and federally managed lands might not hesitate answering, "Not a chance. Ranchers will never get away with charging for hunting because nobody in this state would pay when there is so much open land." In a sense these hunters would be right. Few Montanans may be willing to pay for hunting, but what about the out-of-state hunters? Are markets developing to serve these sportsmen? Apparently so, since pay hunting programs now exist on more than half a million acres in Montana.

Most of the big game pay hunting is concentrated in central Montana where proportionately more land is privately owned than publicly owned, as compared to

the rest of the state. The Eastern Slope Landowners Association operates in the Dearborn River-Augusta area, which is composed of the Krone, L-Y, Blacktail, O'Connell, and Dearborn ranches. In its second year of operation, this group's hunting program provides between 300,000-400,000 acres for pay hunting. According to Michael Curran, who runs livestock and raises grain on 100,000 acres at the Dearborn Ranch, the program has grown steadily without spending a dollar on attracting customers. Even though information about the program has been strictly word-of-mouth, day rates have risen from \$200 in the 1982-83 season to \$250 this season. Over 95 percent of those paying are out-of-staters looking for quality hunting. Hunters are provided with a four-wheel-drive vehicle, gasoline, and, Curran explains, "a driver who knows where the game is and who will help retrieve the animal after the kill." Last year, the program brought in \$18,000. As of November 4, 1983, hunters had already paid \$25,000 for hunting privileges.

Curran maintains that his Dearborn Ranch provides outstanding hunting compared to public lands in the same area. Nearly all hunters are successful at filling their deer tags, although few elk had been bagged as of last November because they remained in the high country due to the warm weather. When they do come down from the higher elevations, Curran will pasture over 250 elk, along with an estimated 1,000 deer and 600 antelope. "These animals are here because we've always taken very good care of the land," Curran says. There wouldn't be much game if we overran the land with livestock."

Curran feels that Montanans have taken hunting privileges for granted too long. "During the colder months, game come down from the high country. Whether people know it or not, public lands provide very little winter forage, so the animals roam on our land where the food is. We feed 250 elk for six months, and 500 deer and about 300 antelope for an entire year," says Curran. "We've figured that if the Montana Fish & Game Department paid us for the forage consumed, they'd

owe us \$6,500 every year. Montanans may take this for granted, but we feel that the wildlife is an asset – one that we have the right to harvest on our lands within the state laws."

As Bon Marcoux, associate director of Fish, Wildlife and Parks, told the Bozeman Chronicler "There's no question that landowners have a right to charge a trespass fee." Out-of-state hunters paying \$275 for a Montana license, in addition to their transportation costs and other expenses, have been willing to pay the Eastern Slope Landowners Association's fee for the assurance that they will rarely leave empty-handed.

And how did Curran spend the remainder of the 1983 hunting season? Quail hunting in Georgia, and then goose hunting on the Chesapeake. Both properties are privately owned, providing quality habitat for wildlife, and superb hunting for the sportsmen – a feast for hunters and game.

The Political Economy Research Center is an unusual organization. Our research orientation and level of commitment provide PERC associates with an important opportunity to analyze and make recommendations on economic and natural resource issues in both the governmental and private sectors. Approximately 50 percent of our efforts have been devoted to natural resource economics and policy, while the balance of our work deals with taxation, regulation, entrepreneurship, economic history, and a sprinkling of other topics. To the best of our knowledge, we are the only research organization with this orientation.

Since its founding in 1980, the Center has maintained a principled commitment to the development of a society of free and responsible individuals in their relations with one another and their environment. On the basis of considerable study and research, we expect these values to be fostered by social and political organizations relying on private property rights, the rule of willing consent, and the market process. Although we are sensitive to the problems of market failure, we recognize that there is an analogous set of problems with governmental management.

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