The Impact of Combined Grass and Wetland Easements on Agricultural Land Values in South Dakota

By Steven D. Shultz and Duane Pool

Abstract

The impact of U.S. Fish and Wildlife Service grass and wetland easements on agricultural land values across three counties in the Prairie Pothole Region of South Dakota were determined by comparing the sale prices of 38 easement encumbered properties sold between 1994 and 2000 across 9 counties in South Dakota, with hypothetical fee simple sale prices calculated using land values from comparable sales without easements. On average grass/wetland easements reduced sale prices by 6.6 percent. Alternatively, 60 percent of properties had reduced sale prices attributed to easements. However, almost 95 percent of sellers were more than sufficiently compensated for reduced sale prices by earlier USFWS easement payments and average net impacts to sellers of easement encumbered land was a positive 30 percent.

Introduction

An understanding of the impact of conservation easements on the resale values of land in production agriculture is essential for the calculation of "fair market" easement payment values by numerous federal and state agencies and non-governmental conservation groups who are actively purchasing such easements from agricultural land owners. This article evaluates the impact of combined grass (pasture) and wetland easements of the U.S. Fish and Wildlife Service (FWS) on agricultural land values in nine counties across the Prairie Pothole Region of South Dakota. A comparable sales approach is used where sale prices of easement-encumbered properties (on a per-acre basis) are compared with corresponding fee simple values for the properties based on average per-acre land values from nearby comparable land sales. Specifically, the percentage reduction in sale prices attributed to easements are calculated and compared to the relative value of original USFWS easement payments (as a percentage of local land values at the time the easement was taken) in order to evaluate whether landowners were adequately compensated for the easement.

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Background: The FWS Easement Program in the Prairie Pothole Region

Since the early 1960s, landowners in the Prairie Pothole states of Minnesota, North Dakota, South Dakota, and Montana have been participating in numerous wetland and grassland easement programs administered by both public and private conservation organizations. This region has been targeted because it contains some of the highest concentrations of wetlands and waterfowl breeding habitat in the continental United States combined with relatively low land values (Sidle and Harmon 1987). The largest of these programs is the FWS Small Wetland Acquisition Program (SWAP), established in 1958 and financed through the sale of Migratory Bird Hunting and Conservation Act Stamps. By the end of 2003, the FWS had purchased approximately 2.2 million acres of grass/wetland easements across North and South Dakota and Minnesota (USFWS 2004a). Historically the FWS purchases wetland easements and in recent years has started purchasing grassland easements surrounding wetlands and/or existing wetland easements in an effort to protect important upland nesting habitat adjacent to wetlands. In most cases the FWS only purchases grassland easements in conjunction with wetland easements.

A FWS wetland or grassland easement is a permanent and legally binding conveyance of limited property rights from the landowner to the federal government. With a wetland easement the landowner agrees not to drain, fill, burn, or level existing wetlands in exchange for a one-time lump sum payment. However, certain farming practices such as grazing, harvesting hay, and growing crops when wetlands dry up naturally are permitted because they are judged not to damage the integrity of wetlands under easement. A FWS grassland easement is also perpetual and based on a single payment in exchange for a landowner maintaining permanent vegetative cover on the land while restricting the alteration of grassland and other wildlife habitat by restricting haying, mowing, or seed harvesting from the spring thaw until July 15 of each calendar year. In most cases the only major encumbrance associated with wetland or grassland easements are potential lost revenues associated with converting wetlands or grassland to cropland to more productive land uses.

Historically, the FWS relied on federal appraisal standards and comparable sales analyses to determine the fair market value for lands surrounding or encompassed by easements and then calculated easement payments as a percentage of those values (USFWS 1993). Easement percentages were based primarily on historical studies of the impact of easements on land values (Brown 1974 and 1986) and ranged between 50 and 90 percent for wetlands and 25 to 60 percent for grasslands with specific percentages being determined by geographic location and land values (with percentages increasing with land values). However, in April 2004 the agency began to use administrative-based land values in place of appraisal based values along with originally used impact percentages to calculate easement payments (USFWS 2004b and 2004c).

Previous Studies on the Impact of Conservation Easements on Land Values

Fisher (2004) compared estimated fee simple land values of subject properties with various types of conservation easements in three regions of upstate New York to their actual sale price in order to calculate the impact of easements on land values. The impacts ranged from zero to 94 percent and were highly influenced by the specific development limitations associated with particular easements. Farmland preservation easements in rural areas were found to reduce market values by between 48 and 67 percent.

There are three known studies that have evaluated the impact of FWS wetland easements on agricultural land values in the Prairie Pothole Region. Brown (1976) regressed the prices of 134 unimproved agricultural land sales between 1973 and 1974 in three different geographical regions of North and South Dakota against crop, pasture, wetland, and FWS wetland easement acres. Wetlands assumed to be under water for the entire growing season in most years did not have a statistically significant impact on sale prices in any of the three regions. At the same time, each additional wetland easement acre decreased sale prices in northeastern North Dakota by $167 (60% of average land values), had no statistically significant influence in central North Dakota, and decreased sale prices in Northeast South Dakota by $36 (27% of average land values). Limitations with this study included: a small number of sales/observations, the absence of a variable measuring the relative value of sale-specific soil productivity, and the fact that wetland acreage also appeared to be represented as wetland easement acreage (in cases of wetland easements). This potential double counting of

wetlands and wetland easements could possibly explain the paradoxical result of wetland acreage having an insignificant impact on sale prices even when wetland easement acreage had a statistically significant and relatively large negative impact on prices.

In a follow-up study, Brown (1984) regressed per-acre sale prices of agricultural land against the percentage of alternative land capability classes and wetland easement acres within 268 sale parcels in eight regions across North and South Dakota and Minnesota. Wetland easements existed with 45 percent of the sales and were found to have a statistically significant negative impact on prices in only three of the eight regions. In three north central North Dakota counties with 34 sales, each additional wetland easement acre reduced land values by $950, which somewhat illogically exceeded the average value of an acre of cropland in the region. In four central North Dakota counties with 33 observed sales, each additional wetland easement acre reduced land values by $176 or 68 percent of the average value of land in the region. Finally, within a single county in east central South Dakota with 44 sales, each additional acre of wetland easements decreased sale values by $239 or 70 percent of the average value of land in the region.

More recently, the impacts of FWS wetland easements on land values were estimated by regressing sale prices against the physical and institutional characteristics of 236 agricultural sales in three southeastern North Dakota counties using detailed geographic information system (GIS) based data on land uses, soil productivity and wetlands (Shultz and Taff 2004). Easements on temporary wetlands did not influence prices, while each additional acre of permanent wetland under easement decreased average prices by $321 (79%). Since non-eased permanent wetlands were shown to reduce land prices by $161/ac., the implicit price of a wetland easement per se was $160/ac., or 6 percent below historical easement payment levels in the study area.

To date, no known studies have evaluated the impact of grassland easements on land values, or more specifically the impact of combined FWS grass/wetland easements on land values that is the impetus for undertaking this study.

Subject and Comparable Sales

Data associated with agricultural sales from 1994 to 2000 were collected across nine South Dakota counties in the Prairie Pothole Region with the highest relative concentration of FWS easements in the State (Clark, Day, Duel, Hand, Edmunds, Faulk Miner, McPherson, and Sanborn). Non-arms length sales; sales not dominated by grass (pastureland); sales with major improvements, buildings, and chattel; and sales for non-agricultural purposes (i.e., hunting activity) were all discarded.

Sales were cross-listed with FWS easement records to determine subject sales that contained combined grass/wetland easements. Remaining non-easement encumbered sales occurring in the same year and in close proximity to subject sales were designated as comparable sales. Data assembled for both subject and comparable sales included: date, sales price, location, and crop, pasture, and marsh acreage and values (on a per-acre basis). Additional data collected only for subject sales (containing easements) included: grassland and easement initiation dates, payments and acreage, and the appraised average land value of the parcel at the time of the easement payment.

A total of 38 subject and 102 usable comparable sales were assembled. Each subject sale was related to at least three comparable sales that occurred nearby (within the same county) and within the same year. The size of both subject and comparable sales were very similar yet comparable sales overall contained a greater percentage of cropland (44%) than did subject sales (10%). This made it important to calculate comparable sale land values for specific land uses to use in subsequent calculations of fee simple values.

The average time period between when easements were established and easement properties sold was four years, although one easement property sold in the same year that an easement was established and four were sold in the following year. Almost all sold properties were completely under easement. Easement payment values averaged $73/acre and acre with a range of $16/acre to $195/acre, while the average value of easement-encumbered land (at the time easements were established for 22 of the 38 easement properties for which data was available) was $238/acre.

The Impact of Easements on Sale Prices

The impact of easements on sale prices of agricultural land (for agricultural production purposes) was determined by dividing sale prices of subject properties on a per-acre basis, with appraised fee simple values based on crop, pasture and marsh acreages associated with sales and corresponding average land values from comparable sales. No adjustments were made for productivity differences between subject and comparable sales because sufficiently detailed productivity data did not exist for all the properties and because pasture productivity across counties in this area of South Dakota.

Almost 60 percent of land sales had their sale prices lowered by the existence of easements. The mean value of easement impacts was -6.6 percent meaning that land encumbered by a combined FWS grass/wetland easment on average will sell for 6.6 percent less than other similar land without and easement. This is likely due to buyers realizing the opportunity costs of never being allowed to convert easement encumbered grass and wetlands to cropland or alternatively the fact that they themselves will not be able to receive an easement payment from the FWS. The standard deviation of easement impacts was 18 percent meaning that few land sales were impacted by more than 25 percent either positively or negatively. Alternatively if five potential outliers are removed from the sample (easement impacts greater than positive or negative 30%), the mean easement impact is four percent.

Easement impacts appear to be largest among more recent sales (over the 1994 to 2000 time period), and with relatively large sale sizes (greater than 300 acres) in contrast to the smaller sale sizes (less than 150 acres). Finally, easement impacts are 22 percent less for the lowest-valued land parcels (less than $200/acre) in contrast to the highest valued parcels (greater than $300/acre).

Comparing Easement Compensation With Reduced Sale Prices

To evaluate whether landowners were adequately compensated for FWS grass/wetland easements, observed easement impacts were compared to original levels of easement payment compensation (the percentage of tract land values on a per-acre basis, paid to landowners at the time the easement was initiated). Both easement payment amounts and appraised tract values used to determine payment values were obtained from original USWFS easement documents associated with 22 easements (it was not possible to locate this data for the remaining 16 easements in the study).

On average easement impacts for these 22 sales were -3.9 percent while original easement compensation averaged 34 percent of local land values meaning that average net positive impact of easements were 30 percent. Therefore even after receiving a reduced price when selling their land due to the imposition of the FWS easement, land owners with easements on average still came out ahead assuming they did not forgo any production income associated with the easement restrictions between the time it was initiated and the time of the sale. Alternatively, 97 percent of landowners had positive net impacts associated with their easements.

Net impacts to easement holders who sold their land was slightly less (-4%) after 1998, and 14 percent greater among smaller-sized parcels (< 160 acres) in contrast to larger parcels (> 400 acres). Finally, net impacts were eight percent higher with high-valued land (> $300/acre) in contrast to low-valued land (< $200/acre).

Conclusions

This study is the first known effort to quantify the impact of FWS grass/wetland easements on agricultural land values in the Prairie Pothole Region. As expected, buyers of agricultural land will pay a slight premium for non-easement encumbered land either because such easements generate potential opportunity costs in the form of foregone agricultural production or because the buyers will not be able to capture an easement payment. It is expected that these results can be used by buyers and sellers of land as well as professional appraisers when valuing easement encumbered lands.

These results also to justify the USFWS practice of paying landowners for grassland/wetland easements. However the fact that net impacts to sellers of easement encumbered land is overwhelming positive may indicate that historically utilized levels of easement compensation may be unnecessarily high particularly in cases when it is technologically or economically infeasible for landowners to convert wetlands or pastureland to cropland. Alternatively, landowners appear to be generously compensated for combined grass/wetland easements; the FWS pays for all wetland acreage within selected tracts and includes

these same wetlands as grassland acreage when calculating grassland easement payments. This "double counting" of wetland acreage is purportedly intended to ensure that if and when wetlands dry of natural causes that landowners keep them under grassland rather than cropping or haying them.

It is recommended that the potential impacts of grass/wetland easements continue to be monitored and reported by the USFWS and professional appraisers in South Dakota and other Prairie Pothole states. Larger sample sizes are warranted before definitive conclusions regarding the impacts of such easements on agricultural land values can be made. Such future studies should also attempt to include sales for non-agricultural purposes (hunting and recreation), and if possible detailed productivity indices of both subject and comparable properties.

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Table 1. Sales Data Collected Across Nine South Dakota Counties, 1994-2000

	Subject Sales (with easements)	Comparable Sales (no easements)
Number	38	102
Mean Sale Size (acres)	300	227
Range in Sale Sizes (acres)	40 to 778	400 to 886
Cropland (%) [1]	10%	44%
Pasture (%)	87%	49%
Marsh (%)	3%	7%
Combined Grass/Wetland Easement (%) [2]	74%	--
Years Between Easement and Sale Dates	Mean: 4 Range: 0-10	--
Mean Easement Payment	$19,545	--
Range in Easement Payments	$1,290 to $ 66,800	--
Mean Easement Payment Per Acre	$73	--
Range in Easement Payments Per Acre	$16 to $195	--
Mean Parcel Land Values at the Time of original Easement Payments[3]	$238	--

[1] *Includes land in the Conservation Reserve Program (CRP)*

[2] *Otherwise only a grassland easement existed*

[3] *Only available for 22 sales*

Table 2. Impacts of Combined USFWS Grass/Wetland Easements on 38 Sales Prices in South Dakota (1994-2000)

	Sale Price ($/acre)	Fee Simple Price ($/acre) (based on comparable sales)	Easement Impact
All Sales (n= 38)	$255	$265	-6.60%
1994-96 (n = 3)	$238	$247	-4.70%
1997-98 (n = 16)	$247	$250	-7.00%
1999-2000 (n = 19)	$265	$281	-6.50%
Sales > 400 acres (n=10)	$240	$264	-9.80%
Sales < 160 acres (n=6)	$205	$208	-6.00%
Prices > $300/ac (n=8)	$383	$383	0%
Prices < $200/ac (n=10)	$154	$186	-22%

Table 3. Sales Data Collected Across Nine South Dakota Counties, 1994-2000

	Easement Impact	Original Payment Compensation (% of Parcel Land Value)	Net Impact to Seller*
All Sales (n= 22)	-3.90%	34%	30%
1994-98 (n = 11)	0.70%	31%	32%
1998-2000 (n = 11)	-8.50%	36%	28%
Sales > 400 acres (n=3)	-14.00%	35%	21%
Sales < 160 acres (n=4)	2.10%	33%	35%
Prices > $300/ac (n=7)	4.40%	22%	27%
Prices < $200/ac (n=5)	-2.00%	39%	19%

** Assumes the seller was the original participant in the easement contract*