

Chapter 3 — Threats to and Status of the Resources

This chapter discusses the analysis conducted during the EA process and explains why increasing the acquisition authority of the Rainwater Basin was the chosen alternative.

A spring 2004 assessment of available wetland habitat showed that only 16 percent of the historical wetlands had some wetland function. The rest have been lost to development. Today, only 8.5 percent (18,067 acres) of the historical wetland acres are in public ownership. Public wetlands are represented by 90 distinct properties, containing all or portions of 168 wetlands or 1.5 percent of the 11,000 historical wetlands (USFWS, Grand Island GIS Shop, unpublished). These few wetlands provide about 45 percent of the waterfowl habitat in the region. Increasing commodity prices are causing higher land prices and more development, threatening the remaining unprotected wetlands.

The conversion of wetlands and grassland to cropland has caused birds to concentrate in fewer areas, increasing the competition for natural foods and the risk of disease outbreaks. Waste grain has replaced much of the natural foods in waterfowl diets. Although corn meets the caloric requirements for waterfowl, it is deficient in many of the nutrients found in natural foods (Baldassare and Bolen 1994, Krapu et al. 2004).

Effects on the Biological Environment

This section describes the effects on wildlife habitat and water and soil resources of increasing the acquisition authority of the Rainwater Basin Wetland Management District.

WILDLIFE HABITAT

Increased land acquisition across the Rainwater Basin will ensure that critical wetlands are protected in perpetuity. It will allow the Service greater flexibility to consider fee-title or easement acquisition as potential land management strategies. GIS modeling will help to identify wetlands with key biological characteristics that are best suited for fee-title and easement acquisition. This approach will help to ensure that funding is directed to where it can provide the most benefit to priority species.

Purchase of roundout properties will in many ways multiply the benefits of the wetlands beyond what they currently provide in split ownership. It will be easier to use management strategies such as grazing,



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Native prairie managed with prescribed burning and rest.

prescribed burning, and water management to restore the wetlands. Pumping and other forms of water management will remain as management options. The Service will continue to partner with neighboring landowners to enhance privately owned wetlands for the benefit of migratory birds.

Natural food availability from wetlands will increase, bringing the Rainwater Basin Joint Venture closer to its goal of having 28.2 percent of waterfowl energetic needs being met by natural foods rather than waste grain. Birds will leave the Rainwater Basin region in better body condition, which will in turn mean better production on their northern nesting grounds.

The potential for a major avian disease outbreak will be reduced as more wetlands become available and birds become less crowded.

Acquisition and protection of wetlands within the Rainwater Basin will indirectly provide improved water quality to the headwaters of several streams (e.g., Big Blue and Little Blue) that provide fish habitat.

THREATENED AND ENDANGERED SPECIES

Implementation of the LPP will increase the acres of available habitat for whooping cranes, least terns, and piping plovers. The continued preservation and management of WPAs, especially grazing management, may increase the use of WPAs on the part of these species. The Nebraska Ecological Services Field Office concurred with the determination, “may affect, not likely to adversely affect” these species, and that the impact to these species from the implementation of the LPP will be beneficial.

WATER AND SOIL RESOURCES

Wetlands that are protected in perpetuity will enable long-term provision of many of the benefits attributed to wetlands, including entrapment of agricultural fertilizers, chemicals, and sediment. Wetland plants will help convert fertilizers and other farm chemicals into nonpolluting forms. The preserved wetlands will continue to provide groundwater recharge to a currently declining groundwater table.

Increasing the Service’s land base in the Rainwater Basin will likely reduce long-term management costs; therefore, short-term acquisition costs will likely be made up over the long term by reducing the per-acre cost of management. Having management control of entire wetlands will allow the Service to restore natural hydrologic function, which will reduce management costs because the wetlands will flood naturally and dry out on their own. In addition, full management over a wetland will reduce potential conflict with neighbors who may have different management plans for the wetland.

Effects on the Socioeconomic Environment

The analysis of the chosen alternative considered the effects of population decline, rising land prices, increasing property taxes, social benefits, landownership, public use, and the value of the Rainwater Basin on the socioeconomic environment.

The socioeconomic impact of land acquisition within the Rainwater Basin counties is hard to measure with a high degree of certainty. What is known is that there will be reduction in agricultural production and tax revenue associated with Federal acquisition. What is poorly determined or immeasurable are the environmental and social benefits provided by wetlands, especially those located in close proximity to each other or near a community. Economists often refer to these benefits as nonexcludable (available to all) goods that have a value to the public that exceeds its value to the landowner. For Rainwater Basin wetlands, this value extends beyond the local residents to a much larger area. For example, the birds that use the Rainwater Basin during spring migration are of international value for birdwatching and hunting.

Some local residents perceive themselves as having to unfairly shoulder the burden of maintaining these wetlands for the benefit of others. Their concerns are expressed in the belief that Service acquisition of wetlands contributes to declining county populations as well as increasing land prices and taxes.

POPULATION DECLINE

A review of the population changes between 2000 and 2010 in the 13 counties located in the Rainwater Basin shows that the greatest decline has been in counties with low (<10,000) starting populations (U.S. Census Bureau 2010).

Fillmore County, which does not have a large commercial hub, showed the greatest decrease in population (11 percent), declining by 744 people from 2000 to 2010. In contrast, those counties with a relatively large commercial hub showed an increase in population. Hall County, which includes the community of Grand Island, had over a 9 percent increase during the same period, increasing by 5,073 people. This trend in population shift among counties was common throughout the State, where counties with small populations and relatively small commercial hubs showed a decrease while counties with larger populations and larger commercial hubs showed an increase.

Even though some residents are concerned that Federal acquisition may lead to a decrease in population, there does not appear to be a correlation between the two factors. Clay County, for example, showed a population decline of over 7 percent between 2000

and 2010. During that period of time, only 32.5 acres in Clay County were acquired by the Service. When comparing Clay County with Antelope County, which is a nearby county with a similar population and economy but without Federal lands, Service ownership does not appear to be a contributing factor to population decline, as Antelope County showed a decline of 11 percent. Other Nebraska counties that had populations and economies comparable to those of Antelope County showed similar trends.

RISING LAND PRICES

Nationally, farmland values rose throughout much of the post-World War II period, and from 1969 to 1978, farmland prices increased 73 percent as agricultural producers responded to high returns and various Federal policies that increased incentives for investing in agriculture. In 1980, farmland prices began to decline in response to Federal monetary policy that raised interest rates in order to help resolve high inflation. In addition to rapidly rising interest rates, higher energy prices contributed to a significant financial crisis in the farm sector during the 1980s, leading to farm bankruptcies and bank failures. Since the farm crisis of the mid-1980s, farmland real estate values

(including land and buildings) have been rising in both nominal and real (i.e., inflation-adjusted) terms. Between 1994 and 2004, real values increased between 2 and 4 percent annually (figure 6), and in 2005 and 2006, they experienced sharp annual increases of 16 percent and 11 percent, respectively, before slowing to 7 percent and 6 percent annual growth in 2007 and 2008 (USDA 2011)

Regarding the concern that Service acquisition drives up land prices, a 2010 UNL (University of Nebraska, Lincoln) survey reported that agricultural land values in the Rainwater Basin region increased an average of 2.6 percent annually between 2005 and 2010 (Johnson et al. 2010). During those same 5 years, only 513 acres were acquired in fee title by the Service. In 2009, 74 percent of all agricultural lands sold in the Rainwater Basin region were purchased by active farmers, 21 percent were purchased by nonfarming Nebraska residents, and 5 percent were purchased by nonfarming out-of-state buyers.

UNL's survey asked 150 land-market observers to rank the importance of 16 factors in determining land prices. The top three factors were purchasing for farm expansion, the limited amount of land offered for sale,

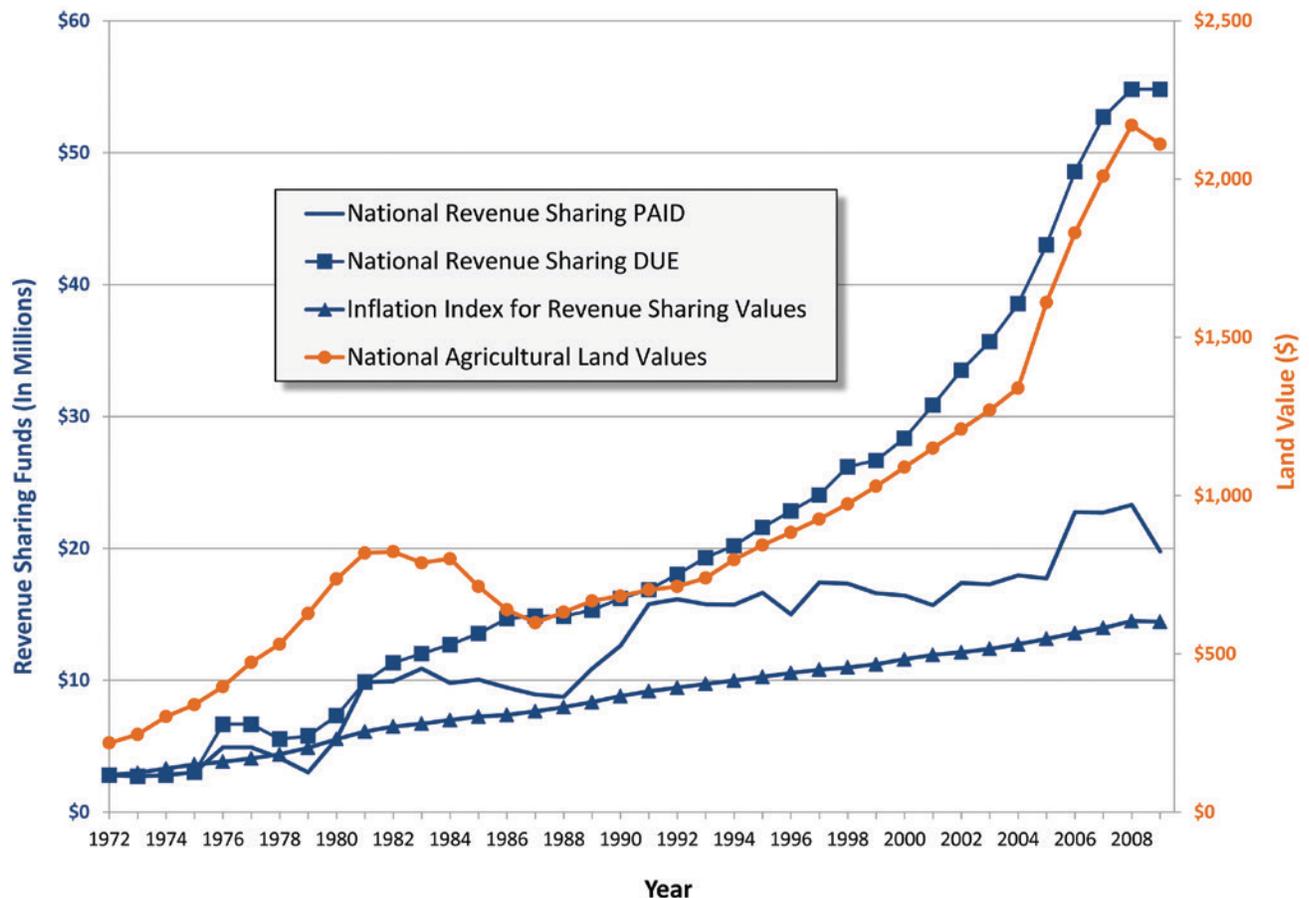


Figure 6. Funds distributed from the National Revenue Sharing program in comparison to national land values, 1972–2009.

and the financial health of current owners. Property tax levels were ranked 15th out of 16.

In 2009, 68 percent of land purchases in the Rainwater Basin area were cash purchases and 27 percent involved a mortgage; the remaining 5 percent of ownership changes involved other types of transactions such as gifts, inheritances, and so forth. During the last decade, the average rate of return on assets of agricultural land in the Rainwater Basin region dropped from 5.5 to 4.9 percent.

INCREASING PROPERTY TAXES

Tax increases are a very contentious issue across the State, including in the Rainwater Basin. Although land brought into Federal ownership is no longer on the tax roll, it does not result in an increase in personal property taxes paid to the counties.

For counties with low populations and no commercial hub, agricultural lands may represent well over half of the county's total assessed value (Johnson et al. 2006). When county costs continue to go up, populations go down, and no new industries are being created, agricultural land claims a higher percentage of the county's total assessed value, shifting the burden of financing the county to the shoulders of farmers. A contrast that demonstrates this concept is that 57 percent of the total assessed value in Clay County is agricultural land, but it is only 22 percent in adjoining Adams County.

The Refuge Revenue Sharing Program has increased payments made to local governments over the long-term which have actually increased at a faster rate than inflation (figure 6). However, payments due to the local governments have risen substantially more, primarily due to the increasing land prices described in the prior section. This is particularly evident in the period from 2004 to 2008 when land prices increased by approximately 10 percent annually, but receipts from the National Wildlife Refuge Fund rose at a substantially lower rate (figure 6). However, the difference between what is paid by the Revenue Sharing Program and what is due does result in lower revenue for local governments. However, substantive social benefits are provided by public lands to local communities and economies (see below).

SOCIAL BENEFITS

The value of the benefits provided by WPAs is substantial. Although Service lands do not provide the same property tax revenue to the counties that the land would generate in private ownership, there are goods and services produced by these lands that benefit the general public. Some lands benefit the local community directly in terms of flood control, groundwater recharge, increased water quality, and sediment or nutrient entrapment. Recreation, aesthetics, and health and production of wildlife may provide value to

the local community as well as to a much larger society. Other benefits include reduced need for water and sewer services and increased law enforcement in the local area, thereby reducing costs to local communities.

It is difficult to assign dollar values to these public benefits. The social and environmental benefits provided by the wetlands have very little economic value to an individual buyer; in comparison, the assessed value reflects the land's value for agricultural production. In addition, each wetland provides a specific level of benefits depending on its unique characteristics, location in the watershed, and proximity to larger communities. For example, WPAs located in the more populated eastern portion of the Rainwater Basin receive much more use, and therefore provide a greater recreational benefit to the local area, than those in the western portion.

Some studies exist that suggest some of the value that wetlands provide to the public. In 1978, the Little Blue Natural Resources District hired an engineering firm to provide a cost-benefit analysis of a watershed plan in Clay County. This analysis reported that a 650-acre impoundment would have an estimated annual benefit value of \$97.37 per acre. This value was based on only three benefits: \$52.75 per acre for groundwater recharge, \$41.14 per acre for flood control, and \$3.46 per acre for recreation. This figure of \$97.37 per acre in 1978 is equivalent to approximately \$337 per acre in today's economy. This estimate did not include the value of other services provided, such as capturing and transforming agricultural runoff or sustaining migratory bird populations.

A limited amount of agricultural benefit is provided by WPAs. In 2009, approximately 12,600 animal-unit months of grazing were provided and an additional 1,150 acres were hayed.

Publicly owned wetlands within the Rainwater Basin are an important factor in bringing hunters and birdwatchers to the region. The 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation reports that the average hunter in Nebraska spent about \$25 per day on trip expenses such as food, lodging, and fuel. For birdwatchers, that number was \$31.50 per day. The Service estimates that there are approximately 80,000 visitor-days within WPAs in the Rainwater Basin each year. Using the \$25 per visitor-day figure, that number of visitor-days brings \$2 million of commerce to the region. NGPC estimates that upland game and waterfowl hunting provides \$2,374,520 of economic activity to the Rainwater Basin (Mark Vrtiska, biologist, NGPC; personal communication; 2011).

LANDOWNERSHIP AND LAND USE

Under this project, an additional 14,177 acres of land (0.36 percent of the Rainwater Basin region) will be permanently protected and managed for wildlife use.

The adjoining upland and drained portions of wetlands will be converted from cropland back to grassland and wetlands. Agricultural income from the 5,000 acres of easements will be derived from livestock grazing and haying.

The 9,177 acres purchased in fee title (0.20 percent of the Rainwater Basin region) will potentially be taken off the county tax rolls, with the counties receiving Refuge revenue sharing funds to help compensate for the loss of tax money.

Lands with a conservation easement will remain on the tax rolls, and the taxes will be paid by the landowner. Land use on these properties will be limited to the terms of the easement, which will allow haying, grazing, and control of public access.

PUBLIC USE

Additional fee-title properties will be open to public recreation, including hunting, birdwatching, and environmental education. Direct and indirect revenue from recreation will increase. Public pressure and wildlife disturbance to individual wetlands will lessen as more areas will be available for use.

Properties with conservation easements will remain in private ownership. Access to the property will be at the discretion of the landowner, since the easements will not include public use.

VALUE OF THE RAINWATER BASIN ECOSYSTEM

This project will not completely restore the Rainwater Basin ecosystem, but it will help to reduce the threat of further losses to wetlands. Nearly 90 percent of the region's wetlands will remain lost. Wetlands that are permanently protected will help to ensure that the region continues to play a critical role in the migration of millions of ducks, geese, shorebirds, and other birds. The wetland values of the acquired areas will continue to provide better water quality, quality of life, and wildlife habitat for many generations.

Unavoidable Adverse Impacts

An increase of land acquisition will cause a direct decline in taxes paid to counties.

Irreversible and Irretrievable Commitments of Resources

There will be an irretrievable and irreversible annual commitment of funds to protect and manage these lands. The potential for the property to be used for

crop production by private landowners will be removed in perpetuity, unless the Service divests interest in such lands in the future.

Short-Term Use versus Long-Term Productivity

Land acquisition will preserve wetlands and adjoining grasslands in perpetuity. The loss of direct tax revenue to the affected counties will have a long-term impact.

Cumulative Impacts

Cumulative impacts are defined by NEPA as the impacts on the environment that result from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR § 1508.7)

PAST ACTIONS

Past land acquisition by the Service or the NGPC has included 31,823 acres of wetland and grassland. The Wetlands Reserve Program administered by NRCS has added 7,077 acres in conservation easements. This total acreage represents approximately 1.0 percent of the Rainwater Basin. These lands are managed primarily for the social benefits that wetlands provide, particularly for wetland and grassland birds.

PRESENT ACTIONS

The Service's action to expand land acquisition authority to 38,177 acres will add an additional 14,177 acres to the Refuge System, 5,000 of which will be conservation easements. Land acquisition by NGPC is limited and is driven by available funds and willing sellers. The Wetlands Reserve Program continues to be an active program. The Wetlands Reserve Program areas, however, are not open for public use. Ducks Unlimited is actively seeking willing sellers and is obtaining both fee-title and easement properties. Its acquisitions are directed toward purchasing property, restoring the wetland and upland, protecting it with a conservation easement, and then selling the property. Present actions by conservation groups support the goals of the Service and the Rainwater Basin Joint Venture.

REASONABLY FORESEEABLE FUTURE ACTIONS

Reasonably foreseeable actions are actions and activities that are independent of the proposed expansion addressed in this document. They are anticipated to

occur regardless of which alternative is selected. Increased production of ethanol and demand for corn and soybeans are expected to encourage an increase in land devoted to, and production from, farmland. A significant portion of that increased acreage can be expected to come from wetland conversion. Future wetland conservation will be done primarily by the U.S. Department of Agriculture and nongovernmental conservation organizations.

Wind energy development is currently being considered for the region. The potential for this development is speculative at this time.

Development

The project will restore and protect an additional 14,177 acres of wetlands and grassland areas for the benefit of the public and wildlife. The project will result in less land being available for agricultural production.

Conservation Efforts

This project will allow for the protection of an additional 14,177 acres of wetland and grassland habitats. These acres will be added to the 23,855 acres currently owned and managed by the Service. This action will have a long-term positive impact on wildlife habitat, substantially add to the management capability for existing wetlands, and help the Service meet the goals in the North American Waterfowl Plan. Service programs such as Partners for Fish and Wildlife will continue within the Rainwater Basin region. The Service will continue to work cooperatively with landowners to voluntarily improve habitat on private land through various conservation means such as prescribed fire, range management systems, or native plantings.

