



# Sustainable **Grazing Lands**

## Providing a Healthy **Environment**









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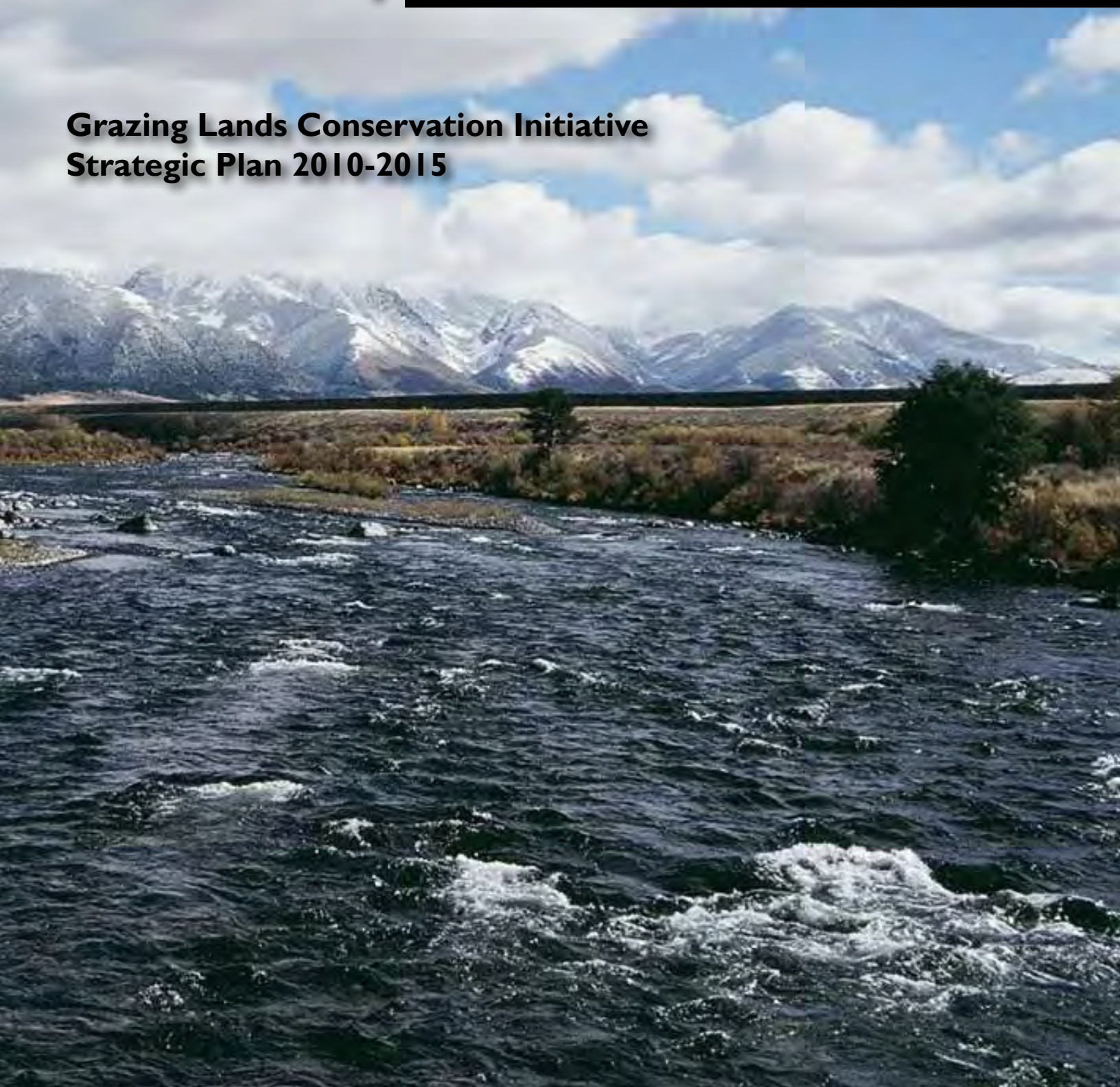


photo by Matt Ricketts, USDA-NRCS



**Sustainable  
Providing a  
Healthy** **Grazing Lands  
Environment**

**Grazing Lands Conservation Initiative  
Strategic Plan 2010-2015**





## **VISION**

**Sustainable grazing lands providing a healthy environment**

## **MISSION**

**Promote ecologically and economically sound management of all private grazing lands for all their adapted uses and multiple benefits to the environment and society.**

## **RESOURCE ISSUES**

- **Recognition of grazing lands as a major source of watershed filtration, ground water recharge, and carbon sequestration, providing improved water and air quality.**
- **Recognize proper grazing use as the most ecologically sustainable form of agriculture.**
- **Recognize lack of adequate technical assistance as the most limiting factor in implementation of conservation programs efficiently and effectively.**



# GOALS & OUTCOMES

## **INCREASE TECHNICAL ASSISTANCE TO:**

- Provide on-ground assistance to private landowners and operators to effectively implement conservation activities and programs.
- Provide quality watershed level analysis and planning.

## **DEVELOP TECHNOLOGY AND CONSERVATION TOOLS TO:**

- Develop and use Ecological Site Descriptions, Forage Suitability Site Descriptions
- Support standardization of Ecological Site Descriptions and Forage Site Descriptions technology development and transfer on an Inter-Agency and Intra-Agency basis.
- Provide development of conservation planning, resource analysis, and decision support tools.

## **SUPPORT RESEARCH and EDUCATION TO:**

- Identify economic, environmental and social benefits of grazing land conservation.
- Develop applied grazing lands research initiative.

## **SUPPORT COOPERATIVE CONSERVATION THRU:**

- Expanding National Partnerships
- Establishment of state and local grazing lands coalitions
- Establishing active coordinators for each state coalition
- Funding
- Marketing grazing lands success stories
- Legislative





## About this document:

**T**his document outlines broad strategies for the Grazing Lands Conservation Initiative (GLCI). The initiative grew out of realization that the 1985 Farm Bill had resulted in a lack of on the ground technical assistance available for voluntary conservation planning. These concerns of clients of USDA who attended several workshops and conferences conducted by the Soil Conservation Service (now the Natural Resources Conservation Service) early in 1990 resulted in this grassroots initiative. Clients at these workshops and conferences included representatives from a broad range of interest groups: federal, state and local agency representatives, conservation groups, and many independent owners of grazing lands.

In 1991 a National GLCI Steering Committee comprised of representatives from client groups was established and has honored this document. Numerous changes have taken place in state and national agriculture policies over the last 18 years. The subsequent Farm Bills have included needed conservation program dollars, but have left out the needed technical assistance funding to support voluntary conservation. This document will address needed changes in the policies and programs of USDA to help address this issue.

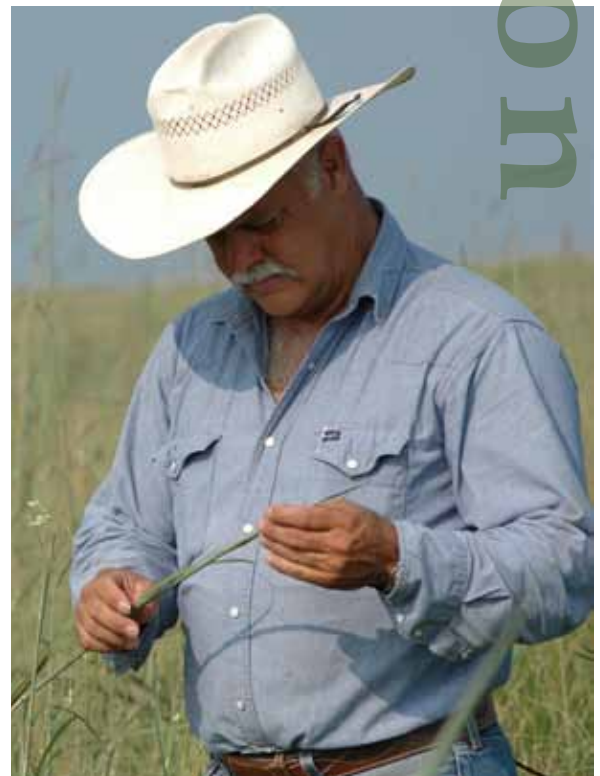
GRASSROOTS **initiative**



## What is the GLCI?

**T**he Grazing Lands Conservation Initiative (GLCI) is a nationwide consortium of individuals and organizations working together to maintain and improve the management and the health of the Nation's grazing lands. The Initiative is driven by agricultural producers, conservation, scientific, watershed, erosion control, and other environmental organizations for the benefit of America's grazing lands resource. GLCI seeks to carry out its activities through local, state and national partnerships. It informs the public of the contributions well-managed grazing lands make to the quality of life of every citizen. GLCI is founded on the principles of voluntary action by those who own and manage grazing lands, and a respect for private property rights, and emphasizes high quality, voluntary technical assistance, expanded grazing lands research and education, and a more knowledgeable and informed public.

GLCI is led by a national steering committee dedicated to America's grazing lands resource and its sustainability. The GLCI Steering Committee strongly encourages and works to help establish local, state, and regional partnerships to foster grazing lands conservation and stewardship. The Steering Committee is made up of individuals representing the National Association of Conservation Districts (NACD), National Cattlemen's Beef Association (NCBA), American Forage and Grassland Council (AFGC), American Sheep Industry (ASI), American Farm Bureau Federation (AFBF), Society for Range Management (SRM), National Farmers Union (NFU), the Dairy Industry, and the Soil and Water Conservation Society (SWCS). In addition, they are supported by many federal agencies such as the Natural Resources Conservation Service (NRCS), Agricultural Research Service (ARS), U.S. Forest Service (USFS), Bureau of Land Management (BLM) the National Institute of Food and Agriculture (NIFA), American Society of Agronomy (ASA), Extension Committee on Policy (ECOP), United Farmers of America, and the Experiment Station Committee on Policy.



*The effectiveness of GLCI depends on the voluntary efforts of private landowners.*







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# VISION

## Sustainable grazing lands providing a healthy environment

**P**rivately owned grazing lands of the United States are truly a national treasure. There are many uses and values that make them extremely important, not only to land owners, but the entire nation. Other lands making a similar contribution include public and tribal lands.

Grazing lands greatly increase the U.S. land area that can be used to produce plants for food purposes. Most U.S. grazing lands will not support cultivated crop production due to soil characteristics, topography, and climatic constraints. They do support vegetation that can be grazed by livestock to transform this renewable resource into food and fiber products. Well-managed grazing lands support desirable vegetative cover, which is highly resistant to erosive forces of water and wind; and is a renewable, natural, and sustainable form of agriculture.

Proper management is essential for the sustainable production of food and fiber, as well as supporting a wide diversity of other uses. Healthy grazing lands provide an economic base for many regions of our country. They are watersheds which contribute to good water quality and sustained stream flows. Tributaries, and the rivers that they feed, are the source of water for agricultural, domestic and municipal uses; power production; and fish and wildlife. Grazing lands are used for outdoor recreation, camping, hiking, hunting, and fishing. Encompassing nearly half of the nation's landscape, they provide essential habitat for many wildlife populations.

GLCI exists to provide opportunities for assuring sustainability of all grazing lands, to enhance these lands for future use, and to inform the public of the benefits of making this national commitment and investment.



# MISSION

**T**he Grazing Lands Conservation Initiative (GLCI) supports a coordinated effort to identify priority issues, find solutions, and effect improvement change on private grazing lands through voluntary technical assistance. It serves as a reference for enhancement of grazing land resources. GLCI provides a basis for coordination with units of government, institutions of higher education, land managers, and among agencies. This initiative complements and enhances existing conservation programs.

Privately owned grazing lands cover nearly 30 percent of the National landscape. The 770 Million acres of private and public grazing lands are basic to our Nation's environmental, social and economic stability. Properly managed grazing harvests a renewable resource in a sustainable manner to produce food and fiber. Managed natural resources in the form of forage, soil, water, and grazing animals provides economic stability as well as water quality and quantity.

Promote voluntary ecologically  
and economically sound  
management of all private grazing  
lands for all their adapted uses  
and multiple benefits to the  
environment and society through  
voluntary technical assistance,  
research and education.





## RESOURCE ISSUES

### Background


**G**razing lands in the United States have provided many products and benefits to their owners and to society since the introduction of livestock by the Spanish almost 500 years ago. Historical use of these lands occurred without the benefit of grazing land science as we know it today. In some areas of the country, degradation has occurred due to this lack of knowledge. In some areas degradation is very subtle, while highly visible in others.

Today there are more potential conflicts than ever before on grazing lands within the United States. Demands by landowners and society for grazing land benefits, values, and products are increasing. Private landowners require a solid economic business. Society benefits from an available supply of food and fiber include: clean air; open space; healthy wildlife populations and habitat; improved fisheries and aquatic systems; healthy riparian areas; healthy soils and clean water; reduced potential for flooding; less sediment in streams and reservoirs; and economic and social stability for our communities.

Owners of private grazing lands must continue to recognize conservation problems when they arise and receive sound technical assistance to improve their grazing land resources to meet ecologic and economic demands. Owners of private grazing lands must continue their present autonomy of land use and decision making for their grazing lands. They must have the ability to make timely decisions based on good science which will avoid undue stress to the environment during periods of unfavorable climatic conditions and allow



# OPPORTUNITIES FOR **improvement**



for aggressive responses to periods of favorable climatic and economic conditions.

The ownership and control of management decisions on grazing lands change in a cyclic manner due to generational changes and economic conditions. The future condition of grazing lands and the benefits from these lands strictly depend on the understanding and informed decisions of the landowners.

Most landowners are good stewards of the grazing land resources and implement sound conservation while some have not implemented needed conservation practices. Some landowners of private grazing lands have never been exposed to sound conservation principles, while others have not had the necessary follow-through assistance to recognize and/or treat their conservation problems. New science and technology must continually be made available in a practical manner so that these landowners may make informed decisions concerning this vital resource.

Historically, USDA agencies have been the leaders in providing technical assistance, education and research to private landowners to manage their grazing lands for long-term productivity and ecological health. Technical assistance is available to all owners and managers of grazing lands on a voluntary basis. Assistance is provided on request, and alternatives are analyzed jointly by the landowner, conservation district, and NRCS personnel. Final decisions are made by the landowner. Current technical assistance is limited and does not meet the demand and basic needs for adequately sustaining or enhancing the resources.





photo by Matt Ricketts, USDA-NRCS

*Cattle grazing on well-managed grazing land is good for the environment and the economy.*

## **A. Recognize grazing lands as a major source of watershed filtration, ground water recharge, and carbon sequestration providing improved air quality.**

**G**razing lands represent the single largest watershed cover type in the U.S., with nearly 600 million acres of non-federal grazing lands, over 41 percent of private land surface being rangeland, pastureland, hayland, grazed forest land, or native pasture. Properly managed natural resources in the form of forage and soil lead to increased water quality and quantity with air quality improvement through carbon sequestration.

## Water Quantity

Rural areas of the United States, as well as the general public, depend on these water yields for their water supply. One of the factors determining the yield in these areas is the condition of the grazing lands where precipitation falls. Lands with sufficient vegetative cover reduce erosion and the possibility of flooding by slowing and more evenly distributing surface waters while promoting percolation of precipitation to recharge groundwater aquifers. Brush and tree encroachment on grazing lands excessively use water that once flowed as springs and fed our streams, lakes, and aquifers. In many states, human populations are increasing rapidly and water supplies are critical; therefore, water is becoming a major grazing land product.

## Water Quality

Sedimentation is a concern in many rivers and lakes. Not only does sediment affect water quality and aquatic habitat, it reduces the capacity of our lakes and rivers, causing flooding and loss of storage area.

Management practices which enhance the resource can reduce the sedimentation caused by natural and human influences. Healthy, properly managed grazing lands provide for natural filtering of runoff and/or recharging of aquifers for the national water supply.



*Healthy riparian areas filter runoff and help improve water quality and quantity for public water supplies.*

**CLEAN**  
**Water**  
**GLGI**



## Soil Erosion and Quality

Where bare ground is excessive for the site, increased soil losses from wind, sheet and rill erosion occurs. A large percentage of soil erosion occurring on grazing lands is a result of concentrated water flow forming gullies.

## Invasive and Noxious Weeds

On grazing lands, brush or weeds have invaded and site productivity has been decreased or is shifting from one plant community type to another. Noxious and non-noxious weeds are included in this category. Values for most traditional uses of the land in this category have been altered or threatened. Some lands may have lost their ecological capacity to respond to treatments.

## Nutrient and Animal Manure

In many parts of the U.S., grazing lands can provide opportunities for improved nutrient management from land application of animal manures and other nutrient sources.

## Climate Change

Grassland vegetation and soils are a great reservoir for organic carbon. The top meter of soil, world-wide, contains nearly double the carbon of that contained in the vegetation it supports and in the atmosphere.

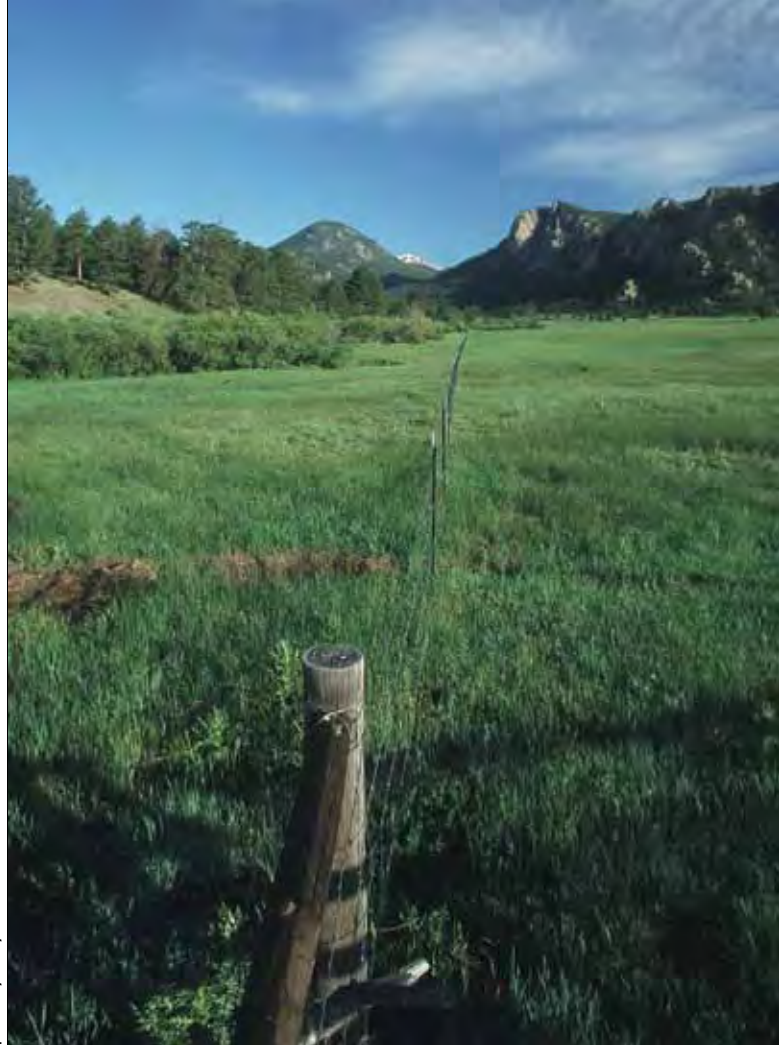


photo by Gary Kramer, USDA-NRCS

*Fences divide pastures for rotational grazing systems.*

PRODUCTIVE **Soil**

CLEAN **air**  
CICI

*A rancher rotates sheep from one cell grazing system to another in a cell grazing system designed to manage range grasses.*

## **B. Recognize proper grazing use as the most ecologically and economically sustainable form of agriculture.**



photo by Tim McCabe, USDA-NRCS

**I**n many cases, the production of livestock and the infrastructure necessary to support this productive venture is the only activity that keeps vast areas of the United States open to other citizens. These other citizens include photographers, sightseers, birdwatchers, rafters, fishermen, hunters, and others who enjoy seeing and being near the scenic beauty and resources of these grazing lands. They also include storekeepers, gas station owners, restaurateurs and retirees

who want to live in these areas but could not without infrastructure supported by the livestock industry.

Improved grazing land management enhances long-term economic opportunity. All conservation planning must include an economic evaluation of alternatives. The final decision to apply any, or all, of the planned treatments is the responsibility of the landowner or operator.



## Social Stability

Grazing land management control and ownership includes a broad cross-section of a diverse American society. These managers and owners range from small to large-scale enterprises, young and old, part-time and full-time and a full range of racial, social, and ethnic groups. The general health and welfare of the individual operating units and rural communities will benefit from timely assistance.

## Wildlife

Grazing lands represent the most extensive wildlife habitats in the United States. A large variety of wildlife species are dependent upon grazing lands for some or all of their habitat needs. According to recent estimates, approximately two-thirds of wildlife is produced on private lands (4). Adequate supplies of grazing resources on private lands throughout the year are essential for both wildlife and domestic livestock. Where publicly owned lands are a major factor, wildlife rely on neighboring private grazing lands for forage and habitat needs during many parts of the year. In states where land is predominantly privately owned, the demands of wildlife on private grazing lands are even greater. Should grazing demands by either wild or domestic animals exceed the supply at any given time, adequate forage for survival may not exist at other times of the year. Extreme water temperatures, high sediment, insufficient oxygen content, and reduced food and cover can result from mismanaged riparian areas.



*Wildlife benefit from good management on America's grazing lands.*

## Essential ingredients needed for wildlife populations

### Food:

Livestock and some wildlife species may graze or browse some of the same plant species. As numbers of livestock and/or wildlife increase, an adequate balance of plant species must be provided to prevent reducing the performance of both wildlife and livestock.

### Cover:

To survive, wildlife must have cover. Vegetation to provide nesting, loafing, escape, screening, and travel cover is important for most species. If the cover requirements are not met, wildlife may not survive or inhabit an area. If cover is destroyed, they die or move to other areas, increasing the stocking density on the new home range.

### Water:

Adequate quality of water is needed for the survival for many species of wildlife. Some animals can survive from water intake through plant parts they eat. Others must drink daily. Still others, such as ducks and alligators, must have water as part of their cover and source of food. The essential water resource requirements for domestic livestock and wildlife are similar. As a result, the contributions made by landowners in terms of water for domestic livestock and plant community management are also shared with wildlife that frequents these lands.

## Recreation

While difficult to quantify in economic terms, many benefits are passed on to the recreationist and the public at large by landowners practicing conservation on private lands. Some of these benefits are open space, scenery, and aesthetic values. The demands of our urban population for high quality recreational experiences continue to increase. Many parts of the country have a shortage of natural areas within short driving distances from urban centers (3). Therefore, they must travel farther to enjoy public sites. This situation can be improved as more private grazing land owners are diversifying their enterprises to include wildlife and recreational uses. As population pressure increases, “open space” becomes a desirable community goal. This trend will likely increase with future population increases.

Recreational use of grazing lands has increased dramatically during the past 20 years (2). These opportunities include such activities as hunting, camping, hiking, fishing, photography, bird watching, horseback riding, and off-road vehicle driving. Many people are seeking more “back to nature” experiences.

There are more than 46 million fishermen and 134 million participants in non-consumptive wildlife recreation activities in the United States. There are also more than 16 million hunters. Hunters are highly dependent upon private lands, as half of the hunters used only private land, while 82 percent used a combination of public and private land.

Demand is strong for high quality recreational experiences and more landowners are venturing into the recreation business. Grazing lands are now being valued as natural lands for their beauty and for the pleasures they provide. Recreational use of grazing lands may be more than an article of leisure; it may be the best source of new income for landowners and some local economies (1).

Environmental quality has an effect on the quality of the recreational experience (9). Major aesthetic qualities to be considered include geology, topography, water, and vegetation. Factors to be considered in lowering quality include air and water pollution, poor climate, and unsightly adjacent areas.

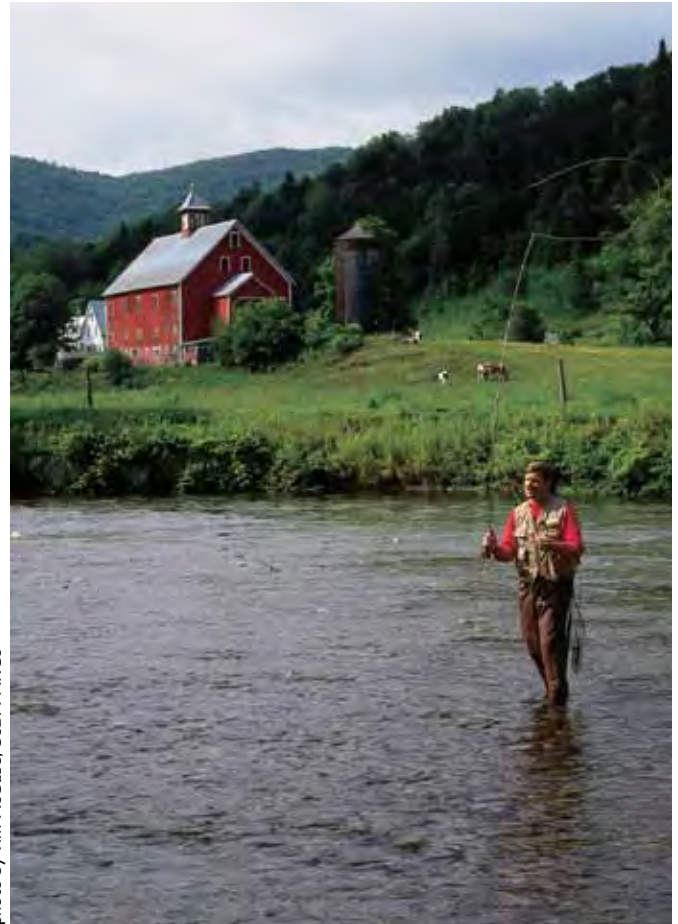


photo by Tim McCabe, USDA-NRCS

*Recreationists enjoy the open spaces and wildlife habitat provided by the stewards of the nation's grazing lands.*

WIDE OPEN  
spaces  
GRI





*Technical assistance from natural resource professionals is a key factor in effective management of grazing lands.*

## **C. Recognize lack of adequate technical assistance as the most limiting factor in efficient and effective implementation of conservation programs.**

**G**LCI supports technical assistance that provides landowners and society with a variety of benefits. These occur as a result of comprehensive resource management of all grazing land resource problems and opportunities.

Grazing land systems are a complex set of interactions among soil, water, air, plants, and animals. The health of these systems is dependent upon human management decisions. The resources that these systems provide include water, wildlife populations, wildlife habitat, mineral deposits, forage, wood, landforms, atmospheric visibility, and biological processes.

GLCI supports total resource management approach so that applied conservation will affect all resources in a manner that will produce multiple benefits. All benefits will be fully realized through the voluntary application of sound total resource management systems.

Proper grazing land management is the catalyst that can lead to the enhancement of a multitude of conservation benefits. The greatest conservation treatment opportunity on private grazing lands is improved grazing management. This is often the most cost-effective treatment available, and consists mainly of transferring knowledge and technology to the land manager.

Activities related to wildlife, recreation, water, noxious weeds, brush encroachment, access, mineral and energy resource use should be coordinated. Brush, noxious weeds, and other herbaceous and non-herbaceous weeds are a problem on public, private, and tribal lands. Controlling these problems can be more efficient through cooperative efforts.

Wildlife populations in many areas have thrived due to the availability of habitat and resources provided by private grazing land owners. Some species are dependent upon the interrelationship of federal lands with private and state lands. At times during the year, some wildlife is totally dependent upon private lands for their habitat needs. At other times, the grazing resources available on public lands are in excess of wildlife needs. Opportunities beneficial to the grazing land owner, public lands agencies and the public exist through cooperative efforts to supply adequate grazing resources on public and private lands throughout the year for both wildlife and domestic livestock.

The grazing permittees that work with the BLM and

the USFS in managing livestock on these federal lands often have complex management plans. The success of these plans relies heavily on cooperation between the permittees, the federal managers, and others which often includes the NRCS.

The various agencies and the private land owners must continue to cooperate in resource planning or operating units made up of intermingled land ownerships. The NRCS provides technical assistance to Soil and Water Conservation Districts (SWCD) cooperators for planning and implementing authorized conservation programs on the privately controlled lands.

Riparian area management relies heavily upon the proper management and balance between the public and private grazing lands. Timely technical assistance is crucial in meeting the resource concerns of the soil, water, air, plants, and animals while providing alternatives that will maintain economic and social stability for ranching enterprises, as well as the supporting businesses within the rural communities.







photo by Dee Ann Littlefield, USDA-NRCS

*A rancher rotates his cattle from one pasture to the other in a grazing system designed to manage range plants.*

## **GOALS & OUTCOMES**

## A. INCREASE TECHNICAL ASSISTANCE



*Ponds to deliver water to livestock and wildlife are a key in grazing management.*

### Introduction

**S**ince the Dust Bowl days, SCS/NRCS has had tremendous success for conservation in America. Now there are pressing new challenges to our natural resource base. We have experienced several demographic changes as urbanites have moved out to the open landscape. This time they are not subsistence farmers with a horse and plow. These are individuals with good intentions but lacking conservation knowledge, they can do more damage in one day with a bull dozer than a plow did in a man's lifetime.

Demographic changes in the type of customers needing technical assistance have required different skill sets from the technical assistance provider. The increase of customers with very limited to no experience in natural resource issues, but with money, time and electronic expertise has increased the level of information and skills needed to provide adequate technical assistance.

With land users who are not typical production agriculture producers, there is an increase of fragmented lands that change the ecological dynamics of the landscape. Together with an increase of Conservation Farm Bill dollars and more rules and regulations, technical assistance is a must and demands an increase in voluntary on the ground ecologically trained individuals to provide that service.

It is important to remember that 71 percent of our nation's open space is in private hands that need science-based conservation planning.





Private grazing lands provide for wildlife grazing.

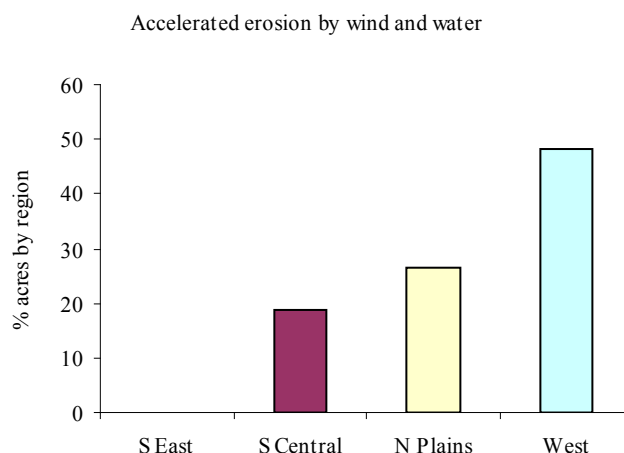
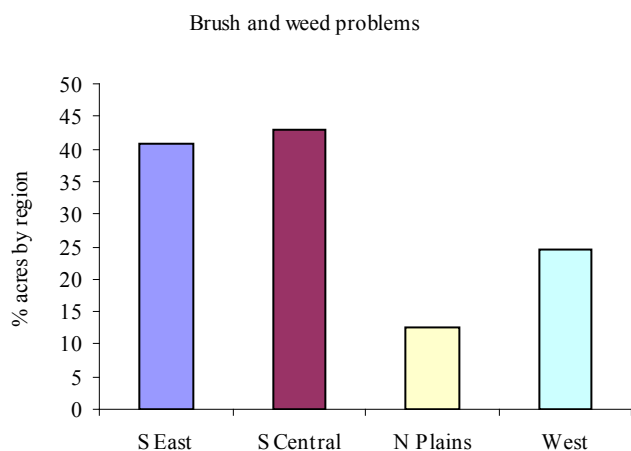
**Total Surface Area by Land Cover/Use by Year, in Millions of Acres**

Year	Cropland	CRP Land	Pastureland	Rangeland	Forestland	Other Rural Land	Developed Land	Water Areas	Federal Land
1982	419.9 +/- 2.1	0.0 n/a	131.1 +/- 1.4	415.5 +/- 3.5	402.4 +/- 2.7	48.2 +/- 1.3	72.9 +/- 0.8	48.6 +/- 0.1	399.1 +/- n/a
1992	381.3 +/- 2.0	34.0 n/a	125.2 +/- 1.3	406.8 +/- 3.3	403.6 +/- 2.7	49.4 +/- 1.4	86.5 +/- 1.0	49.4 +/- 0.1	401.5 n/a
1997	376.4 +/- 2.0	32.7 n/a	119.5 +/- 1.2	404.9 +/- 3.3	404.7 +/- 2.7	50.4 +/- 1.4	97.6 +/- 1.0	49.9 +/- 0.1	401.7 n/a
2001	369.5 +/- 2.0	31.8 n/a	119.2 +/- 1.8	404.9 +/- 3.4	404.8 +/- 2.7	50.1 +/- 1.4	105.2 +/- 1.3	50.3 +/- 0.2	401.9 n/a
2003	367.9 +/- 2.4	31.5 n/a	117.0 +/- 1.8	405.1 +/- 3.5	405.6 +/- 2.7	50.2 +/- 1.4	108.1 +/- 1.4	50.4 +/- 0.2	401.9 n/a

These charts (7) display how land use has changed over the years, resulting in diminished grazing land.

**Non-Federal Grazing Land by Year, in Millions of Acres**

Year	Pastureland	Rangeland	Grazed Forest Land	Total Grazing Land
1982	131.1	415.5	64.3	610.9
1992	125.2	406.7	61.0	592.9
1997	119.5	404.9	58.0	582.4
2001	119.2	404.9	55.2	579.3
2003	117.0	405.1	54.3	576.4



*Carefully managed grazing lands protect our nation's natural resources. (7) As acres of grazing lands have diminished, other problems have arisen, such as excessive brush and weeds and accelerated erosion by wind and water.*

## **I. Provide on-ground assistance to private landowners and operators to effectively implement conservation activities and programs.**

### **Baseline**

Since 1991 there has been an increase in conservation program dollars but no increase of technical assistance required to maximize results. In fact, the amount of technical assistance available has decreased.

### **Goal**

An increase in technical assistance that matches the documented need by customers. This type of planning and follow-up assistance to be completed before the use of Farm Bill program dollars.

### **Outcome**

By 2015 we want to increase the trained staff by 20 percent to provide adequate on the ground technical assistance.





*Timely assistance from natural resource professionals is a necessary component of good grazing lands management.*

Timely technical assistance is needed to meet the resource concerns of the soil, water, air, plants and animals while enhancing the economic and social stability of grazing land enterprises and the rural communities that depend upon them.

Diversification and flexibility will provide the multiple benefits desired. Comprehensive conservation planning and implementation for grazing lands produces multiple benefits. Multiple benefits allow landowners to realize the full economic and ecologic potential of private grazing lands. Encouraging flexibility in management and wise use promotes sustained productivity from these lands

Grazing land management control and ownership includes a broad cross-section of a diverse American society. These managers and owners range from small to large-scale enterprises, young and old, part-time and full-time and a full range of racial, social, and ethnic groups. The general health and welfare of the individual operating units and rural communities will benefit from timely assistance.

In many cases, the production of livestock and the infrastructure necessary to support this productive venture is the only activity that keeps vast areas of the United States open to other citizens. These other citizens include photographers, sightseers, birdwatchers, rafters, fishermen, hunters, and others who enjoy seeing and being near the scenic beauty and resources of these grazing lands. They also include storekeepers, gas station owners, restaurateurs and retirees who want to live in these areas but could not without the livestock industry.

Farmers and ranchers continue as stewards of the land by improving their grazing land resource, thus helping to sustain the rural infrastructure, employment, and the quality of life. The U.S. balance of trade will be positively impacted.

Well-managed grazing lands provide large areas of open space desired for their aesthetic beauty.

The GLCI will provide benefits to the urban population of this country. Private grazing lands managed by applying necessary land conservation treatments protect natural resources of direct concern to the urban public.

Public recognition of the private property rights of landowners and the landowners' application of grazing land conservation practices combine to meet the objectives of both through a multiple use concept beneficial to all.

## Resources

Grazing land systems are a complex set of interactions among soil, water, air, plants, and animals. The health of these systems is dependent upon human management decisions. The resources that these systems provide are water, wildlife populations, wildlife habitat, mineral deposits, forage, wood, landforms, atmospheric visibility, and biological processes.

GLCI works to enhance the quantity of water available from grazing lands in many parts of the country by assisting landowners or managers to plan and apply sound conservation management practices.

An increasing urban population represents an increasing need for clean water. Conservation of water quantity and preservation of water quality are both increased by healthy grazing lands which provide optimum retention of moisture in the soil profile. This moisture is the source of stream flow and groundwater recharge for a variety of uses of great importance beyond the needs of grazing lands. Also, open space becomes critical as more of the urban ground surface is covered by pavement and buildings. Fortunately, grazing lands in healthy condition enhance watershed values and viewshed qualities which are important to the urban community.

Water quantity will increase in certain areas, and its availability and length of dependability will be enhanced. Water quality will be favorably affected as landowners more effectively control soil erosion and sediment. GLCI works to improve the environment by reducing sediment contributed from grazing lands by providing voluntary technical assistance to the landowner or manager.

Wildlife and fish populations will benefit and opportunities for consumptive and non-consumptive uses of wildlife will increase, thereby contributing to local rural economies.

Food and fiber supply will be adequate to meet future consumer needs.

Land fragmentation and landscape demographic changes have great potential to impact the availability of water and the environment. New land operators and owners need conservation planning assistance. NRCS assistance can help communicate conservation to help new owners/users address this change.



photo by Lynn Betts, USDA-NRCS

*Good grazing management strategies result in healthy grazing land.*

## Economics

Voluntary technical assistance enhances the land owner's ability to achieve greater profitability on an ecologically sound and sustainable basis. There is a need to increase economic, environmental and social stability through the grazing lands. The awareness and perception of needs and opportunities underline the need for increased assistance.

Increasingly, there is a need to help private landowners recognize additional economic opportunities from sources such as fish and wildlife habitat, aesthetics and recreation.

Improved grazing land management enhances long-term economic opportunity. All conservation planning must include an economic evaluation of alternatives. The final decision to apply any or all of the planned treatments is the responsibility of the landowner or operator.



## Management

Upon requests from landowners, professional grazing land specialists provide conservation practice options that can be included in complete resource management systems for the landowner's consideration in addressing the resource concerns on their lands. These systems address the soil, water, air, plant, and animal resources. Resource management systems are planned to meet locally established quality criteria for these resources that prevent degradation and permit sustainable use.

Not all privately owned grazing lands are managed to optimum potential. Applied knowledge leads to wise land management and dispenses false perceptions. Voluntary programs, free of regulations, can distribute this knowledge and lead to improved resource management. By encouraging diversification, we can achieve multiple benefits.

Proper grazing land management is the catalyst that can lead to the enhancement of a multitude of conservation benefits. This is often the most cost-effective treatment available, and consists mainly of transferring knowledge and technology to the land manager. The ability to increase the customer's information base allows them to make sound policy and management decisions. This allows the gap to be closed between availability of knowledge and application.

The greatest conservation treatment opportunity on grazing lands is improved grazing management.



*The technical assistance GLCI provides landowners is critical to the effective management of our nation's natural resources.*

## Funds and Staffing

GLCI will encourage Congressional commitment to providing timely and quality assistance to private grazing land owners and managers. GLCI will help with resource concerns and provide direction for sound technical assistance to grazing land resource owners and managers upon request. The purpose is to assist landowners or managers, on a voluntary basis, to improve management for any or all of the resources associated with grazing lands.

GLCI has had success in adding grazing land technical assistance to the field.

Technical assistance dollars through NRCS and other agencies are needed to maintain key positions related to grasslands at the field, state, and national, levels. As individuals retire, change will continue, but funds should ensure continuation of focus on key interagency efforts.


## 2. Provide quality watershed level analysis and planning.

### Goal

Provide the right level of technical assistance (staffing and skill sets) to address and identify conservation problems in a watershed and identify appropriate program needs.

### Objective

By 2015 have 400 people trained.

A photograph of two brown and white cows standing in a field of tall, golden-brown grass. The cows are looking towards the camera. In the background, there are rolling hills and a line of trees under a cloudy sky.

Many topics were covered in the planning discussion including the importance of technical assistance, research, invasive species, water quality, water availability, carbon sequestration, air quality, plant diversity - including nectar producing plants and pollinators. Individual discussion follows.

Conservation and management alternatives can be developed that ensure optimum water usage and the plant's ability to optimize the use of nutrients. Private land owners continue to implement newly developed, scientifically proven technologies which increase their productive capacity and ensure long term natural resource protection for themselves and all Americans.

Since this initiative will have a total resource management approach, applied conservation will affect all resources in a manner that will produce multiple benefits. All benefits will be fully realized through the voluntary application of sound total resource management systems. Benefits will accrue, both on-site and off-site, by the use of a comprehensive resource management approach.

GLCI supports technical assistance that provides landowners and society with a variety of benefits. These occur as a result of comprehensive resource management of all grazing land resource problems and opportunities.



GLCI promotes increased retention and enhancement of existing grasslands. This helps to retain and restore valuable carbon sequestration. Increasing atmospheric carbon dioxide, which may contribute to a greenhouse effect, can be diminished through use of grazing lands as an efficient carbon sink. Proper grazing management enhances the capability of grazing lands to sequester carbon.

Losses from the off-site effects of sheet, rill, and wind erosion could be reduced significantly by this initiative.

Comprehensive resource management systems can help solve many of these water problems. Where problems exist, on-site work between the landowner and a grazing land specialist may be needed.



photo by Daniel Nosal, USDA-NRCS

*Wildlife benefit from well-managed grazing land.*

GLCI provides technical assistance to land owners wishing to improve the quality of their basic resources. Through technical assistance that looks at the whole, GLCI can expand land owner opportunities to meet America's current demand for outdoor recreation.

While difficult to quantify in economic terms, many benefits are passed on to the recreationist and the public at large by landowners practicing conservation on private lands. Some of these benefits are open space, scenery, and aesthetic values. The demands of our urban population for high quality recreational experiences continue to increase. Many parts of the country have a shortage of natural areas within short driving distances from urban centers. Therefore, they must travel farther to enjoy public sites. This situation can be improved as more private grazing land owners are diversifying their enterprises to include wildlife and recreational uses. As population pressure increases, "open space" becomes a desirable community goal. This trend will likely increase with future population increases.

There is a need to educate land owners that wildlife is not necessarily an economic liability, but can provide economic benefits. There is also a need to educate the public about the benefits that private land owners provide wildlife and thus society. Most wildlife species benefit when grazing lands have proper management techniques applied.

Improved wildlife habitat can provide better quality hunting experiences. These quality experiences can be enjoyed by the hunter and the landowner, while the local community can receive economic benefit. The quality of fisheries and wildlife populations can be improved by landowners. Extreme water temperatures, high sediment, insufficient oxygen content, and reduced food and cover can result from mismanaged riparian areas. Proper grazing management strategies include riparian areas, as well as adjacent uplands.

Management strategies that improve the land owner's ability to utilize grazing resources may result in an balance between wildlife and other enterprises. Grazing management will result in a better balance between grazing resources and wildlife populations.



## **B. DEVELOP TECHNOLOGY AND CONSERVATION TOOLS**

**1. Develop and use Ecological Site Descriptions, Forage Suitability Site Descriptions (ESDs and FSSDs include Forest Ecological Site Descriptions) to improve conservation planning and application, conservation activities and programs.**

### **Goal**

Completed ESD, that results in the use of the ESD in conservation planning.

### **Outcome**

100 percent complete by 2019, this is the TOOL that is used.

Ecological Site Descriptions and Forage Suitability Site Descriptions, Forest Site Descriptions (ESDs and FSSDs) – Quality review may be one area for GLCI involvement. Getting the job done will take strong commitment and the involvement and cooperation of many partners.

**2. Support standardization of Ecological Site Descriptions and Forage Suitability Site Descriptions technology development and transfer on an Inter-Agency and Intra-Agency basis.**

### **Goal**

Develop and implement agreements within and between agencies resulting in uniform standards.

### **Outcome**

100 percent completed by 2011.



### 3. Support development of conservation planning, resource analysis, and decision support tools.

#### Baseline

A diverse set of tools that are not integrated across discipline lines for whole agency use.

#### Outcome

User friendly, coordinated, integrated, out in the field for use by producer and NRCS Field Offices by 2014.

Conservation decision makers of today and tomorrow must have an ecological understanding of the grazing land resources to make wise land management decisions that will provide for present and future demands. Decision makers must be assisted with state-of-the-art science and technology by technically trained professionals through the local conservation districts if application of conservation planning is to be successful.

The technology necessary to support an effective national private grazing lands conservation program must be communicated to all partners to emphasize a technical assistance delivery program. The public must be made aware of the contribution and effectiveness of a voluntary program which demonstrates the benefits from well-managed private grazing lands.



photo by Dennis Chessman, USDA-NRCS

*Cattle can be a very effective tool for harvesting and managing grass and other plants.*

## C. SUPPORT RESEARCH AND EDUCATION

### 1. Identify economic, environmental and social benefits of grazing land conservation.

#### Goal

Greater public understanding of the benefits of grazing lands conservation for our nation (local, state, regional benefits).

#### Outcome

By 2014, NRI completed and included Grazing Land Conservation Effects Assessment Project (CEAP). (10)

### 2. Develop applied range and pasture research initiative.

#### Baseline

Limited understanding of impacts on the nation's grazing lands.

#### Goal

Develop funding for targeting applied research.

#### Outcome

By 2014.

Today, there is more emphasis on basic research; however, there remains a lot to be done in the applied research arena with grazing land concepts. GLCI supports funding for applied research. There may be opportunity for State Coalitions in Conservation Innovation Grants (CIG) to take the next step to demonstrate methods, processes, or new tools from proven applied research for adoption through NRCS.





## D. SUPPORT COOPERATIVE CONSERVATION

### Introduction

Increase outreach to other grazing land managers such as pollinator groups, native plant organizations, environmental groups and non-traditional partners.



### I. Expanding National Partnerships

#### Baseline

Nine member organizations currently.

#### Goal

Increase member organizations to 12 (may include environmental, non-ag groups) by 2012.

#### Outcome

Increase the diversity of membership on the National Steering Committee to further match grazing lands benefits and legislative opportunities.

The Grazing Lands Conservation Initiative Strategic Planning Group is committed to providing a viable framework to enable GLCI to not only continue to provide current learning and demonstration opportunities, but also to serve as a convener and catalyst for the many potential partners interested in supporting the GLCI mission. Balance attention and activities among the various regions of the US between large and small operations and between tame pasture and rangeland concerns.



## Goal B

Secure non-federal and continuing federal funding of GLCI at the state level.

## Outcome

100 percent by 2012.

## Goal C

Provide increased contact and support from National GLCI Steering Committee.

## Outcome

100 percent by 2012.

At the local and state levels, the coalitions that are inclusive of all entities that believe in the importance of GLCI's Vision and Mission tend to develop an active mission and address grazing lands issues for that locale. Thus, GLCI will continue to encourage formation of State GLCI Coalitions in states that are lacking a GLCI group.

GLCI will reach out to other state groups and non-traditional partners. Other potential partners include pollinator groups and native plant organizations including those focusing on nectar producing plants. GLCI will seek to energize existing national Steering Committee member organizations. GLCI will write a letter of invitation to the presidents of these and other partners to become members and encourage more involvement from existing organizations. The leveraging of funds and staff time allows a great deal to be accomplished and spreads out the responsibilities.

Provide continuing education and encouragement in events ranging from local field days and short courses up to the National Conference on Grazing Lands.

## 2. Establishment of state and local grazing lands coalitions

### Baseline

Forty-four states have some type of GLCI recognition and organization.

### Goal A

All 50 states to have some type of GLCI group/coalition and that group to be a recognized member of the NRCS's State Technical Committee.

### Outcome

100 percent by 2012.





photo by Daniel Nosal, USDA-NRCS

### 3. Establishing active coordinators for each state coalition

#### Baseline

All states have a NRCS GLCI contact. Three states have GLCI Coordinators that are not NRCS and 30 states have an active GLCI group (by-laws, action plan, completed projects).

#### Goal

States to have an active coordinator and coalitions that are inclusive of all interested partner groups.

#### Outcome

90 percent by 2012.

GLCI is a grass-roots effort. Although nationally, the National GLCI Steering Committee works with Federal Government Agency Head, Congress and National Partnership Groups. Local and state activities effect longer and more effective change.

It is recognized that our agency partners have a national GLCI contact. Only NRCS has a GLCI contacts/ coordinators within each and every state. There are several state level coalitions that have an additional individual (part-time or full time) to coordinate GLCI activities with the states.

Full and part-time coordinators are key factors in the ability for State and local GLCI groups to be effective. Active Local and State Coalitions directly affect the speed at which new technologies are developed and delivered to the producer customer.

## 4. Funding

### Baseline

\$26.7 million from NRCS.

### Goal

Development of sustainable funding sources in partnership with federal agencies, private and other sources.

### Outcome

Increase the funding levels to meet the stated goals by 2012.

Funding needs to continue for GLCI, training conferences, and Range and Grassland Specialists. For this to happen, NRCS must remain viable.

## 5. Marketing grazing lands success stories

### Baseline

GLCI newsletters and various state reports and one national conference every three years.

### Outcome

Projects that promote grazing lands from each state.

Develop a national marketing campaign with PSA spots, poster, etc. Coordinate with the member organizations staff to develop marketing issues and have the agencies pay for the products and to provide an avenue to print articles.

### Objective

By 2010 to establish partnership funding for the national conference.

## 6. Legislative

### Baseline

Individual GLCI Steering Committee legislative visits by members.

### Goal

Develop a yearly Legislative GLCI message.

### Outcome

Work with GLCI member organizations, state coalition, and Congress in developing the next Farm Bill

- Support full funding of Conservation of Private Grazing Lands
- Emphasize the legislated role of local Soil and Water Conservation Districts in establishing conservation priorities while NRCS provides the necessary technical assistance to meet conservation needs.
- Support congressional funding for research in basic plant growth and management applications.



# GLOSSARY

## CONSERVATION TREATMENT NEEDS

Needs are based on the judgment of a qualified specialist as guided by the local NRCS Technical Guide.

## CROPLAND

A Land Cover/Use category which includes areas used for the production of adapted crops for harvest. Four sub-categories of cropland are recognized: cultivated cropland, horticultural cropland, hayland, and other cropland.

## EROSION

The wearing away of the land surface by raindrop splash, flowing water, wind or other geologic agents, including gravitational creep.

## FOREST LAND GRAZED

Forest land that is being grazed by livestock and managed using range management principles and practices adapted to the forest ecosystem.

## GRAZED

A condition where there is evidence of plant cover having been grazed by domestic or wild animals.

## KINDS OF TREATMENTS

The systems or combination of practices judged by NRCS personnel to be needed and feasible to sustain and enhance the soil, water, plant and animal resources. Eleven systems were recognized in the 1987 National Resources Inventory:

- Erosion control.
- Management for forage improvement.
- Mechanical soil treatment for forage improvement.
- Plant reestablishment for forage improvement.
- Weed control or brush management for forage improvement.
- Forage re-establishment with brush management.
- Conservation treatment to improve timber crops.
- Establishment and reinforcement of timber.
- Drainage.
- Irrigation management.
- Toxic salt reduction.



# GLOSSARY, cont'd

## PASTURELAND

Grazing lands planted primarily to introduced or domesticated native forage species, that receive periodic renovation and/or cultural treatments such as tillage, fertilization, mowing, weed control and irrigation.

## RANGELAND

Land on which the indigenous vegetation (climax or natural potential) is predominantly grasses, grasslike plants, forbs, or shrubs and is managed as a natural ecosystem. If plants are introduced, they are managed similarly. Rangeland includes natural grasslands, savannas, shrublands, many deserts, tundras, alpine communities, marshes and meadows.

## WEEDS

Considered to be plants, that, in their present location or proportionate abundance are undesirable. Noxious weeds represent plants of special environmental and management concern.

### Herbaceous Weeds:

These weeds are an environmental concern on many grazing lands leading to grazing land degradation. These species often have few naturally occurring control mechanisms but can frequently be controlled through targeted grazing. Increasing environmental and economic concerns with control of herbaceous weeds require increased efforts to develop environmentally sound control methods.

### Brush and Other Non-herbaceous Weeds:

Non-herbaceous weeds include brush, trees, and other woody species that are undesirable and are a serious problem on some of the Nation's private grazing lands. Prevention of this encroachment through improved grazing land management can represent a significant improvement of wildlife habitat and grazing land productivity. Such management can decrease surface water run-off and evapo-transpiration losses and increase ground water quality and recharge.





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