



Department of Defense Legacy Resource Management Program

PROJECT NUMBER 06-214

CENTRAL SHORTGRASS PRAIRIE ECOREGIONAL PARTNERSHIP IMPLEMENTATION

BILL ULFELDER /THE NATURE CONSERVANCY

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Final Project Report
Central Shortgrass Prairie Ecoregional Partnership Implementation
Submitted to the Department of Defense Legacy Resource Program
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Background

The Central Shortgrass Prairie Partnership benefits the Department of Defense (DoD) in numerous ways, including: 1) providing important ecological data and analysis to help the DoD and its installations understand the ecological context in which they operate in the Central Shortgrass Prairie ecoregion; 2) increasing the resources available for conservation success by pooling public and private resources (funding, staff time and experience, strategic planning, etc.) to achieve the missions and objectives of all Partnership members, including the DoD; and 3) sustaining the mission of DoD services and agencies through on-the-ground conservation success, which in turns helps reduce the management responsibilities of the DoD for species-at-risk, species of concern, and other natural communities and ecosystems that might compromise the missions of DoD services and installations in the ecoregion.

Introduction

In order to take advantage of new scientific analysis methods, better and more recent data and broader participation from state and federal agencies, academics, as well as non-governmental organizations (NGOs), a second iteration of the Central Shortgrass Prairie ecoregional assessment was undertaken in 2004 and completed in early 2007. This second effort was a collaborative effort involving numerous agencies and organizations from all seven states with land and waters in the ecoregion and was funded by the U.S. Department of Defense Resource Legacy Program, Colorado Division of Wildlife and The Nature Conservancy.

The ecoregional assessment provides the public -- scientists, agency personnel, land owners, land managers, policy makers, etc. -- with an understanding of what must be maintained and conserved if the representative natural diversity of the ecoregion (species, natural communities and ecosystems) is to survive in the future -- including *how much* of each species (number of individuals or populations) and habitat (acres) is needed to be conserved as well as where the most efficient and effective places are to focus limited resources to achieve those goals. It provides the DoD with an understanding of the ecological context in which its installations must operate to support their respective missions.

But perhaps more important than the assessment results was the emergence of the Shortgrass Prairie Partnership -- a group of dedicated and committed people from the public and private sectors who seek to conserve the representative wildlife of the region while sustaining the human communities that inhabit it. This strategic plan represents the Shortgrass Prairie Partnership's understanding of the best way forward to achieve their very ambitious goals.

The Central Shortgrass Prairie Ecoregional Partnership Implementation Project, funded by the DoD Resource Legacy Program under Cooperative Agreement # DACA87-04-H-0003, was designed to help the Partnership move from an ecoregional assessment/analysis phase to conservation implementation and begin establishing on-

the-ground conservation results that will help meet the missions and objectives of all the Shortgrass Prairie Partnership members, including the DoD.

Expected Deliverables

The Partnership Implementation Project was designed to provide the following deliverables by December 30, 2007:

- 1) An MOU that formalizes the commitment among Partners to implement priority collaborative conservation (APPENDIX A)
- 2) A Shortgrass Prairie Partnership strategic plan that includes vision, goals, strategies, actions and measurable outcomes (APPENDIX B); as well as a species and habitat prioritization for the ecoregion (APPENDIX C).
- 3) A technical report describing the results of an ecological assessment of species at risk (SAR) of selected species for the Pinon Canyon Maneuver Site, Fort Carson and the ecoregion (including fish and aquatic macroinvertebrates).
- 4) A communication plan that details key audiences, messages, communication strategies and materials for the partnership (including a Partnership identity and website) (APPENDIX D)
- 5) A final report and fact sheet.

Each of the deliverables and related information are provided below. All products (MOU, strategic plan, prioritization analysis report, SAR report, fish and aquatic species report, communications plan, logo, website design are being provided in conjunction with this report).

Memorandum of Understanding & Partnership Strengthening

The current Shortgrass Prairie Partnership members include the Colorado Association of Conservation Districts; Colorado Natural Heritage Program at Colorado State University; Colorado Division of Wildlife, Colorado State Land Board, Directorate of Environmental Compliance and Management, Fort Carson, Department of Defense; Environmental Defense; Environmental Protection Agency, Natural Resources Conservation Service; Playa Lakes Joint Venture; Rocky Mountain Bird Observatory; The Nature Conservancy; U.S. Fish and Wildlife Service, and U.S. Forest Service. The Partnership is always open to new members and collaborators.

The Shortgrass Prairie Partnership vision is to provide landowners and managers, public agencies and private organizations the opportunity to **collaboratively work together to ensure the long-term viability of the native species, natural communities and ecosystems of the Central Shortgrass Prairie** ecoregion **while promoting the continued existence of economically productive landscapes** that sustain local communities.

The MOU has been signed by 11 Partner agencies, with three agencies left to go – US Forest Service, Colorado Division of Wildlife and the Natural Resource Conservation Service. The Forest Service Service and Division of Wildlife have not yet signed the MOU due to leadership changes (the two district rangers who have been involved in the Partnership for the past three years have taken new jobs out of the ecoregion and we are waiting for their successors and the Division of Wildlife was without a director for nearly a year). It was only last month that the Division of Wildlife named a new director and we

are currently scheduling a meeting to meet with the new director to describe the Partnership and obtain their signature. We are also working to get NRCS' signature. Please note that the three agencies who have not yet signed the MOU continue to be very actively engaged with the Partnership – attending meetings, planning sessions and coordinating work in the field.

During the past year we have gained a new Partnership member and are in the process of including two more. Environmental Defense, a leader in prairie conservation policy, joined the Partnership earlier this year and we are in the process of including Colorado Open Lands (the state's largest land trust) and the Palmer Land Trust (a 30 year-old land trust operating in the Colorado Springs area near several DoD installations). The Colorado Historic Preservation, Inc. has also approached the Partnership to see if they might partner, as there is considerable overlap between wildlife resources, local communities and historic resources. Finally, we have received inquiries from private and public organizations in Nebraska, Kansas, Texas and Wyoming about the Partnership. In 2008 we will be launching a multi-state conservation network that will focus on WY, NE, and KS as priority areas.

The MOU is appendix A to this report.

Partnership Strategic Plan & Prioritization Analysis

The Partnership has successfully completed a strategic plan that identifies a vision for the Partnership (above). The strategic planning effort lasted nearly a year due to its collaborative nature and was approved at the September, 2007 Partnership meeting. The Partners very good about the vision, goals, strategies, actions and measurable outcomes that were identified.

We have identified six priority areas for the Partnership to work on and each has a standing team and team leader to help see through their work. The six thematic teams are: Conservation & Restoration; Science & Adaptive Management; Working Landscapes; Policy; Outreach & Communications; and Partnership Health & Internal Operations.

As part of the strategic planning process of the Shortgrass Prairie Partnership, the Science and Adaptive Management Team identified priority areas within the Central Shortgrass Prairie network of conservation areas to guide conservation efforts. The team identified four key questions to determine where conservation should occur first, including: 1) Where are irreplaceable species and plant communities; 2) Where are biodiversity concentration areas; 3) Where are priority aquatic areas; and 4) Where are conservation areas with the most intact landscapes?

The first question will help the Partnership determine what species and communities would be lost in the next 10 years if action is not taken immediately to effectively conserve them. Federally listed species and globally imperiled species and communities are considered irreplaceable, meaning that if they are lost, their conservation goals for the ecoregion can never be met. The total area supporting both irreplaceable species and plant communities is approximately 1.9 million acres or 8% of the total area of the network of conservation areas and 3% of the total ecoregion. These irreplaceable targets occur primarily on private, Dept. of Defense, US Forest Service, State Land Board, County/City and CO Division of Wildlife lands. The written report includes maps with

this information and highlights where these irreplaceable targets are located related to DoD installations.

An outgrowth of our strategic planning effort was the creation of the **Working Landscapes Advisory Group**, which will provide the Partnership with information and perspective on how best to work with the land owners, producers (both ranchers and farmers) and communities of the Western High Plains to simultaneously promote conservation, economic production and sustainability. The Shortgrass Prairie Partnership seeks the involvement and feedback of land owners and managers in the identification and implementation of strategies to continue to keep the large, intact grasslands of the region economically productive and ecologically intact.

The advisory group held its first meeting in the fall of 2007 and it was tremendously successful. We have created a forum for discussion among private organizations, government agencies and private landowners/producers to identify ways to work together to achieve conservation goals while sustaining the families and communities of Colorado's eastern plains. This group will be critical for the Partnership's future successes and no other forum like it exists in the region.

The Partnership's strategic plan is Appendix B to this report, and the prioritization analysis is Appendix C.

Communications & Outreach Plan

The Partnership is in the process of completing its communication and outreach plan. The plan identifies key audiences, messages for those audiences, indicators of success to determine whether audiences are being reached and goals met, an identify (logo) for the Partnership to use and the development of a website for both Partner and external audience users.

The communications and outreach plan is critical, as the Partnership has developed state-of-the-art conservation science assessment products, but we have not identified a way to share those results, as well as the ways the Partnership can work with landowners and managers, to achieve lasting conservation results at scale. The Partnership has been working with Barnhart Communications to develop this plan. The Nature Conservancy is providing the resources for Barnhart's communications work as match to the DoD Resource Legacy Program project funds. The Conservancy is providing \$38,712 as communications match -- \$7987 for the development of the strategic plan, \$5857 for the Partnership identity/logo; \$6656 for the website map development (the actual website will be developed by a different contractor), \$6212 for design copyright, and \$12,000 for communications and outreach implementation beginning in January 2008.

The communications plan is complete and is being provided as a key deliverable as part of this project. The logo is nearly complete and will be fully designed by the December 30 deadline. The full Partnership did not have the opportunity to meet until December 17th to discuss proposed drafts and for Barnhart to receive feedback. The two finalist logo designs are included along with this report. Finally, the website map is complete. The next step is to identify a contractor who can create the website (for both internal and external audience use) and make it "live." This work will be completed by February 2008.

The communication and outreach plan is Appendix D to this report.

Species-At-Risk Analysis

As part of the DoD Resource Legacy Program funded implementation project the Colorado Natural Heritage Program developed the report, ***“Relationships among Species at Risk, Military Training and Potential Federal Listing on Fort Carson and the Pinon Canyon Maneuver Site.”*** It should be noted that The Nature Conservancy is providing \$10,000 in match for the write-up of this report. Perhaps most importantly, the field survey that was conducted to produce this report was the largest of its kind ever undertaken in the state of Colorado. Unprecedented access was granted to ranches in the region. Great Outdoors Colorado (GOCO) has provided resources that will allow an additional field survey season in 2008 that will permit greater, in-depth field data collection and the ability to revisit sites.

CNHP and the USFWS coordinated with staff from Fort Carson and the Piñon Canyon Maneuver Site (PCMS) to model predicted habitat for select Species at Risk (SAR), and to evaluate relationships among these species, military training, and the potential need for future federal listing under the Endangered Species Act (ESA), with funding provided by the DoD Legacy Resource Management Program. The report summarizes species status and habitats, modeling methods and results, and degree to which potential federal listing of these species may 1) be influenced by future DoD training activities, or 2) potentially constrain future DoD training and installation management if off-site factors result in federal listing.

For the focus of this project, staff from Fort Carson and the PCMS identified species and groups of species that 1) represent all major habitat types on the two installations, 2) are recognized by agencies and experts as being of conservation concern, and 3) are in need of additional evaluation to refine conservation priorities.

The relationship between DoD training activities on Fort Carson and the PCMS and future need for federal listing of SAR is based primarily on degree of responsibility (i.e., percentage of overall range/distribution on-site compared to off-site) and degree of potential impact. Predictive distribution models were developed for these species to assist in assessing the significance of potential impacts from military training. A predictive model of the distribution of a particular species is based on the ecological principle that the presence of that species on the landscape is controlled by a variety of biotic and abiotic factors, in the context of its biogeographic and evolutionary history. For all animal species, predicted habitat distribution models based on the methodology used by the Southwest Regional GAP project (SWReGAP, USGS 2005) were developed to extend coverage from the SWReGAP study area to the entire CSP. For a selected subset of animal species, and for the two plant groups, probability models were also developed. These probability models were intended to improve on the SWReGAP model by incorporating both documented locations and additional environmental factors that may be important in determining the distribution of the species, and to provide some indication of areas within the model where there is a higher probability of species occurrence.

Conclusions on the significance of potential impacts and conservation priorities for Fort Carson and the PCMS are summarized into three categories:

1) Significant level of responsibility and significant impact potential: Arkansas Valley shale barrens plants (*Parthenium tetraeuris*, *Lesquerella calcicola*, *Mentzelia chrysantha*, *Oönosis puebloensis*, *Mirabilis rotundifolia*);

2) Lower level of responsibility¹: Northern leopard frog, Plains leopard frog, Texas horned lizard, Shrubland birds (Cassin's Sparrow, Brewer's Sparrow, Loggerhead Shrike), Ferruginous Hawk, Pinyon-Juniper bird guild (Pinyon Jay, Gray Vireo), Southern plains woodrat, and Swift fox.

3) Lower level of impact: Ornate box turtle, Peregrine Falcon, Townsend's big-eared bat, and Canyon ferns (*Adiantum capillus-veneris*, *Argyrochosma fendleri*, *Asplenium platyneuron*, *Asplenium resiliens*, *Astrolepis cochisensis*, *Cheilanthes eatonii*, *Notholaena standleyi* (= *Cheilanthes standleyi*), *Cheilanthes wootonii*, *Pellaea atropurpurea*, *Pellaea glabella* ssp. *simplex* (= *Pellaea suksdorfiana*), *Pellaea wrightiana*, *Woodsia neomexicana*, *Woodsia plummerae*).

The results of this assessment provide Fort Carson and the PCMS with a more defined analysis of the potential significance of military training impacts. This assessment also clarifies where "conservation responsibilities" are shared among other land managers, and enhances understanding of where opportunities exist for off-site conservation and other proactive, collaborative approaches that could significantly contribute to overall species recovery.

CNHP also prepared a report, "***Fish & Macroinvertebrate Sampling at the U.S. Army Pinon Canyon Maneuver Site,***" which is a key deliverable for the project. CNHP was contracted in 2007 to conduct an invertebrate and fish survey of the Piñon Canyon Maneuver Site (PCMS), which is a U.S. Department of Defense installation in Las Animas County, southeastern Colorado. All survey samples were taken from within the boundary of the PCMS. CNHP and the Larval Fish Laboratory at Colorado State University sampled for fishes and macroinvertebrates at the PCMS during the summer and autumn of 2007.

In areas where the water was open, shallow, and free of vegetation, fish sampling was completed using small seine nets; this was the most commonly used method to sample fish at the PCMS. At some sites backpack electrofishing was used because 1) the water bodies sampled were small in size and narrow, 2) there was a high percent cover of aquatic vegetation, and 3) the effective range of water conductivity was appropriate. The sampling of macroinvertebrates in this study included dip netting, kick sampling, and collection of aquatic vegetation. Dip nets were used in open water to collect samples of macroinvertebrates freely floating within the water column, and to disturb the substrate and vegetation allowing for collection of macroinvertebrates which were subsequently dislodged from the substrate and vegetation.

A total of 31 locales were sampled, 17 of which were sampled for fish and 14 were sampled for macroinvertebrates. Of the 17 sites sampled for fish, six sites contained fish,

¹ There are some additional species that fall into this category that were not assessed as part of this report, but that have been assessed through other DoD Legacy Resource Management Program supported efforts. These include: Mountain Plover (*Charadrius montanus*), Burrowing Owl (*Athene cunicularia*), triploid checkered whiptail (*Cnemidophorus neotesselatus*), black-tailed prairie dog (*Cynomys ludovicianus*), Harrington's evening primrose (*Oenothera harringtonii*), rayless goldenweed (*Oönosis foliosa* var. *monocephala*), and dwarf milkweed (*Asclepias uncialis*).

three did not, and eight sites were absent of water. Five different species of fish were recorded from the PCMS, with the most abundant fish being the fathead minnow (*Pimephales promelas*), followed by the green sunfish (*Lepomis cyanellus*), central steamroller (*Campostoma anomalum*), plains killifish (*Fundulus zebrinus*), and white sucker (*Catostomus commersoni*). A total of 41 invertebrate taxa were identified at the PCMS, including four species of crustaceans, three species of mollusk, and six orders of insects representing 24 families and 29 genera.

None of the taxa recorded from the PCMS during this survey are included on the DoD's list of species of interest, but three of the macroinvertebrate genera that were documented contain species that are tracked by CNHP (Table 3). Samples from three different sites contained 11 individuals from these three genera.

The fish community at the PCMS is sparse, reflecting the fact that the water bodies on this installation are isolated and are located at great distance from the Purgatoire River, which is the nearest permanently flowing source of water. As a result, the structure of the fish community at the PCMS is dominated by generalist species that have adapted metapopulation dynamics, in which distinct subpopulations (local populations) occupy spatially separated patches of habitat. The 41 different macroinvertebrate taxa recorded from the PCMS represents a number that is similar to the 60 recorded from a previous survey at the PCMS (Fausch et al. 1985), although none are at-risk species.

Great Success To-Date – the Partnership's Smith Ranch Project

A tremendous milestone was achieved in 2007 with the close of the Smith Ranch project. This project was made possible by the coordinated efforts of the Shortgrass Prairie Partnership and the support of the DOD Legacy Resource Management Program. The Nature Conservancy purchased the 23,300 acre Smith Ranch in eastern Colorado. Those acres will be combined with approximately 25,000 adjacent acres owned by the Colorado State Land Board to create a single 48,300 acre working cattle ranch that will conserve some of the most remarkable grasslands, springs and streams, riparian areas and playa lakes on the Western High Plains. The project would not have been possible but for the hard work of the Partnership's members and the support of the Department of Defense (we have included a press release that describes the project and mentions the support of the DOD Legacy Resource Management Program). This is the second largest conservation project The Nature Conservancy in Colorado has ever undertaken and represents a huge conservation success.

The Way Forward – Next Steps for the Shortgrass Prairie Partnership

Thanks to the support of the DoD Resource Legacy Program, 2007 was an incredibly productive and successful year for the Shortgrass Prairie Partnership. Through the creation of an MOU that formalizes the Partnership and its goals; a strategic plan, communications plan; complementary science analysis in the species-at-risk survey; we have a group of committed institutions and individuals that is eager to continue collaborating and generating conservation success on the ground. The successful Smith Ranch Project, an enormous undertaking by all of the Partnership's members, has fueled a desire to see even greater success. Our December 17, 2007 Partnership meeting was attended by 27 representatives of public and private organizations, demonstrating the breadth and depth of level of interest among current and potential future members.

The Partnership is eager to move into its third and final phase of work with DoD Resource Legacy Program support, namely the development of a conservation tool that will facilitate the conservation of species-at-risk and species of concern on private lands within the ecoregion to better support the DoD missions at installations through out the ecoregion (both USAF and US Army).

The Secretary of the Air Force has created a ***Front Range Combined Military Comprehensive Planning Group*** to help the various military services work together to identify how they can best work together to address the threat that encroaching development represents. The Shortgrass Prairie Partnership with its members and experience is uniquely qualified to work with this planning group to help achieve its goals, both through the compatible use buffer program and the use of an innovative conservation tool in the Central Shortgrass Prairie ecoregion that allows for mission fulfillment by the services while helping prevent species listing.

The Shortgrass Prairie Partnership has been approached by the Colorado Cattlemen's Association, representing private landowners and producers in Colorado, about working together to facilitate conservation on private lands of species-at-risk and species of concern using DoD funding. This is an important symbolic and logistical step that can help generate success for all on Colorado's shortgrass prairie.

Finally, due to strong interest among conservation practitioners in other Central Shortgrass Prairie states, most notably Wyoming, Nebraska and Kansas, we will be helping launch cooperative conservation efforts in those states during the first half of 2008. The idea is to create "nodes" of conservation planning and implementation at the state level that are loosely coordinated across state lines. In some instances, such as grasslands conservation policy work, the network will work together more formally to achieve shared objectives. As a result, the Partnership's implementation influence will expand across state lines in 2008, building upon our tremendous progress and success in Colorado. Thus further assisting DoD installations with the fulfillment of their missions in the larger ecological context in which they sit.

Appendices

- Appendix A: Memorandum of Understanding
- Appendix B: Partnership Strategic Plan
- Appendix C: Priority Analysis
- Appendix D: Communications Plan

Appendix B: Strategic Plan



**Shortgrass Prairie Partnership
Strategic Plan**

October 5, 2007



Central Shortgrass Prairie Ecoregion

The Central Shortgrass Prairie (CSP) ecoregion lies in the western portion of the Great Plains of North America, along the eastern edge of the Rocky Mountains. Ecoregions are relatively large units of land or water that are characterized by a distinctive climate, ecological features and plant and animal communities. The CSP ecoregion encompasses approximately 56 million acres and includes eastern Colorado, western Kansas and Nebraska, northeastern New Mexico, the Oklahoma pan handle, a very small amount of Texas, and southeastern Wyoming. Major rivers of the ecoregion include the South Platte, Arkansas, Canadian, Republican and Cimarron. The majority of the land in the ecoregion is privately owned (92%), with 5% in state, and 3% in federal ownership. Fortunately for everyone who lives, works and enjoys the prairie, there are still large, unbroken swaths of grasslands on the Western High Plains that are relatively intact due to a history of ranching and compatible use that provide suitable wildlife habitat for many of the native plants and animals that define the region, including migratory grassland birds, pronghorn, and several rare plants, among others.

Short History of the CSP Assessment & Shortgrass Prairie Partnership

Ten years ago a group of scientists identified wildlife species and habitat priorities for conservation of the representative diversity that was needed for the Central Shortgrass Prairie ecoregion's wildlife to persist over time. This effort was led by The Nature Conservancy and involved a relatively small group of individuals and organizations from the science and conservation community. To take advantage of new scientific analysis methods, better and more recent data and broader participation from state and federal agencies, academics, as well as non-governmental organizations (NGOs), a second iteration of the CSP ecoregional assessment was undertaken in 2004 and completed in early 2007. This second effort was a collaborative effort involving numerous agencies and organizations from all seven states with land and waters in the ecoregion and was funded by the U.S. Department of Defense, Colorado Division of Wildlife and The Nature Conservancy.

The ecoregional assessment provides the public -- scientists, agency personnel, land owners, land managers, policy makers, etc. -- with an understanding of what must be maintained and conserved if the representative natural diversity of the ecoregion (species, natural communities and ecosystems) is to survive in the future -- including *how much* of each species (number of individuals or populations) and habitat (acres) is needed to be conserved as well as where the most efficient and effective places are to focus limited resources to achieve those goals.

But perhaps more important than the assessment results was the emergence of the Shortgrass Prairie Partnership -- a group of dedicated and committed people from the public and private sectors who seek to conserve the representative wildlife of the region while sustaining the human communities that inhabit it. This strategic plan represents the Shortgrass Prairie Partnership's understanding of the best way forward to achieve their very ambitious goals.

Partnership Members

The current Shortgrass Prairie Partnership members include the Colorado Association of Conservation Districts; Colorado Natural Heritage Program at Colorado State University;

Colorado Division of Wildlife, Colorado State Land Board, Directorate of Environmental Compliance and Management, Fort Carson, Department of Defense; Environmental Defense; Environmental Protection Agency, Natural Resources Conservation Service; Playa Lakes Joint Venture; Rocky Mountain Bird Observatory; The Nature Conservancy; U.S. Fish and Wildlife Service, and U.S. Forest Service. The Partnership is always open to new members and collaborators.

Partnership Vision

The Shortgrass Prairie Partnership provides landowners and managers, public agencies and private organizations the opportunity to **collaboratively work together to ensure the long-term viability of the native species, natural communities and ecosystems of the Central Shortgrass Prairie** ecoregion **while promoting the continued existence of economically productive landscapes** that sustain local communities.

Through comprehensive conservation activities we can maintain and restore native species, natural communities and ecological processes at explicit and measurable goals while sustaining human traditions compatible with conservation. This approach provides society with the clean water, air, food, fiber and natural resources that it needs to survive. Working with willing landowners and resource managers to identify and implement conservation solutions that sustain the natural resources, economies and cultures of the Western High Plains is a priority of the Partnership.

Central Shortgrass Prairie Conservation – What will it take?

The CSP ecoregional assessment determined that approximately 44% (43 terrestrial conservation areas and 140 aquatic conservation areas) of the ecoregion's 56 million acres provided habitat needed to meet conservation goals for species, communities, and ecological systems. Conservation areas are, simply, places in which native species, communities, and habitats of the ecoregion are located. These areas are identified as important places that can help to achieve conservation outcomes and to ensure that the representative diversity of the ecoregion will persist over time. These are working landscapes where conservation of native species and habitats occurs within the context of local communities that depend on the area for their livelihood.

The good news is that approximately 50% of the ecoregion is still intact and dominated by native grasslands and the opportunities for conservation and economic productivity abound when compared to most other grasslands in the United States.

Shortgrass Prairie Assessment & Partnership and Other Efforts

There are a number of other important planning and partnership efforts that overlap with the Central Shortgrass Prairie ecoregional assessment and Partnership. These efforts include State Wildlife Action Plans, NRCS watershed plans, USFS resource management plans, USFWS Strategic Habitat Conservation and Ecoregional Plans, Partners in Flight, and Integrated Natural Resource Management Plans (INRMPs). Generally, these plans boil down to answering common critical questions: 1) Which species, ecosystems and habitats are of conservation concern? 2) Where do they occur? 3) How much of each is needed to successfully maintain them in the future?; and 4) How do we measure and monitor progress to ensure accountability and progress?

Nearly all of these plans, including the CSP ecoregional assessment, deal with what needs to be conserved and broad strategies to make that happen -- such as conserving terrestrial and aquatic habitats, reducing invasive species, providing connectivity for wildlife to move among larger blocks of wildlife habitat, and implementing best management practices. The plans differ when it comes to specifically identifying where to work, and even more so, with answering the question of how much to conserve. Some identify specific areas and numbers of populations or acres of habitat, but most do not. Nearly all discuss the need to monitor and measure progress to be accountable and the need to develop or improve partnerships to get the work done. In order for the Shortgrass Prairie Partnership to succeed, it must build upon the analyses and plans of these other conservation efforts and collaborate with their members whenever possible. In this way the best expertise and methods to address conservation needs at all scales, from pasture management to landscapes, can be applied. One of the principal purposes of the Partnership is to help facilitate the integration of these efforts.

The values added by the CSP assessment and Shortgrass Prairie Partnership include:

- Regional datasets, analyses, and tools based best available science to guide conservation action policies and decisions across the entire ecoregion
- Consensually reached, measurable conservation goals for species, communities and ecological systems
- Prioritized places upon which to focus our conservation efforts
- A baseline for measuring progress & trends
- A shared vision & collaborative implementation effort to achieve our goals, embodied in the Shortgrass Prairie Partnership

Perhaps some of the most important differences of the CSP ecoregional assessment and Shortgrass Prairie Partnership as compared to the other efforts are: 1) The plan will remain a “living analysis,” with conservation progress tracked and used to inform future decision-making; and 2) The assessment has led to the creation of the Shortgrass Prairie Partnership, which will serve as a regional forum that will actively bring together agency and NGO staff and producers (ranchers and farmers, landowners and managers) to identify shared priorities, common ground and ways to meet the needs of both. No other group or partnership is doing that at the scale of the Shortgrass Prairie ecoregion. However, in order for the Shortgrass Prairie Partnership to be successful, it must rely on the excellent analyses and plans of these other conservation efforts and collaborate with their members whenever possible.

Central Shortgrass Prairie Conservation – Identifying Priorities

Because the resources (staff and funding) of the partners are limited it is essential that the Partnership focus on conservation priorities. A critical question that the Partnership will seek to answer is, “What wildlife species, natural communities and ecosystems will be lost in the next 10 years if action is not taken immediately to effectively conserve them, thus precluding the ability to reach our conservation goals for the ecoregion?”

A second analysis is to further examine all of the conservation areas that were identified in the assessment based on conservation value and urgency of threat. This will include conservation areas and targets that would not be lost if we were not successful in the

next 10 years, but where significant progress should be made to meet goals in the long-term.

A third analysis will cross walk the priorities identified above with the institutional priorities of the Partnership's members. A clear understanding of the geographic and thematic priorities of the partners will allow for specific project and program development and implementation. The Partnership will then prioritize its efforts on those places and policies where success can be achieved -- and we would not achieve our goals but for conservation efforts directed towards them in the near term.

For the results of our prioritization work to-date please see the attached prioritization map.

Conservation Goals for the Shortgrass Prairie Partnership

Several goals will help the Partnership achieve its ambitious grassland efforts. The goals boil down to four simple elements:

- 1) Create a network of effectively conserved working landscapes totaling millions of acres. The working landscapes will serve to demonstrate the balance between resource use and conservation – with much of the land grazed by cattle and/or native ungulates, including bison;
- 2) Address the policies and public programs, particularly those in the Farm Bill, that contribute to the conservation and/or degrade native grasslands through the creation of a policy environment that promotes conservation through incentives, resource allocations and appropriate grassland-related policies;
- 3) Sustain the human communities of the Central Shortgrass Prairie, where the ranching way of life is maintained such that the ecological, social and economic objectives of conservation and local communities can be achieved over the long term; and
- 4) Raise unprecedented public and private resources to address the first three goals.

CSP Partnership Key Strategies to Achieve Our Goals

1) Conservation & Restoration

Promote the use of land protection, good stewardship and restoration projects in conservation areas identified in the CSP ecoregional assessment.

Land protection can be achieved through perpetual and term easements, as well as lease arrangements. Perpetual and term easements as well as leasing arrangements can all contribute to protection goals. Conservation “banking,” which has land managers providing resources for off-site habitat and species mitigation, may be a good means by which to increase the resources available to undertake protection projects.

Good land management practices can be promoted by rewarding those who already apply them and providing incentives for those who do not. Cost share programs, financial incentives for good practices, and grass-banking are examples of mechanisms to promote good land management practices.

Restoration projects, while typically more expensive than protection and management strategies, may be necessary to meet conservation goals. Examples of tools to achieve restoration include purchase of water rights/permits to restore flows, and assisting communities and landowners to address conservation challenges where water transfers have been made.

As mentioned in the prioritization section above, high priority conservation areas (based on conservation value, threat and opportunity or ability to add value to already established conservation efforts and collaborations) will be identified for more intensive focus by the Partnership and the establishment and/or cooperation with existing collaborative conservation efforts.

2) Science & Adaptive Management

Provide critical information to decision-makers, based on the best available science, to facilitate effective conservation in the ecoregion. The audience for this information includes elected officials, land managers, landowners, state and federal agencies, counties, academic community, non-governmental organizations, and the general public. The Partnership will continue to: 1) refine the data and analyses of the CSP ecoregional assessment to ensure that the information is relevant in driving conservation actions; 2) define and address the most important science needs and research questions (e.g. where should conservation occur first? How can we proactively address priority threats?); and 3) measure the status of biodiversity health, threats to species and natural communities and conservation progress over time using an adaptive management approach. Public understanding and acceptance of the Partnership's scientific analysis and products, as well as its recommended conservation goals, is critical for long-term success.

3) Facilitate Dialogue among Stakeholders to Promote Shared Solutions

Serve as a facilitator of dialogue among stakeholders to identify and pursue strategies that conserve the diversity of the Central Shortgrass Prairie, emphasizing dialogue between the conservation community, agencies and producers (particularly ranchers) to meet shared conservation and economic development and sustainability goals. This will be achieved through a **working landscapes advisory group**, which will serve as a forum for dialogue among conservationists, agencies and producers (particularly ranchers) to identify and pursue shared goals and strategies in the shortgrass prairie.

4) Promote Policies Compatible with Our Goals

Influence policies & public programs to promote conservation in priority areas identified in the ecoregional assessment. This includes working with agencies to target the resources on priority areas, informing decision-makers about conservation values when considering major infrastructure projects in those areas (wind energy, highway construction, etc.), increasing the public and private resources available for conservation, promoting opportunities for younger ranchers to help sustain ranching within the ecoregion, as well as the consolidation of public lands.

5) Undertake Communications and Outreach with Key Stakeholders

The Partnership will address five aspects of communication: 1) identification of all appropriate audiences; 2) development of key messages for each audience; 3) creation of a visual identity for the Partnership; 4) development of website content and structure and 5) development of print materials for distribution to appropriate audiences.

A plan is currently being developed that identifies objectives for communication, directs elements and timing of tactical implementation, and determines how success will be evaluated. This work will be completed by the end of 2007 -- implementation will be ongoing after that time. Key elements of the plan are:

- Strategy: creation of a communications plan, audience identification, key messages. Includes preparation, facilitation and follow-up of two workshops for representatives from each partner organization brainstorm audiences and messages.
- Visual identity: design of logo and application on letterhead, business cards, note cards, envelopes, and templates for collateral materials.
- Web site: includes design, writing copy and working with external entity to develop site map, handle any necessary programming, etc. We may have more than one web site, as one would serve the science and technical community while the other would be used by the lay public.
- Copywriting and design of other collateral materials: actual materials are undetermined at this time, but proposal allows for some paid and some pro bono design, copywriting, and production. Does not include printing or other hard costs.
- Implement communication plan: includes stakeholder outreach and media relations

6) Internal & Operational Strategies for Success

- Establish the Partnership as an *ecoregional partnership*, involving stakeholders and partners from all the CSP states and provide them with a sufficient understanding of the ecoregion and partnership to meaningfully contribute.
- Complete a marketing/outreach plan that identifies key audiences, media for reaching them and clear/consistent messages about the ecoregion and the work of the Partnership to promote collaboration and success among public agencies, private organizations and land owners/managers. Immediate steps include completing in-reach with all Partnership members' institutions, identifying key audiences, messages, and the creation of a Partnership identity (logo, letterhead, etc.).
- Monitor partnership on-the-ground impacts and partner satisfaction to keep public and private members engaged.

Our Quick Success at the Smith Ranch

The Partnership has already had important successes. The best example is the conservation of the 50,000 acre Smith Ranch in Lincoln County, Colorado. The ranch was on the market and vulnerable to development. Partnership members were able to work together in the spring of 2007 to conserve the ranch while maintaining a viable cattle operation. The ranch will be owned by the Colorado State Land Board, and The Nature Conservancy will hold a conservation easement on more than 23,000 acres using funding from the USFWS, the state of Colorado and several private sources. The easement funding could only be obtained with support from all of the Partnership members, but in particular the Playa Lakes Joint Venture, the Colorado Natural Heritage Program, and NRCS. The Department of Defense provided the funding for the analysis that helped identify the ranch as a conservation priority.

The Nature Conservancy will hold the long-term grazing lease and will, in turn, sub-lease the operation to a ranching family or families. The State Land Board will sell off an equivalent number of acres in Lincoln County to avoid negatively affecting the county's tax base, and the Conservancy will pay the equivalent amount in taxes until those acres are sold to ensure that Lincoln County and its fire and school districts do not feel any negative financial impacts as a result of the deal. The management plan for the ranch was developed in collaboration with a number of Partnership organizations and the restoration of portions of the ranch will involve the Division of Wildlife. Long-term bird monitoring will be undertaken in conjunction with the Rocky Mountain Bird Observatory.

The project represents a "complete" conservation project involving protection of priority acres, improved management, restoration, long-term monitoring and research – all done on a working cattle ranch.

Appendix C: Priority Analysis

Central Shortgrass Prairie Conservation: Identifying Priorities

By

**Betsy Neely, The Nature Conservancy, Steve Kettler, US Fish and Wildlife Service,
and Jan Koenig, The Nature Conservancy**

Prepared for

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Summary

As part of the strategic planning process of the Shortgrass Prairie Partnership, the Science and Adaptive Management Team identified priority areas within the Central Shortgrass Prairie network of conservation areas to guide conservation efforts. The team identified four key questions to determine where conservation should occur first, including: 1) Where are irreplaceable species and plant communities; 2) Where are biodiversity concentration areas; 3) Where are priority aquatic areas; and 4) Where are conservation areas with the most intact landscapes? The first question will help the Partnership determine what species and communities would be lost in the next 10 years if action is not taken immediately to effectively conserve them. Federally listed species and globally imperiled species and communities are considered irreplaceable, meaning that if they are lost, their conservation goals for the ecoregion can never be met. The total area supporting both irreplaceable species and plant communities is approximately 1.9 million acres or 8% of the total area of the network of conservation areas and 3% of the total ecoregion. These irreplaceable targets occur primarily on private, Dept. of Defense, US Forest Service, State Land Board, County/City and CO Division of Wildlife lands.

Introduction

The Shortgrass Prairie Partnership completed a conservation assessment of the Central Shortgrass Prairie (CSP) ecoregion in 2006 with the objective of promoting the long-term survival of all native species, natural communities and ecosystems representative of the ecoregion through the collaborative design and conservation of a network of conservation areas. The Partnership recently developed a set of conservation strategies (see Shortgrass Prairie Partnership Strategic Plan 2007). As part of that effort, the Science and Adaptive Management team developed strategies to guide effective conservation action and measure progress in the ecoregion. One of the key science strategies is to proactively address the most important ongoing science/data needs and research questions.

Because partner resources are limited it is essential that the Partnership focus conservation activities on the highest priorities. One of the primary questions that the science team addressed during 2007 is “where should conservation occur first?” The team identified four key questions and analyses to help inform Partnership members where to work first. One of the critical questions is, “What wildlife and plant species, natural plant communities and ecosystems will be lost in the next 10 years if action is not taken

immediately to effectively conserve them, thus precluding the ability to reach our conservation goals for the ecoregion?” This and other key questions to help inform conservation activities are summarized in Table 1 below.

Table 1. Key questions to help address where should conservation occur first in the Central Shortgrass Prairie.

QUESTION	FIGURE	DESCRIPTION
<p>1. Where are irreplaceable species and plant communities?</p> <p>Part of the larger question: What wildlife and plant species and communities will be lost within the next 10 years if action is not taken to effectively conserve them?</p>	<p>1. Irreplaceable Species in the Central Shortgrass Prairie</p> <p>2. Irreplaceable Plant Communities in the CSP</p> <p>3. Irreplaceable Species and Plant Communities in the CSP</p>	<p>Irreplaceable species are defined as Federally Listed and globally imperiled (G1-G2) species excluding mountain plover and bald eagle</p> <p>Irreplaceable plant communities are defined as globally imperiled (G1-G2) plant communities</p>
2. Where are biodiversity concentration areas within the network of conservation areas?	4. Biodiversity Concentration Areas in the CSP	Biodiversity concentration areas are defined as areas with multiple species and plant communities per hexagon
3. Where are the priority aquatic areas?	5. Aquatic Priority Areas in the CSP	Priority aquatic areas are defined as hexagons overlapping the aquatic conservation areas with >50% natural cover. Future analyses will focus on perennial streams.
4. Where are the conservation areas with the most intact landscapes?	6. Intact Landscapes within Conservation Areas in the CSP	Intact landscapes are defined as conservation areas overlaid with landscape integrity layer

Irreplaceability

Irreplaceable targets are those species and communities that if lost, their conservation goals for the ecoregion can never be met (other species, communities, systems that have enough out there that goals might still be met even if some is lost). This analysis is intended to help prioritize where conservation actions are most urgently needed. The analysis is based on what are considered “irreplaceable occurrences,” i.e., locations of conservation targets where 100% of known occurrences are needed to meet ecoregional conservation goals. For this we considered species that were federally listed, candidates, and other globally imperiled species (ranked G1 or G2 by Natural Heritage Programs). Twenty-one species and 29 plant communities (ranked G1-G2) were included in this analysis (see Appendices A and B). In general, any significant impacts to the irreplaceable targets could prevent conservation goals from being achieved. If an occurrence of one of these targets becomes degraded or is destroyed, there are no other options for conservation in other places.

This analysis can provide several important pieces of information and help inform strategies. The first part of this analysis will determine how many of the approximately 24 million acres selected as part of the CSP conservation portfolio are considered irreplaceable. The second part of this analysis will delineate how those irreplaceable acres are distributed among major land management agencies and private lands in the ecoregion. This is a way to identify the “conservation role” of various agency lands.

Results

The prioritization results are in Figures 1-6 at the back of this report. These maps are intended to inform actions and strategies for site level actions. For example, the summary of acres generalized by acres of hexagons (not occurrence acres) for irreplaceable species and plant communities by landownership is in Tables 2 and 3. The total area supporting irreplaceable species is 1,334,676 acres; primary landowners are private, Department of Defense, US Forest Service, State Land Board, Counties and Cities. The total area supporting irreplaceable plant communities is 723,469 acres; the primary landowners are private, State Land Board, Counties, Cities, and Colorado Division of Wildlife. The total area supporting both irreplaceable species and plant communities is approximately 1,924,054 acres or 8% of the total area of the network of conservation areas (3% of the total ecoregion).

The conservation areas with the highest biodiversity concentrations are Chico Basin, Arkansas Valley, Lower Purgatoire and Mountains to Plains. Conservation areas with the highest landscape integrity occur in the southwestern part of the ecoregion (Huerfano Uplands, Lower Purgatoire and Mesa de Maya). The aquatic priority areas are distributed throughout the ecoregion; further analyses are recommended to help prioritize these areas using other factors, such as perennial streams.

Table 2. Summary of acres of irreplaceable species by land owner and area relative to the total acreage within the 55.7 million acre ecoregion and within the network of conservation areas (24.3 million acres) in the CSP. Only owners with >20,000 acres are included.

OWNER	ACRES	% ECOREGION	% NETWORK
Private	974,889	1.750%	4.009%
U.S. Dept. of Defense	69,024	0.124%	0.284%
USFS- CNG	50,994	0.092%	0.210%
SLB	45,918	0.082%	0.189%
USFS-Pike	45,821	0.082%	0.188%
County	29,045	0.052%	0.119%

City	20,057	0.036%	0.082%
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Table 3. Summary of acres of irreplaceable plant communities by land owner relative to the total acreage within the ecoregion (55.7 million acres) and within the network of conservation areas (24.3 million acres). Only owners with > than 5,000 acres are included below.

OWNER	ACRES	% ECOREGION	% NETWORK
Private	534,876	0.960%	2.200%
SLB	32,363	0.058%	0.133%
County	29,686	0.053%	0.122%
City	23,594	0.042%	0.097%
CDOW	15,149	0.027%	0.062%
USFS-Pike	14,011	0.025%	0.058%
Private – TNC	11,969	0.021%	0.049%
FWS	5,350	0.010%	0.022%

Assumptions and Limitations

To simplify the analysis and avoid data sensitivity issues, a 3,118 acre hexagon was used as the finest level planning unit (not the exact occurrence point or polygons). Only species and plant communities were addressed; terrestrial and aquatic ecological systems were not evaluated in this analysis. Although most states in the CSP tracked these species and communities, varying levels of inventory from state to state necessitate some caution in interpretation.

Only precise location (Seconds level) occurrences ranked A-C, E (extant) and NR (not ranked) by Natural Heritage Programs were used for this analysis, with the exception of Minutes level precision records for lesser prairie chicken occurrences which were also included. We did not use mountain plover and bald eagle points in the dataset because the abundance of observations was of little value for prioritization.

This analysis was done using the existing data (Heritage Program and expert input) from the SPOT analysis run in the spring of 2006 for the CSP Ecoregional Assessment. If a hexagon was chosen because it contains one or more irreplaceable targets, the entire 3,118 acres are considered irreplaceable. While this could be somewhat misleading at a fine scale, at the scale of the ecoregion, it seems to be a valuable level of analysis.

The team recognizes that all irreplaceable targets are not “equally irreplaceable.” The common sense filter still needs to be applied. This analysis is only an attempt to help focus conservation efforts or strategies. Site level analysis and planning need to occur before on the ground activities are started.

Future Analyses

The Partnership should continue to prioritize its efforts on those places (and policies) where success can be achieved. A proposed next step would be to crosswalk the priorities with the institutional priorities of Partnership members. A clear understanding of the geographic and thematic priorities of the partners will allow for specific project and program development and implementation. Another step that needs to be taken is to overlay the irreplaceable species and plant community results with current and projected threat data layers to help determine the urgency of taking action (e.g., roads, development).

Over time, the team will conduct additional analysis to address key questions and meet information requests critical for furthering conservation in the ecoregion by the Partnership. Because the ecoregion is dominated by private lands, there are other ways of analyzing the data, such as: 1) breaking out irreplaceable hexagons by NRCS watershed or by county for planning purposes; 2) highlighting individual species or groups of species important to groups or agencies; 3) highlighting conservation targets significant for each public land management agency; 4) breaking out species or areas to fit specific funding sources or programs such as NRCS EQIP, Fish and Wildlife Service Migratory Bird Focal Species, state Wildlife Actions Plan Tier 1 species, etc.

Key questions needing further analysis identified by the Science and Adaptive Management Team are outlined in Table 4 below. The team will address these questions in 2008 to help further inform and guide partnership conservation activities, assuming resources are available.

Table 4. Further questions to help prioritize places to work in the CSP.

FURTHER QUESTIONS	FIGURE	DESCRIPTION/ COMMENTS
1. Where are largest examples of matrix and large patch ecological systems? Part of the larger question regarding what targets would be lost if action is not taken to conserve them.	1. Largest Examples of Shortgrass/Mixed Grass Prairie, and Sand Sage Shrubland Ecological Systems in the CSP	Overlay shortgrass/mixed grass and sand sage shrubland with landscape integrity map and conservation areas (use CNHP system maps)
2. Where are the most important areas to build on existing conserved areas and public lands? <ul style="list-style-type: none"> • To protect irreplaceable species and communities • To incorporate highest integrity systems 	2. Priority Areas in Relation to Public Lands and Protected Private Lands in the CSP	Include COMAP private lands with all ecoregional landownership Select all hexagons within 2 hexagons of existing protected areas

FURTHER QUESTIONS	FIGURE	DESCRIPTION/ COMMENTS
3. Where are irreplaceable areas with black-tailed prairie dog and mountain plover	3. Irreplaceable areas with black-tailed prairie dog 4. Irreplaceable areas with mountain plover	Overlay Figure 3 with prairie dog mapped towns and mountain plover highest densities (?) Determine whether to use prairie dog mapped towns or modeled data
4. Where are key areas needed for restoration (where could restoration have the biggest bang for the buck?)?	5. Playa lakes map from CSP report	Also consider lower quality aquatic areas needing restoration
5. Wildlife Action Plan species (see below for more information)	6. Irreplaceable areas and priority species from State Wildlife Action Plans	Are there adequate data to complete these analyses

Wildlife Action Plan Species

Priorities within the irreplaceable hexagons could be further screened by looking at those hexagons that also have black-tailed prairie dog. This would decrease the number of hexagons overall, but would be a way to incorporate black-tailed prairie dog, which is of high conservation concern in the grasslands. This analysis would incorporate the value of the black-tailed prairie dog, as well as addressing irreplaceable species. Depending on the results, perhaps additional species from State Wildlife Action Plans (WAPs) could be added. See Appendix C for list of species from WAPs proposed for use in this analysis.

Additional high priority species from state WAPs with relatively consistent data available across states would further inform the analysis. Given that this analysis is intended to show where complementarities exist, lack of data from some states would not necessarily skew the analysis by excluding places, but would result “only” in failing to identify complementarity.

Some species from WAPs could be added one-at-a-time and see how this affects the results. If it becomes ‘overwhelming’ (i.e., too many hexagons light up, then remove that species and add the next one that is of relative highest conservation concern). Those that are classified as widespread are probably of least value in setting these priorities (e.g. Cassin’s sparrow).

Acknowledgements

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Appendix A

Irreplaceable species (ranked G1 and G2 by Natural Heritage Programs and/or Federally Listed) in the Central Shortgrass Prairie Ecoregion.

TAX GROUP	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	Fed. Status
Reptile	<i>Aspidoscelis neotesselata</i>	Triploid Colorado Checkered Whiptail	G2Q	
Bird	<i>Charadrius melodus</i>	Piping Plover	G3	X
Bird	<i>Tympanuchus pallidicinctus</i>	Lesser Prairie-chicken	G3	X
Bird	<i>Sterna antillarum</i>	Least Tern	G4	X
Bird	<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	G4T3	X
Fish	<i>Notropis topeka</i>	Topeka Shiner	G2	X
Fish	<i>Notropis girardi</i>	Arkansas River Shiner	G2	X
Fish	<i>Etheostoma cragini</i>	Arkansas Darter	G3	X
Fish	<i>Macrhybopsis tetranema</i>	Arkansas River Speckled Chub	G1	
Insect	<i>Optioservus phaeus</i>	Scott Riffle Beetle	G1	
Insect	<i>Nicrophorus americanus</i>	American Burying Beetle	G2G3	X
Plant	<i>Oenothera harringtonii</i>	Arkansas Valley Evening Primrose	G2	
Plant	<i>Mentzelia chrysantha</i>	Golden Blazing Star	G2	
Plant	<i>Mirabilis rotundifolia</i>	Round-leaf Four-o'clock	G2	
Plant	<i>Physaria bellii</i>	Bell's Twinpod	G2	
Plant	<i>Oenopsis puebloensis</i>	Pueblo Goldenweed	G2	
Plant	<i>Spiranthes diluvialis</i>	Ute Ladies' Tresses	G2	X
Plant	<i>Gaura neomexicana ssp. coloradensis</i>	Colorado Butterfly Plant	G3T2	X
Plant	<i>Eriogonum effusum var rosmarinoides</i>	Wild Buckwheat	G4G5T2?	
Plant	<i>Eriogonum jamesii var simplex</i>	Wild Buckwheat	G5T1?	
Mammal	<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse	G5T2	X

Appendix B

Irreplaceable plant communities (ranked as G1 & G2 by the Natural Heritage Programs).

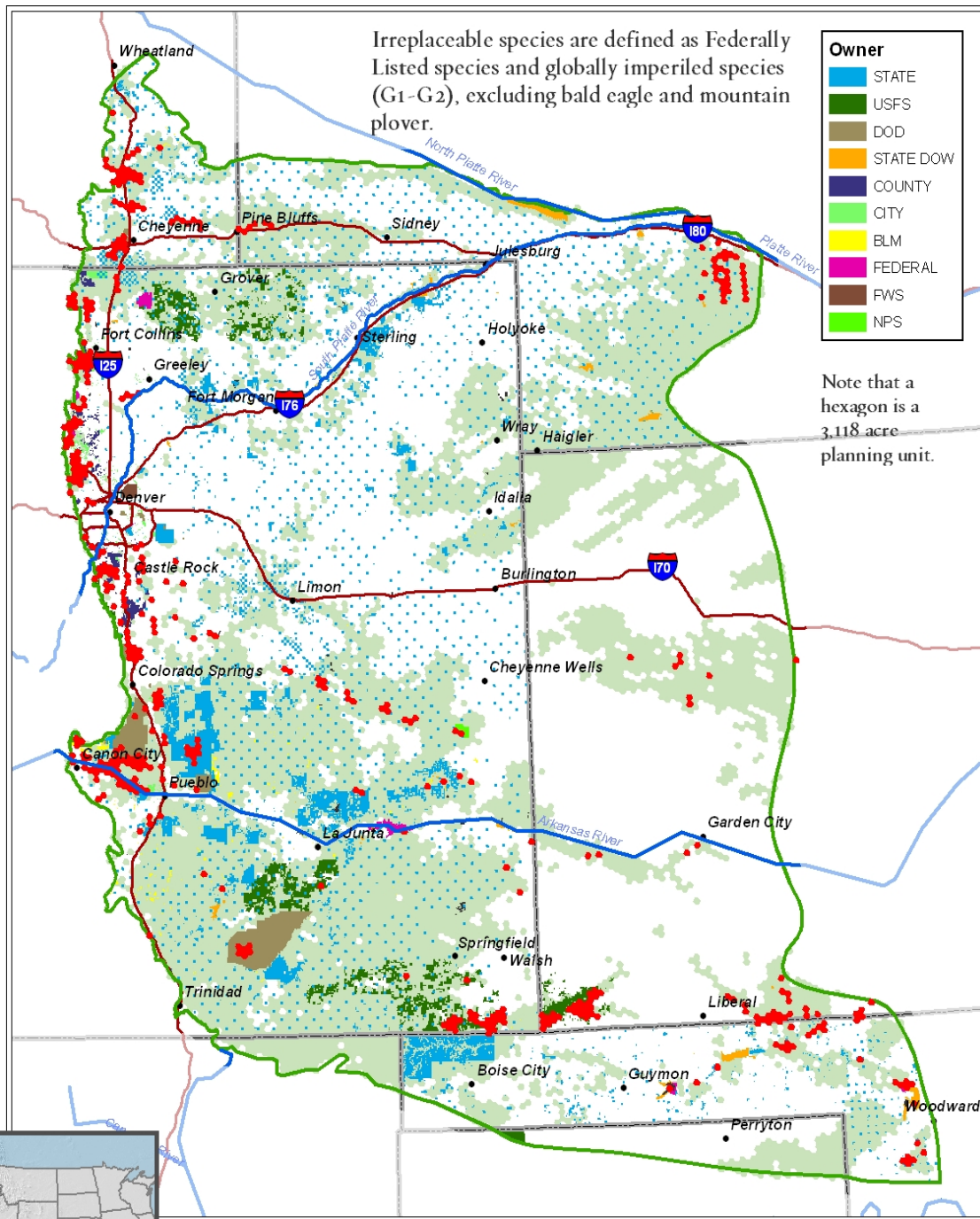
NATURAL PLANT COMMUNITY	GLOBAL RANK
ANDROPOGON GERARDII - SORGHASTRUM NUTANS WESTERN GREAT PLAINS HERBACEOUS VEGETATION	G1
POPULUS DELTOIDES - (SALIX NIGRA) / SPARTINA PECTINATA - CAREX SPP. WOODLAND	G1
REDFIELDIA FLEXUOSA HERBACEOUS VEGETATION	G1
ABIES CONCOLOR - PICEA PUNGENS - POPULUS ANGUSTIFOLIA / ACER GLABRUM FOREST	G2
ANDROPOGON GERARDII - CALAMOVILFA LONGIFOLIA HERBACEOUS VEGETATION	G2
ANDROPOGON GERARDII - PANICUM VIRGATUM - HELIANTHUS GROSSESERRATUS HERBACEOUS VEGETATION	G2
ANDROPOGON GERARDII - SCHIZACHYRIUM SCOPARIUM WESTERN GREAT PLAINS HERBACEOUS VEGETATION	G2
ANDROPOGON GERARDII - SPOROBOLUS HETEROLEPIS WESTERN GREAT PLAINS HERBACEOUS VEGETATION	G2
CELTIS LAEVIGATA VAR. RETICULATA / PSEUDOROEGNERIA SPICATA WOODLAND	G2
CERCOCARPUS MONTANUS - RHUS TRILOBATA / ANDROPOGON GERARDII SHRUBLAND	G2
CERCOCARPUS MONTANUS / HESPEROSTIPA COMATA SHRUBLAND	G2
CERCOCARPUS MONTANUS / STIPA NEOMEXICANA SHRUBLAND	G2
HESPEROSTIPA COMATA COLORADO FRONT RANGE HERBACEOUS VEGETATION	G2
JUNIPERUS SCOPULORUM / CERCOCARPUS MONTANUS WOODLAND	G2
JUNIPERUS SCOPULORUM / SCHIZACHYRIUM SCOPARIUM WOODLAND	G2
MUHLENBERGIA MONTANA - STIPA COMATA HERBACEOUS VEGETATION	G2
PASCOPYRUM SMITHII - ELEOCHARIS SPP. HERBACEOUS VEGETATION	G2
PINUS PONDEROSA / CERCOCARPUS MONTANUS / ANDROPOGON GERARDII WOODED HERBACEOUS VEGETATION	G2
POPULUS ANGUSTIFOLIA / PRUNUS VIRGINIANA WOODLAND	G2
POPULUS ANGUSTIFOLIA / SALIX IRRORATA WOODLAND	G2
POPULUS DELTOIDES / CAREX PELLITA WOODLAND	G2
POPULUS DELTOIDES / PANICUM VIRGATUM - SCHIZACHYRIUM SCOPARIUM WOODLAND	G2
POPULUS DELTOIDES / PASCOPYRUM SMITHII - PANICUM OBTUSUM FOREST	G2
POPULUS DELTOIDES / SYMPHORICARPOS OCCIDENTALIS WOODLAND	G2
SALIX EXIGUA - SALIX LIGULIFOLIA SHRUBLAND	G2
SALIX LIGULIFOLIA SHRUBLAND	G2
SCHIZACHYRIUM SCOPARIUM - BOUTELOUA CURTIPENDULA CHALKFLAT HERBACEOUS VEGETATION	G2
SPARTINA PECTINATA - CALAMAGROSTIS STRICTA - CAREX SPP. HERBACEOUS VEGETATION	G2
SPOROBOLUS AIROIDES - PANICUM OBTUSUM HERBACEOUS VEGETATION	G2

Appendix C

Priority Species from State Wildlife Action Plans in the Central Shortgrass Prairie.

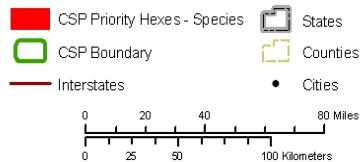
TAX GROUP	SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	ECOREG. DIST.	Other priority, state wildlife plans	*good CSP data
Amphibian	<i>Bufo debilis</i>	Green Toad	G5	Edge of range	KS	Y
Amphibian	<i>Rana blairi</i>	Plains Leopard Frog	G5	Widespread	CO	N
Amphibian	<i>Rana pipiens</i>	Northern Leopard Frog	G5	Edge of range	CO, WY	N
Reptile	<i>Sistrurus catenatus</i>	Massasauga	G3G4	Disjunct	CO, NE, KS, OK	Y
Reptile	<i>Phrynosoma cornutum</i>	Texas Horned Lizard	G4G5	Widespread	CO, OK, TX	Y
Reptile	<i>Kinosternon flavescens</i>	Yellow Mud Turtle	G5	Edge of range	CO	N
Bird	<i>Buteo regalis</i>	Ferruginous Hawk	G4	Widespread	ALL STATES	Y
Bird	<i>Calcarius mccownii</i>	McCown's Longspur	G4	Edge of Range	CO, NE, KS, OK, WY	Y
Bird	<i>Tympanuchus phasianellus jamesi</i>	Plains Sharp-tailed Grouse	G4T4	Limited	CO	N
Bird	<i>Tympanuchus cupido pinnatus</i>	Greater Prairie Chicken	G4T4	Edge of Range	CO, KS, NE, OK	N
Bird	<i>Numenius americanus</i>	Long-billed Curlew	G5	Widespread	ALL STATES	Y
Bird	<i>Calcarius ornatus</i>	Chestnut-collared Longspur	G5	Edge of Range	KS, OK, WY	Y
Bird	<i>Aimophila cassinii</i>	Cassin's Sparrow	G5	Widespread	CO, KS, OK,	N
Bird	<i>Grus canadensis tabida</i>	Greater Sandhill Crane (breeding occurrences, staging and wintering areas)	G5T4	Edge of Range	CO, WY	
Crustacean	<i>Orconectes neglectus</i>	A Crayfish	G5		WY	N
Fish	<i>Hybognathus placitus</i>	Plains Minnow	G4		CO, WY	N
Fish	<i>Fundulus sciadicus</i>	Plains Topminnow	G4		WY, KS, OK, NE	N
Fish	<i>Scaphirhynchus platyrhynchus</i>	Shovelnose Sturgeon	G4		WY, OK	N
Fish	<i>Hybognathus hankinsoni</i>	Brassy Minnow	G5	Edge of Range	CO, KS	
Fish	<i>Luxilus cornutus</i>	Common Shiner	G5	Edge of Range	CO, WY, KS	
Fish	<i>Platygobio gracilis</i>	Flathead Chub	G5		OK, KS	
Fish	<i>Nocomis biguttatus</i>	Hornyhead Chub	G5	Edge of Range	KS	
Fish	<i>Etheostoma exile</i>	Iowa Darter	G5	Edge of Range	WY	
Fish	<i>Phoxinus eos</i>	Northern Redbelly Dace	G5	Disjunct	CO, NE	
Fish	<i>Etheostoma spectabile</i>	Orange-throated Darter	G5	Edge of Range	CO, WY	
Fish	<i>Phoxinus erythrogaster</i>	Southern Redbelly Dace	G5		CO, KS	
Fish	<i>Phenacobius mirabilis</i>	Suckermouth Minnow	G5		CO, WY	
Mollusk	<i>Anodontooides ferussacianus</i>	Cylindrical Papershell	G5		CO, WY	
Mollusk	<i>Acroloxus coloradensis</i>	Rocky Mountain Capshell	G3		CO	
Mollusk	<i>Uniomereus tetralasmus</i>	Pondhorn	G5		CO	
Insect	<i>Speyeria idalia</i>	Regal Fritillary	G3	Widespread	NE	N
Insect	<i>Hesperia ottoe</i>	Ottoe Skipper	G3G4	Widespread	CO, NE	N
Mammal	<i>Corynorhinus townsendii pallascens</i>	Townsend's Big-eared Bat	G4	Widespread	ALL STATES	N
Mammal	<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	G3G4	Widespread	ALL STATES	?

Figure 1. Irreplaceable Species In The Central Shortgrass Prairie

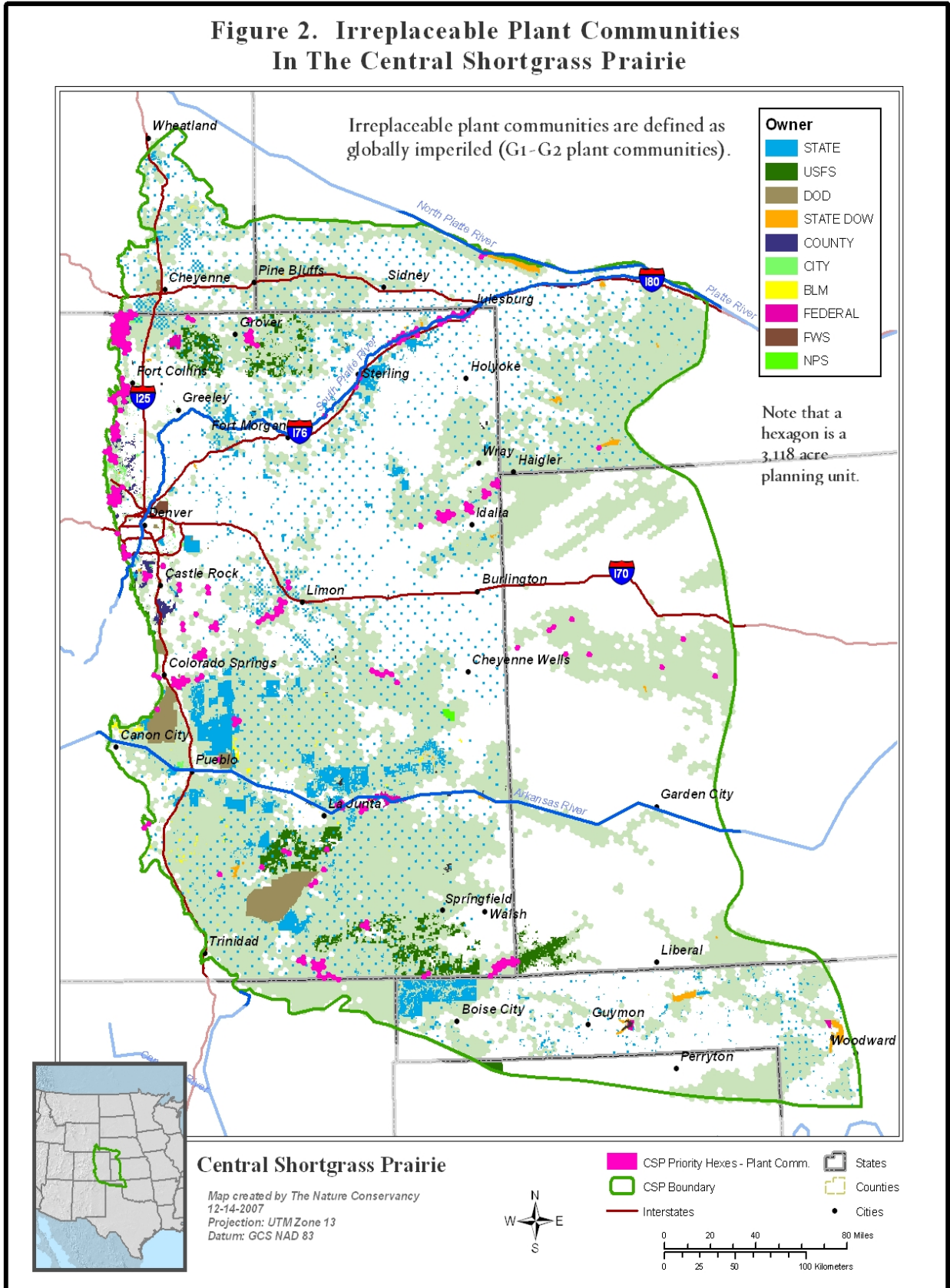


Central Shortgrass Prairie

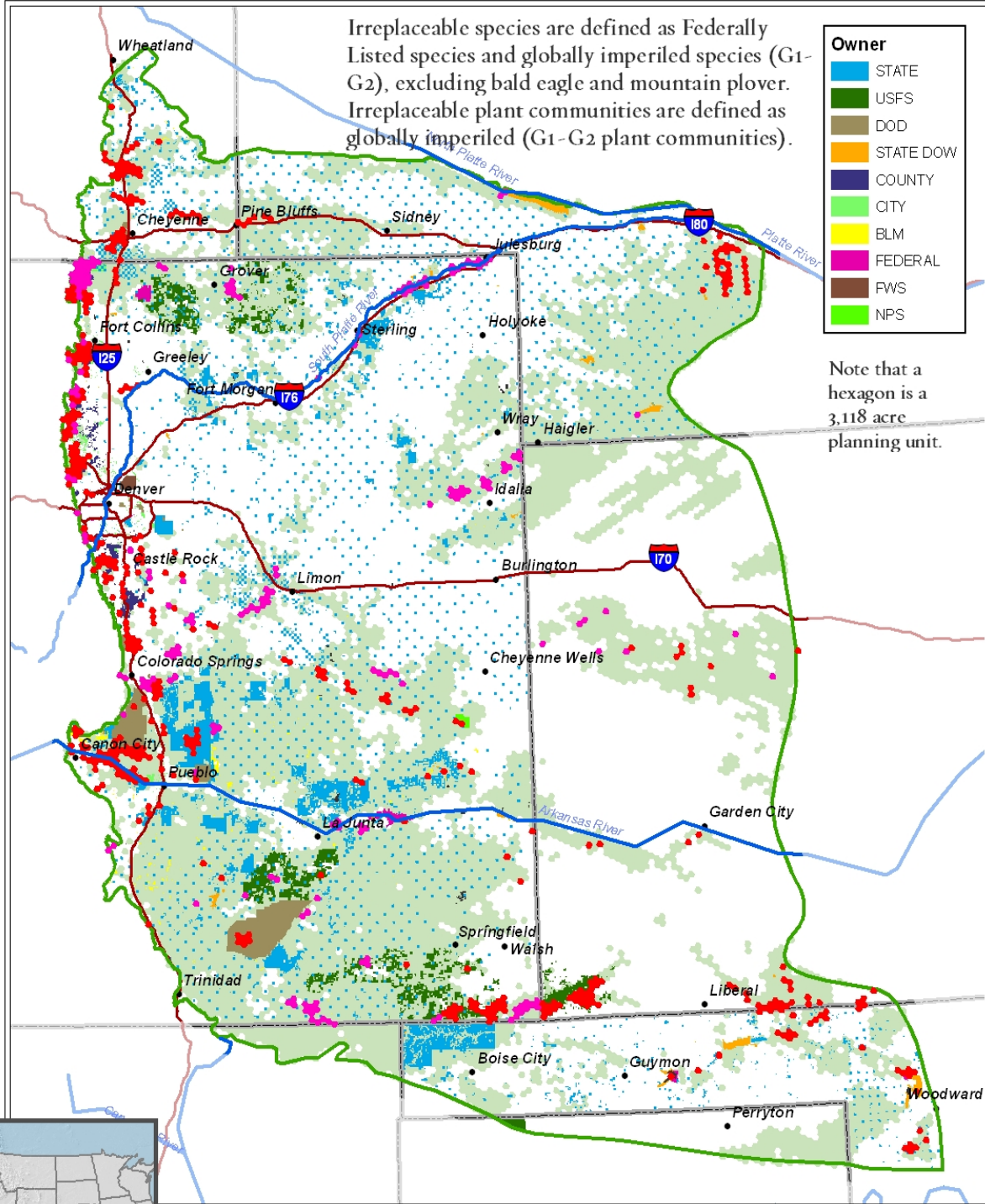
Map created by The Nature Conservancy
12-14-2007
Projection: UTM Zone 13
Datum: GCS NAD 83



**Figure 2. Irreplaceable Plant Communities
In The Central Shortgrass Prairie**

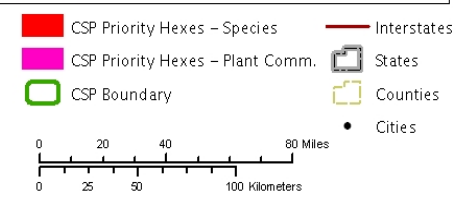


**Figure 3. Irreplaceable Species and Plant Communities
In The Central Shortgrass Prairie**

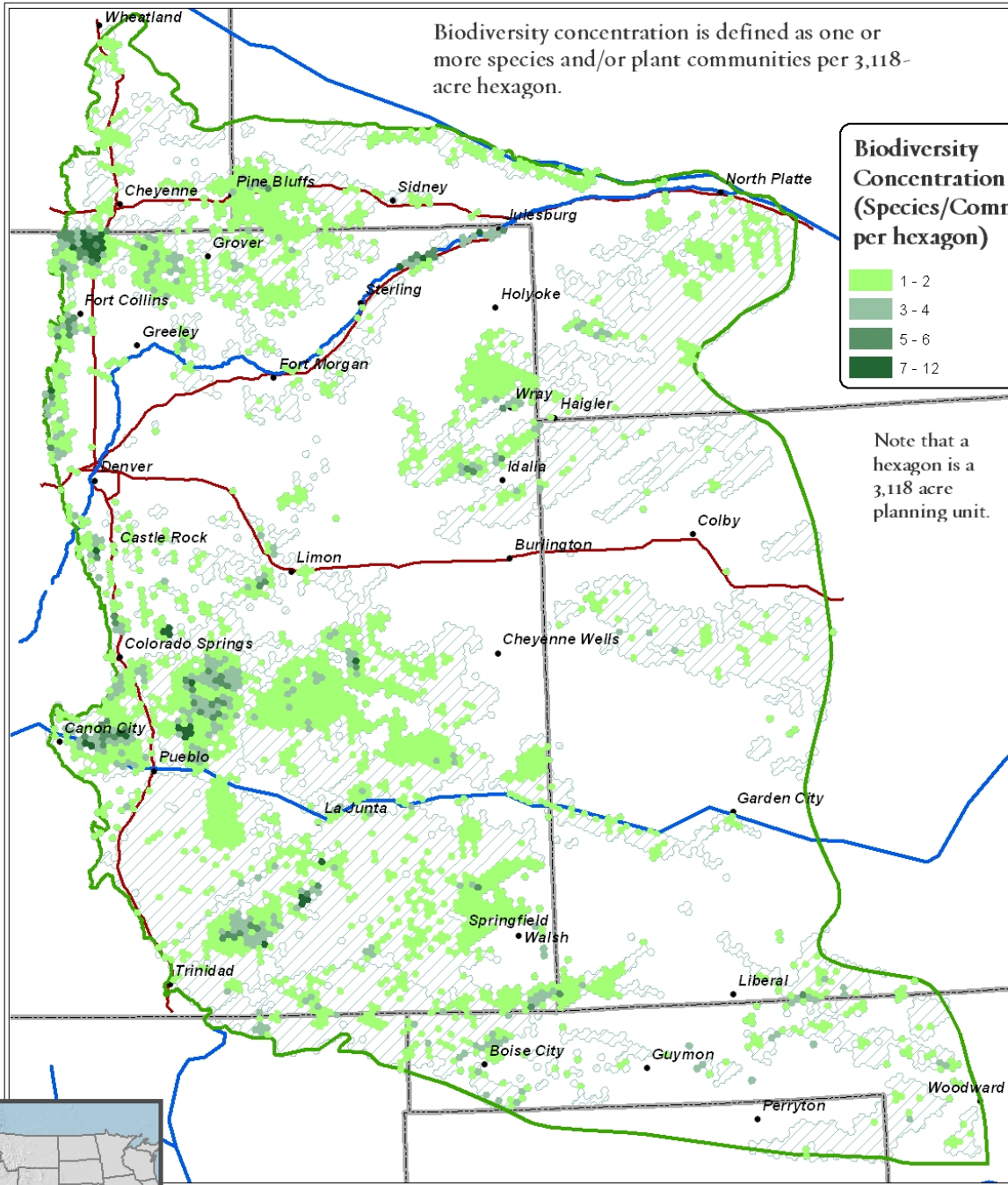


Central Shortgrass Prairie

Map created by The Nature Conservancy
12-14-2007
Projection: UTM Zone 13
Datum: GCS NAD 83



**Figure 4. Biodiversity Concentration Areas
In The Central Shortgrass Prairie**

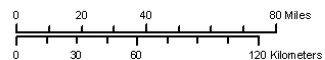


Central Shortgrass Prairie

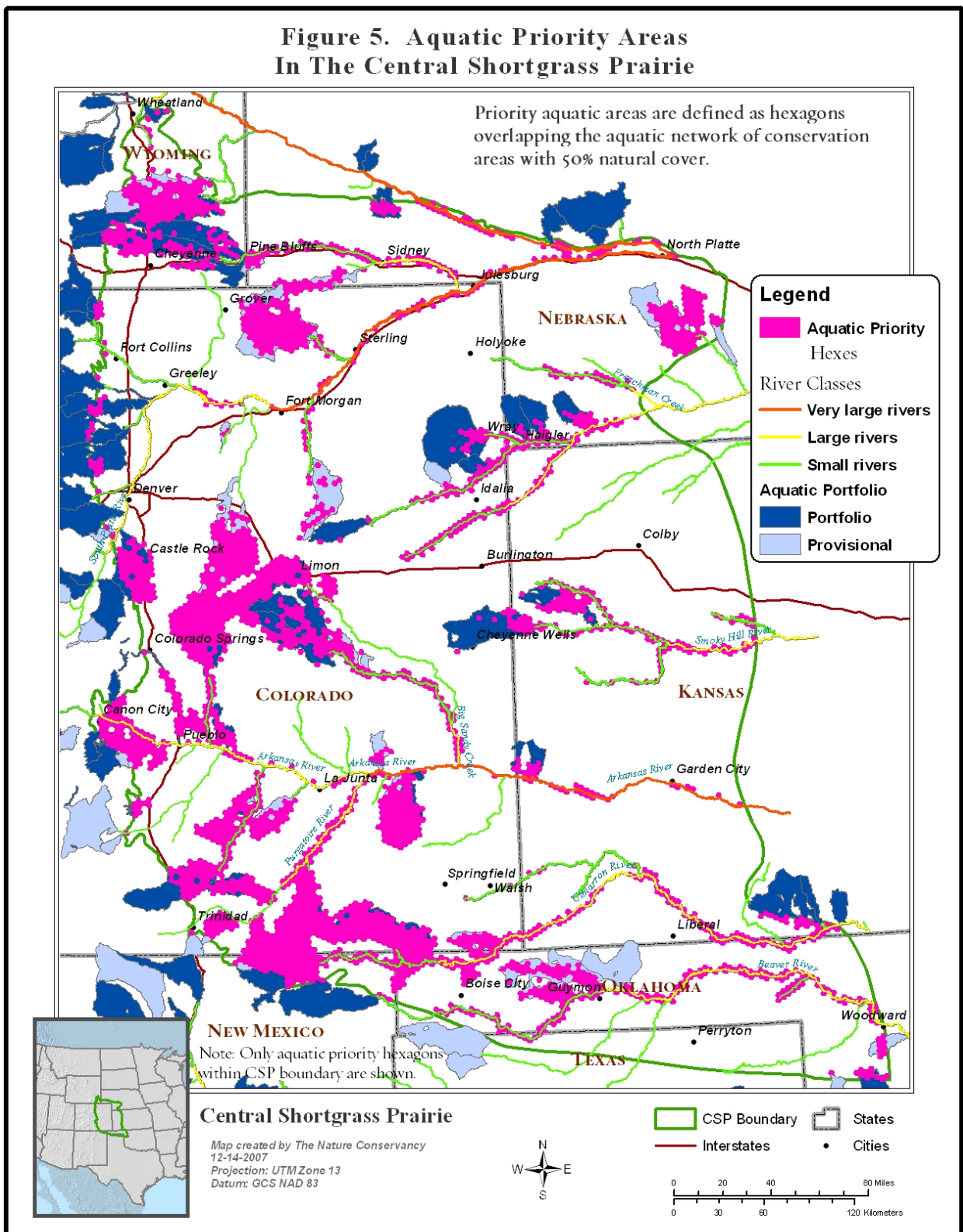
Map created by The Nature Conservancy
06-01-2007
Projection: UTM Zone 13
Datum: GCS NAD 83



- CSP Boundary
- Terr. Conservation Areas
- Interstates
- States
- Counties

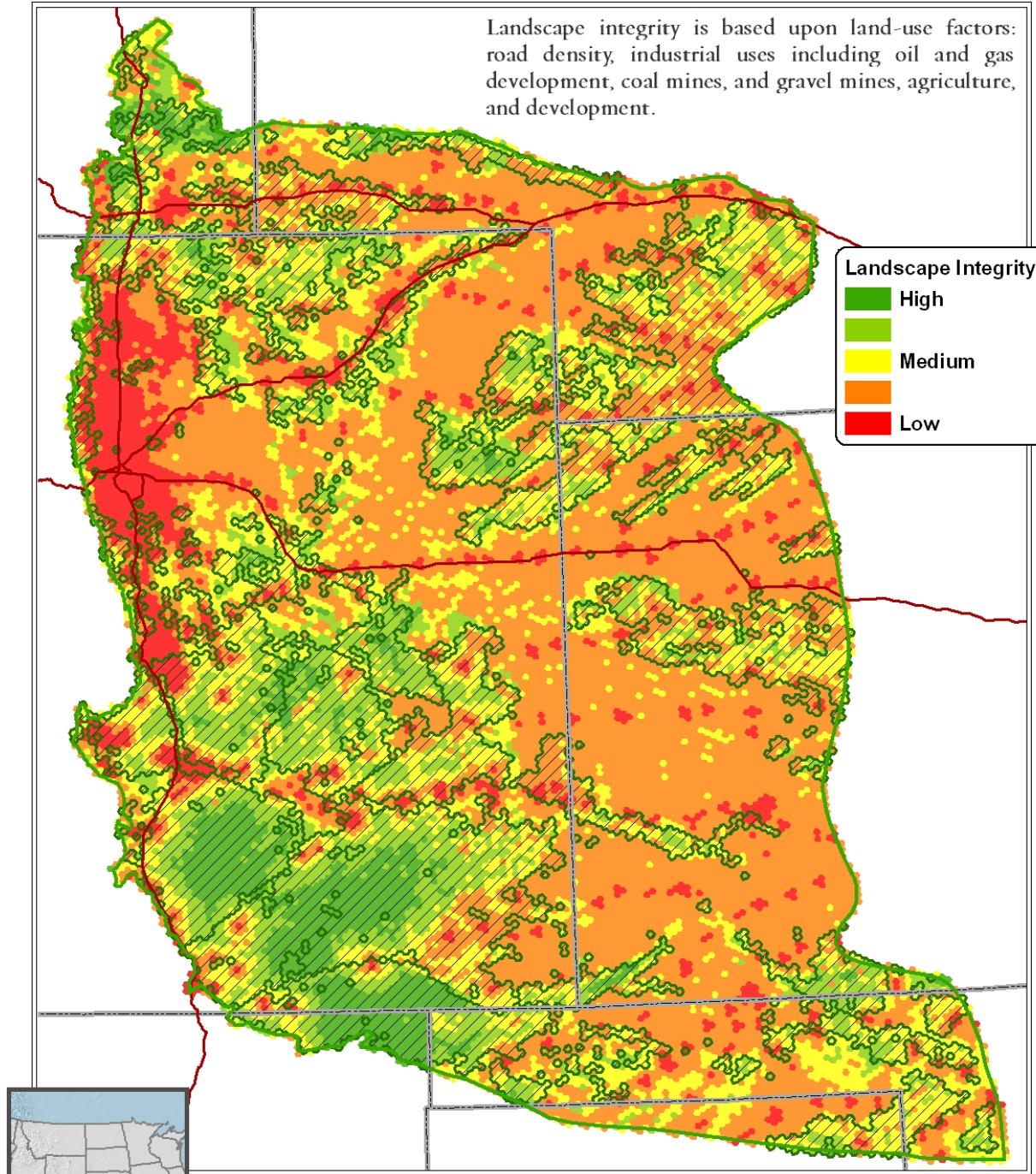


**Figure 5. Aquatic Priority Areas
In The Central Shortgrass Prairie**



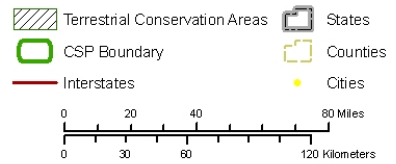
**Figure 6. Intact Landscapes within Conservation Areas
In The Central Shortgrass Prairie**

Landscape integrity is based upon land-use factors: road density, industrial uses including oil and gas development, coal mines, and gravel mines, agriculture, and development.



Central Shortgrass Prairie

Map created by The Nature Conservancy
12-14-2007
Projection: UTM Zone 13
Datum: GCS NAD 83



Appendix D: Communications Plan

**COMMUNICATION PLAN
FOR THE CENTRAL SHORTGRASS
PRAIRIE PARTNERSHIP**

PRESENTED BY BARNHART COMMUNICATIONS

www.barnhartusa.com

November 1, 2007



TABLE OF CONTENTS

CONTEXT FOR COMMUNICATION

Vision	Page 3
Conservation Goals	Page 4
Strategies	Page 4

GOALS FOR COMMUNICATION	Page 6
-------------------------	--------

TARGET AUDIENCES	Page 6
------------------	--------

KEY MESSAGES	Page 7
--------------	--------

TACTICS	Page 8
---------	--------

ACTION CALENDAR	Page 9
-----------------	--------

CONTEXT FOR COMMUNICATION: BACKGROUND

Partnership Vision

The Shortgrass Prairie Partnership provides landowners and managers, public agencies and private organizations the opportunity to **collaboratively work together to ensure the long-term viability of the native species, natural communities and ecosystems of the Central Shortgrass Prairie** eco-region **while promoting the continued existence of economically productive landscapes** that sustain local communities.

Through comprehensive conservation activities, the Partnership strives to maintain and restore native species, natural communities and ecological processes at explicit and measurable goals while sustaining human traditions compatible with conservation. This approach provides society with the clean water, air, food, fiber and natural resources that it needs to survive. The Partnership places a high priority on working with willing landowners and resource managers to identify and implement conservation solutions that sustain the natural resources, economies and cultures of the Western High Plains.

The values added by the CSP assessment and Shortgrass Prairie Partnership include:

- Regional datasets, analyses, and tools based best available science to guide conservation action policies and decisions across the entire eco-region
- Consensually reached, measurable conservation goals for species, communities and ecological systems
- Prioritized places upon which to focus our conservation efforts
- A baseline for measuring progress & trends
- A shared vision & collaborative implementation effort to achieve our goals, embodied in the Shortgrass Prairie Partnership

Perhaps some of the most important differences of the CSP eco-regional assessment and Shortgrass Prairie Partnership as compared to the other efforts are: 1) The plan will remain a “living analysis,” with conservation progress tracked and used to inform future decision-making; and 2) The assessment has led to the creation of the Shortgrass Prairie Partnership, which will serve as a regional forum that will actively bring together agency and NGO staff and producers (ranchers and farmers, landowners and managers) to identify shared priorities, common ground and ways to meet the needs of both. No other group or partnership is doing that at

the scale of the Shortgrass Prairie eco-region. However, in order for the Shortgrass Prairie Partnership to be successful, it must rely on the excellent analyses and plans of these other conservation efforts and collaborate with their members whenever possible.

Conservation Goals for the Shortgrass Prairie Partnership

- 1) Create a network of effectively conserved working landscapes totaling millions of acres, demonstrating the balance between resource use and conservation.
- 2) Address the policies and public programs, particularly those in the Farm Bill, that contribute to the conservation and/or degrade native grasslands and advocate for policies that promote conservation through incentives, resource allocations and other appropriate tools.
- 3) Sustain the human communities of the Central Shortgrass Prairie, so the ranching way of life is maintained while ensuring that the ecological, social and economic objectives of conservation and local communities can be achieved over the long term.
- 4) Raise unprecedented public and private resources to address the first three goals.

CSP Partnership Key Strategies to Achieve Goals

1) Conservation & Restoration

Promote the use of land protection, good stewardship and restoration projects in conservation areas identified in the CSP eco-regional assessment.

2) Science & Adaptive Management

Provide critical information to decision-makers, based on the best available science, to facilitate effective conservation in the eco-region. The audience for this information includes elected officials, land managers, landowners, state and federal agencies, counties, academic community, non-governmental organizations, and the general public. The Partnership will continue to: 1) refine the data and analyses of the CSP eco-regional assessment to ensure that the information is relevant in driving conservation actions; 2) define and address the most important science needs and research questions (e.g. where should conservation occur first? How can we proactively address priority threats?); and 3) measure the status of biodiversity health, threats to species and natural communities and conservation progress over time using an adaptive management approach. Public understanding and acceptance of the

Partnership's scientific analysis and products, as well as its recommended conservation goals, is critical for long-term success.

3) Facilitate Dialogue among Stakeholders to Promote Shared Solutions

Serve as a facilitator of dialogue among stakeholders to identify and pursue strategies that conserve the diversity of the Central Shortgrass Prairie, emphasizing dialogue between the conservation community, agencies and producers (particularly ranchers) to meet shared conservation and economic development and sustainability goals. This will be achieved through a **Working Landscapes Advisory Group**, which will serve as a forum for dialogue among conservationists, agencies and producers (particularly ranchers) to identify and pursue shared goals and strategies in the Shortgrass prairie.

4) Promote Policies Compatible with Our Goals

Influence policies and public programs to promote conservation in priority areas identified in the eco-regional assessment. This includes working with agencies to target the resources on priority areas, informing decision-makers about conservation values when considering major infrastructure projects in those areas (wind energy, highway construction, etc.), increasing the public and private resources available for conservation, promoting opportunities for younger ranchers to help sustain ranching within the eco-region, as well as the consolidation of public lands.

5) Undertake Communications and Outreach with Key Stakeholders

The Partnership will address five aspects of communication: 1) identification of all appropriate audiences; 2) development of key messages for each audience; 3) creation of a visual identity for the Partnership; 4) development of website content and structure and 5) development of print materials for distribution to appropriate audiences. *This plan outlines what will be created and delivered to enable robust communication within the Partnership and to key external audiences.*

6) Internal & Operational Strategies for Success

Establish the Partnership as an *eco-regional partnership*, involving stakeholders and partners from all the CSP states and provide them with a sufficient understanding of the eco-region and partnership to meaningfully contribute. The implementation of this marketing/outreach plan will play an important role in establishing and maintaining Partnership health, promoting collaboration and promoting common goals.

GOALS FOR COMMUNICATION

1. Through consistent communication and regular assessment of member attitudes, contribute to the increased effectiveness of Partnership and better work outcomes by promoting collaboration, advocating shared goals and interests, recognizing successes, and providing essential information. (SPP Strategies 1-6)
 - o Measured by member assessments
2. Support the acquisition of additional funding by communicating Partnership goals and accomplishments to funders and influencers. (SPP Goal 4 and Strategies 1-6)
 - o Measured by actual funding trends and from target sources.
3. Build greater understanding and support among target audiences of the value of the grasslands and the importance of conserving them through good stewardship, science, restoration and other tools. (SPP Strategies 1, 2, 3)
 - o Measured by pre and post surveys of targeted external audiences.
 - o Measured by increased willingness of stakeholders to create conservation mechanisms
4. Communicate about policy issues affecting conservation of the grasslands and otherwise support the policy work group. (SPP Strategies 1-5)
 - o Measure understanding and support by policy makers et. al

TARGET AUDIENCES

Internal Audiences

- Members of Partnership Executive Committee and Sub-Committees
- Boards, leaders and members of partner organizations
- Local project implementers (field staff of projects)
- Funders

External Audiences

- Landowners, land managers
- Ranchers, farmers, outfitters
- Residents of ex-urbs

- NGOs (CCA, other associations, etc.)
- Public policy makers (city, county, state, federal)
- Academics and think tanks
- Lobbyists and public affairs people for energy companies, developers, and corporate farms
- News media
- General public

KEY MESSAGES

- The Western High Plains are a unique region where wildlife, habitat and the rural way of life are threatened
 - Threats include unsustainable use of water and the land; development; lack of viable economic foundation in rural communities; economic challenges to agrarian life.
- The Shortgrass Prairie Partnership is a diverse group of organizations and people who are working together to sustain the natural resources, economies and cultures of the plains.
 - Collaboration results in better outcomes.
 - Each partner is valued for its unique mission and capabilities.
- The Partnership will conserve millions of acres of “working land,” ensuring livelihoods for humans and habitat for wildlife.
 - The Partnership will prioritize its work by answering the question, “What wildlife species, natural communities and ecosystems will be lost in the next 10 years if action is not taken immediately...?”
 - Conservation tools include easements, leasing arrangements, and banking.
- Sound science is the foundation for the Partnership’s work.
 - We know from the 2006 eco-regional assessment what and how much should be conserved to protect the region’s rich habitat and diverse species.
 - Data and trends will be updated regularly to report progress.
 - Scientific information and assessment are incorporated into all Partnership strategies.

- The Partnership will develop and use decision-support tools to answer questions, inform conservation and interpret results.
- The Partnership will encourage public policies that support conservation goals and values for the Western High Plains.
 - *(Clarifying points will be added as the policy group completes its policy scoping.)*

TACTICS

- Web site with password-protected section for partners.
- Collateral materials – all available in hard copy and electronically
 - Quarterly Partnership newsletter: electronic and hard copy. Posted to web site
 - Brochure
 - Presentations and training materials for member organizations
 - Fact sheets
 - Partnership description
 - Overview of prairie
 - Examples of work completed or underway by Partnership
 - Maps
 - Annual report
- Robust interpersonal communications
 - Partner surveys on attitudes, satisfaction
 - Stakeholder surveys as needed
 - Support pilot symposium for landowners and other stakeholders
 - Recognition program for ranchers/farmers. Promote successes. Consider corporate sponsor(s) such as Monfort, ConAgra, Rudi's Bakery, etc. to provide cash or other awards.
 - Conduct meetings around eastern plains to introduce and talk about the Partnership's work
 - Top locations based on conservation priorities

- Guests would include friends and neighbors of Working Landscapes Advisory Committee
 - Support Public Policy Committee as feasible (given divergent guidelines of partner organizations)
- Complementary media relations program
 - Access media as news and events offer opportunities
 - Hold a formal “launch” event with an announcement in spring 2008. Invite news media (along with other guests).
 - Meet local plains media (reporters and editors) to augment stakeholder meetings.

ACTION CALENDAR

December 2007 – January 2008

- Adopt indicators of progress that can be used in all formal significant communications.
- Develop a list of known milestones and events that should be communicated to internal and external audiences.
- Review logo and finalize design.
- Recommend web site developer.
- Sign-off on comms plan.

January 2008

- Complete application of logo on business cards, letterhead, newsletters, web site, reports and presentations.
- Complete web sitemap and design elements.
- Design templates and draft copy for collateral materials.
- Create databases of stakeholder names, addresses, emails for internal and external comms.
- Email other groups to see if they want to receive ongoing communications from the Partnership.
- Develop schedule for meetings/events with plains stakeholders
- Identify public policy issues that should be addressed in communications.
- Launch first internal newsletter.
- Support communication needs of Working Landscapes group.

February 2008

- Launch home page and internal web pages for members
- Print collateral materials as necessary

March 2008

- Complete web site
- Complete any unfinished collateral materials
- Survey stakeholders to obtain baseline information about attitudes.

April 2008

- Launch Partnership publicly; invite news media
- Begin community/stakeholder meetings around eastern Colorado
- Begin media meetings to complement stakeholder meetings

Summer 2008

- Fine tune communication messages and materials
- Update web site.
- Produce summer newsletter.
- Begin work on tabletop display for conferences, meetings, etc.

Fall 2008

- Begin work on annual report.
- Announce nominations for producer recognition awards.
- Produce third newsletter.
- Update web site
- Continue community meetings as needed.

Winter 2008-2009

- Announce winners of producer recognition (possibly at National Western Stock Show)
- Complete annual report.
- Update web site.
- Offer exhibit/display at National Western.