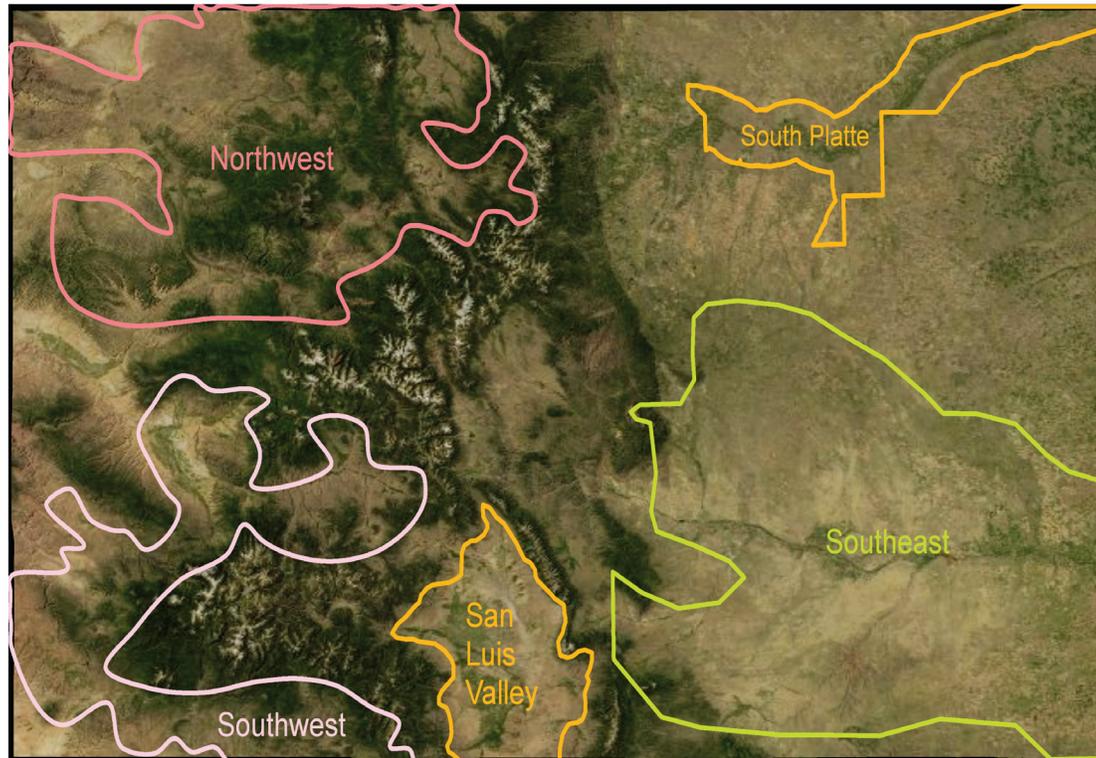


Colorado



Colorado Partners Program Conservation Focus Areas

Introduction and Overview

The Colorado (CO) PFW Strategic Plan for the next five years is built upon the foundation established by our 2007-2011 Strategic Plan. That plan developed CO PFW program focus areas, evaluated critical resource needs and threats in conjunction with opportunities to prevent or reverse habitat fragmentation. It also identified existing or potential partners, and assessed support for National Wildlife Refuge system lands in relationship to private lands.

Information relating species and habitat occurrences, priority areas for conservation, and presence of potential local partnerships were obtained from the Colorado Parks and Wildlife (CPW), Colorado Natural Heritage Program

(CNHP), The Nature Conservancy (TNC), Ducks Unlimited (DU), and statewide and local land trusts. CPW's Comprehensive State Wildlife Conservation Plan, in particular, was used to help guide the planning process. Additionally, CO PFW field biologists regularly participate in a wide range of local working and planning groups. Information from these more localized sources was integrated into the national, regional, and statewide data.

Colorado is home to 29 plant and animal species listed as threatened or endangered under the Endangered Species Act (ESA), and 10 species which are candidates for listing. The CNHP lists 132 species and natural communities as Globally Critically Imperiled (G1) or Imperiled (G2), and 681

species and natural communities as State Critically Imperiled (S1) or Imperiled (S2). Colorado lies within the Central and Pacific flyways and the Playa Lakes (PLJV) and Intermountain West Joint Ventures (IWJV). The state provides important nesting and stopover habitat for many migratory birds and for resident sage-steppe and grassland species.

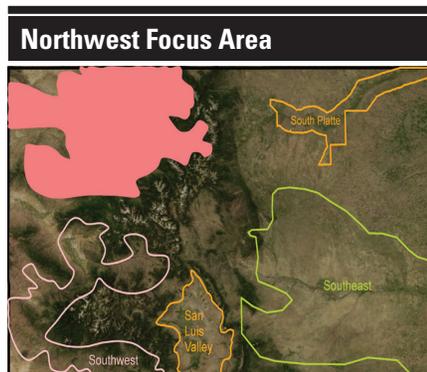
Although a portion of Colorado is in state or Federal ownership, nearly two-thirds or 38,679,947 acres (60,437 square miles) are in private or local government ownership. It is the intersection between private land ownership and habitat needs for declining species, which provides the primary filter and foundation for PFW program restoration efforts. The executive summary of the

Comprehensive State Wildlife Conservation Plan (CPW, 2006) states that, "...the landscape of eastern Colorado -eastern plains river and stream systems (including riparian), Tallgrass and mixed-grass prairie – and sagebrush were judged as being among those in the poorest condition to support native species....." Several CO PFW focus areas reflect agreement with the state's conclusion.

Our resource priorities have not changed for the Colorado PFW program. However, it is important to note that there is an increased emphasis and opportunity for both greater sage-grouse, Gunnison sage-grouse and lesser prairie-chicken due to the Natural Resources Conservation Service (NRCS) development of the Sage-Grouse (SGI) and Lesser Prairie-Chicken Initiatives (LPCI). These two initiatives focus funding under key Farm Bill conservation programs specifically to improve habitat conditions for both species. CO PFW staff is working closely with both initiatives to assist in the biological and financial delivery of habitat improvement projects.

Increased communications with Service Ecological Services (ES) botanists has resulted in the addition of plant species to our priority species lists and will

result in more projects directed at improving or protecting habitat for listed plants. Input on general PFW program direction and future activities was solicited from key partners in a comprehensive stakeholder meeting on March 15, 2011 and through requests for written comments from our major partners. (See Appendix A.)



An interwoven landscape of diverse species and habitats can be found throughout this conservation focus area. From the headwaters of the Little Snake River, North to the CO River near its southern boundary, a plethora of riparian, stream, and wetlands are located throughout. The importance is marked by having Colorado's largest populations of greater sage-grouse, while also having renowned habitats for nesting waterfowl. With species such as native Colorado River

cutthroat trout, northern leopard frog, sandhill crane, western tanager, and other key species it is an important area for coordinating conservation efforts.

The majority of sage-steppe habitat is located west of the Continental Divide. The primary exception to this is Jackson County, commonly referred to as North Park. Sagebrush rangelands are located sporadically throughout all of northwestern Colorado. In this area of the state, greater sage-grouse are considered the marquee species for this habitat type.

The distribution and abundance of sage-grouse has markedly decreased in recent times, and the species has been extirpated from at least three states and one Canadian province. Sage-grouse populations have exhibited long-term declines in this area, decreasing by 33% over the past 30 to 40 years (Braun 1998). Focus will also be placed on other sagebrush obligate species, including sage thrasher, Brewer's sparrow, and sage sparrow. In addition, PFW program projects that specifically benefit these obligate species will positively impact a wider suite of Federal trust species and state species of concern, including northern harrier and vesper sparrow. Other species, typically noted with a



Native cutthroat trout, red-naped sapsuckers, and a variety of neotropical migratory birds all benefit from this project on the South Fork of the Little Snake River. Photo by Bob Timberman, USFWS.



Aerial seeding of native grasses, shrubs and forbs to prevent areas from becoming a cheatgrass monotype where a Fall wildfire burned its hottest.
Photo by Bob Timberman USFWS.

more moderate association with sagebrush, will benefit as well, including green-tailed towhee, lark sparrow, and Merriam's shrew (CPW 2005).

The restoration of diverse age classes of sagebrush, enhancement of wet meadows, and removal of encroaching pinyon juniper woodlands are thus far the main emphasis of program efforts. Some greater sage-grouse research points to the majority of nesting (70-80%) and early brood-rearing occurring within three miles of lek sites (Bradbury, Vehrencamp, and Gipson 1989; Wakkinen, Reese, and Connelly 1992). The program tries to concentrate efforts within this "circle of maximum influence."

Habitat restoration/enhancement techniques include grazing management, native seeding, and various mechanical treatments used to produce small, irregular shaped openings within stands of heavy canopy sagebrush habitats. Within sage-steppe habitats, wet meadows are protected from livestock overuse by creating new grazing rotations and promoting additional fencing as needed. These areas are important brood habitat for greater sage-grouse, while providing a variety of lifecycle benefits for a multitude of neotropical migratory birds.

Riparian and wetland resources are of particular importance to the arid landscape. This conservation focus area includes the floodplains of the Colorado, White, Yampa, North Platte, and Little Snake rivers, as well as many of the smaller streams within the watersheds. Several of these rivers have relatively unaltered hydrographs which have maintained important riparian and wetland communities. TNC and Yampa Valley Land Trust have been targeting riparian areas with conservation easements to protect these valuable habitats. In addition, Arapaho and Browns Park National Wildlife Refuge are located within the focus area and provide valuable fish and wildlife habitat. The PFW program will provide technical assistance to support these efforts.

Priority Species

- Bufflehead
- Western grebe
- Marbled godwit
- Greater sage-grouse
- Sage thrasher
- Green-tailed towhee
- Spotted towhee
- Brewer's sparrow
- Lark sparrow
- Sage sparrow
- CO River cutthroat trout
- Colorado pike minnow (Endangered)
- Humpback chub (Endangered)
- Bonytail chub (Endangered)
- Razorback sucker (Endangered)
- Colorado hookless cactus (*Sclerocactus glaucus*)
- DeBeque phacelia (*Phacelia submutica*)
- Parachute penstemon (*Penstemon debilis*)
- Dudley Bluffs bladderpod (*Physaria congesta*)
- Dudley Bluffs twinpod (*Physaria obcordata*)
- White River beardtongue (*Penstemon scariosus* var. *albifluvis*)
- Kremmling or Osterhout milkvetch (*Astragalus osterhoutii*)
- Penland penstemon (*Penstemon penlandii*)
- North Park phacelia (*Phacelia formosula*)



Aerial seeding mechanism(left) and loading the aircraft(right). Photos by Bob Timberman, USFWS.



Bob Timberman, PFW field biologist, enjoys the final results of the project with the landowner, after an extremely successful seeding. Photo by Heather Johnson, USFWS.

Northwest Focus Area Five Year Targets

- Upland Restoration/Enhancement: 8,625 acres
- Riparian Restoration/Enhancement: 10 miles
- Wetland Restoration/Enhancement 500 acres
- In-stream Structures: 10

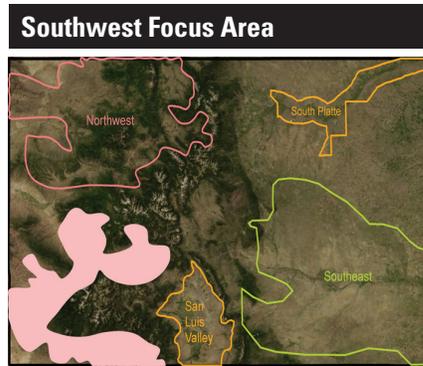
Partnerships

- New landowner partners: 55
- Other new partners: 10
- Amount of technical assistance: 250 staff days
- Percentage of leveraging (ratio Service to Partner): 1:3

Related Plans

- North American Waterfowl Management Plan (USFWS)
- United States Shorebird Conservation Plan (USFWS)
- North American Waterbird Conservation Plan (USFWS)
- North American Bird Conservation Initiative (USFWS)
- Colorado's Comprehensive Wildlife Conservation Strategy (Colorado Parks and Wildlife)
- Partners in Flight (Rich et al. 2004)
- Southern Rocky Mountains: An Ecoregional Assessment and Conservation Blueprint, September 2001 (Neely et al. 2001)
- A Conservation Assessment of the Colorado Plateau Ecoregion
- Colorado Important Bird Areas Program
- Greater Sage-Grouse Statewide Conservation Plan (in progress)
- Gunnison's Sage-Grouse Rangeland Conservation Plan
- WAFWA MOU National Sage-Grouse Habitat Conservation Strategy
- Intermountain West Joint Venture Coordinated Bird Conservation Plan
- Northern Eagle and Southern Routt Greater Sage-Grouse Conservation Plan
- Northwest Colorado Greater Sage-Grouse Conservation Plan
- Conservation Agreement and Strategy for Colorado River Cutthroat Trout in the States of Colorado, Utah, and Wyoming

The PFW program conservation targets for this focus area include the restoration and enhancement of native riparian and wetland plant communities for the primary benefit of migratory bird species. Riparian fencing, wetland restoration, grazing system establishment, and enhancement of native grasses and forbs will constitute the majority of PFW program efforts. When possible, private land projects to restore or protect habitat for native fishes will be pursued.



This conservation focus area targets habitat on all private and tribal lands in an area extending south from the Colorado River to New Mexico, and west of the Continental Divide to Utah. It includes the watersheds of the San Juan, Los Pinos-Piedra, La Plata, Mancos, Disappointment Creek, Uncompahgre, and Upper and Lower Gunnison Rivers.

The PFW program strategy is to take a science-based, ecological

approach that addresses critical parameters affecting wetlands throughout southwestern Colorado. The strategy involves components with several parts. It recognizes the diversity of wetland types and the varied environmental processes that support and maintain those wetlands. Using a landscape-scale approach, the program also categorizes wetland types, their connection to complexes, and the likelihood of successful delivery. Delivery includes grazing management, wet meadow enhancement, hemi-marsh restoration, as well as employing other restoration techniques to benefit wetland complexes in the watershed. Wetland complexes vary greatly throughout southwestern Colorado and the program has evolved to meet these varying needs.

The PFW program recognizes that wetlands provide habitat



With grazing allowed for 2 weeks every 3rd year, after the avian nesting season, - riparian and wetland projects are maintained at a high standard. Photo by Bob Timberman, USFWS.



Landowner bird watching at restored wetlands. Photo by Rick Schnaderbeck, USFWS.

for a majority of the areas' wildlife species. Ninety percent of Colorado's wildlife species use wetlands at some time during their life cycle. Wetlands are one of the most productive and diverse communities within the arid landscapes of southwestern Colorado and thereby warrant significant investment. The program targets the restoration, enhancement, and establishment of wetland habitat to offset the estimated 10 million acres of wetlands lost in Colorado since pre-settlement times (Dahl 1990).

Riparian wetlands are distinctly dependent on the hydrology and associated ground water table of the watershed. Declining ground water tables are a significant threat to wetlands and riparian vegetation. The program addresses threats to ground water tables of riparian corridors by installing a variety of water control structures designed to keep water tables at historic levels, thereby supporting wetlands and native riparian vegetation.

The majority of Gunnison sage-grouse habitat is located within the Southwestern focus area and is located sporadically throughout. Gunnison sage-grouse are considered the marquee species for this habitat type. The distribution and abundance of Gunnison's sage-grouse has been declining and the Gunnison basin is the primary population center. As with greater sage-grouse, the restoration of diverse age classes of sagebrush, enhancement of wet meadows, and removal of encroaching pinyon-

juniper woodlands are the main emphasis of program efforts. With the implementation of the NRCS SGI, more resources and staff are now available to improve private lands for the benefit of Gunnison sage-grouse. The program will assist NRCS with the delivery of SGI funded projects to the greatest extent possible.

Declining native fish populations have become a more elevated emphasis of the program. PFW works closely with various government entities and nongovernmental organizations

to identify habitat needs of native fishes. Fish barriers are installed on private land to protect existing populations of Colorado River cutthroat trout from hybridization with non-native trout. The program seeks opportunities to work with Federally threatened and endangered native fishes such as the Colorado pike minnow, humpback chub, and razorback sucker by altering irrigation diversion structures which are currently impeding upstream movement by these species.

Priority Species

- Mallard
- Cinnamon teal
- Northern pintail
- Wilson's phalarope
- Yellow-billed cuckoo (Candidate)
- Southwestern willow flycatcher (Endangered)
- Gunnison's sage-grouse
- Ferruginous hawk
- Sage thrasher
- Green-tailed towhee
- Brewer's sparrow
- Vesper sparrow
- Lark sparrow
- Black-throated sparrow
- Sage sparrow
- Colorado pike minnow(Endangered)
- Humpback chub(Endangered)
- Razorback sucker(Endangered)
- Mancos milkvetch (Astragalus humillimus)
- Schmolls milkvetch (Astragalus schmolliae)
- Sleeping Ute milkvetch (Astragalus tortipes)
- Mesa Verde cactus (Sclerocactus mesae-verdae)
- Knowlton cactus (Pediocactus knowltonii)
- Pagosa skyrocket (Ipomopsis polyantha)
- Skiff milkvetch (Astragalus microcymbus)
- Clay-loving wild buckwheat (Eriogonum pelinophilum)

Southwest Focus Area Five Year Targets

- Upland Restoration/Enhancement: 2,500 acres
- Wetland Restoration/Enhancement: 2,000 acres
- Riparian/Stream Restoration/Enhancement: 20 miles
- In-stream Structures: 10

Partnerships

- Landowner partners: 50
- Other partners: 15
- Amount of technical assistance: 125 staff days
- Percentage of leveraging (ratio Service to Partner): 1:3

Related Plans

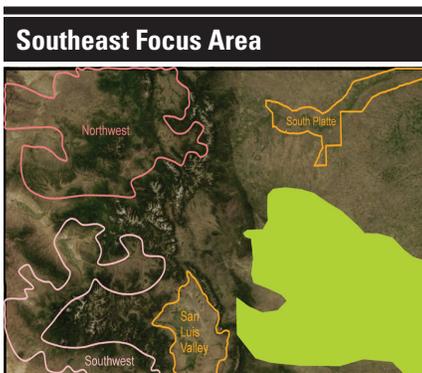
- North American Waterfowl Management Plan (USFWS)
- United States Shorebird Conservation Plan (USFWS)
- North American Waterbird Conservation Plan (USFWS)
- North American Bird Conservation Initiative (USFWS)
- Colorado's Comprehensive Wildlife Conservation Strategy (Colorado Division of Parks and Wildlife)
- Partners in Flight (Rich et al. 2004)
- Southern Rocky Mountains: An Ecoregional Assessment and Conservation Blueprint, September 2001 (Neely et al. 2001)
- Colorado Important Bird Areas Program
- Southwestern Willow Flycatcher Recovery Plan
- Conservation Agreement and Strategy for Colorado River Cutthroat Trout (*Oncorhynchus clarki pleuriticus*) in the States of Colorado, Utah, and Wyoming
- Southwestern Wetlands Focus Area Committee Strategic Plan
- Intermountain West Joint Venture Coordinated Bird Conservation Plan
- The Gunnison Wetlands Focus Area Strategy



Cooperating landowners within newly fenced riparian area. Photo by Rick Schnaderbeck, USFWS.



Construction of an “E” Channel to Establish Spawning Habitat for Colorado River Cutthroat Trout. Photo by Rick Schnaderebeck, USFWS.



implemented throughout the last 5 years. The focus area goals have 4 distinct habitat emphases: 1) restoring or improving riparian and stream condition 2) playa restoration 3) facilitating rangeland management that improves short and sand sagebrush structural diversity 4) encouraging land management that reduces fragmentation impacts.

The community-based partnership goals entail engaging the individual landowners and communities in assessing their specific goals, finding opportunities to directly meet like-minded goals, and developing plans that utilize habitat restoration and program assets as a tool to meet other goals. The goals have shifted slightly in response to partner participation and roles. The PFW program has

The CO PFW program focus area for southeastern Colorado spans a very broad geographical area and address a number of habitat concerns. The geographical area is primarily made up of short grass prairie habitat with transitional mixed-grass prairie, sand sagebrush, pinyon-juniper forest, and riparian forest. Average rainfall varies from 5-21 inches across the landscape. Land use is primarily ranching, haying, dryland and irrigated farming which presents a diversity of restoration challenges and opportunities.

The outline of this focus area was developed based on the concentration of habitat projects



Playa basin restored on private land within the Southeast Focus Area of Colorado. Photo by Katy Fitzgerald, USFWS.

moved from a fiscal partner in some cases to a technical assistance role. Contributing factors include the type of funds available within the area which require a shorter landowner obligation, often involve incentives, and a higher cost-share percentage. The PFW program has assisted with on-the-ground implementation of these partner leveraged dollars. Nationally driven program initiatives have required a local field perspective to assure it is something that can be implemented to the best value of the targeted species.

Stream Restoration

The waterways in this area are mostly tributaries of the Lower Arkansas watershed, and are often strongholds for native eastern plains fishes. Hydrologically, they range from dry creeks to intermittent and perennial flowing streams with water levels dependent on rainfall, springs, run-off events, and diversions for agriculture. Riparian and stream systems are heavily impacted by overgrazing, development, fragmentation, diversion, and farming practices. One estimate



Cooperators family Assisting in the release of Arkansas Darters. Photo by Katy Fitzgerald, USFWS.



Shortgrass prairie, receiving well-needed moisture during an afternoon thundershower. Photo by Katy Fitzgerald, USFWS.

states that 95% of riparian habitat in western North America has been lost, altered, or anthropogenically degraded (Ohmart 1994).

Stream corridors play a critical role in the life-cycle of grassland dependent species, amphibians, plains native fishes, and neotropical migratory birds. Over 60 percent of neotropical species use riparian areas in the West as stopover areas during migration or for breeding habitat (Kreuper 1993). There are at least 195 species of birds that are confirmed riparian breeders, according to the Colorado Breeding Bird Atlas (Kingery 2000). Native eastern plains fishes are believed to be declining because of impacts to eastern plains tributaries.

Riparian restoration practices revolve around grazing management, and include practices such as fencing, rotational grazing, and alternative water sources. Techniques also include in-stream channel stability and removal of invasive species. The desired habitat outcome is to reduce erosion, restore hydrology and stream function. It promotes a diversity of plant species and plant structure within the stream, riparian corridor, and associated uplands.

Grassland Management

The focus area targets short-grass prairie, a small area of

transitional mixed-grass prairie, and sandy soil areas characterized by sand sagebrush habitat. Lesser prairie-chicken and other high-priority grassland species have the potential to benefit from grassland management and restoration in this area. The majority of the habitat impacts in this focus area, within the grassland mosaic, are a result of fragmentation, habitat composition shifts and habitat quality degradation.

While this area is still considered rural on a larger scale, it is significantly fragmented by various land use patterns including dry-land and irrigated farming, wind power and oil and gas development. Roads and other infrastructure associated with human populations have increased over time. These represent substantial impacts for species requiring large tracts of unbroken grassland. CPW and the U.S. Forest Service inventories show a downward trend in many fish and wildlife species populations within the state. There has been a significant effort among locally-based state and Federal entities to improve habitat for these species at risk (e.g., lesser prairie-chicken).

Anecdotal information from lesser prairie-chicken lek surveys in CO conducted by CPW and Rocky Mountain Bird Observatory show a strong correlation between bird use and existing Conservation Reserve



Pronghorn Doe and Fawn in Native Prairie. Photo by Katy Fitzgerald, USFWS.

Program (CRP) fields. There has been much success in neighboring Kansas, with interseeding native forbs and legumes into existing CRP fields. This practice has been implemented by the PFW program and other partners in the core of the lesser prairie-chicken range (Prowers, Baca and Kiowa counties) over the last five years. The next challenge is to improve the quality of native sand sagebrush communities to assure there are habitat links between these CRP and well-conditioned rangelands.

Grazing management practices are believed to play a critical role in proper rangeland conditioning. The push to maximize forage yield is potentially driving ecosystems from a diverse mixed-grass and/or sand sagebrush community to a higher percentage short-grass composition within remnants of sagebrush or mixed-grass. This shift may be a contributing factor to both grassland fragmentation issues and brood success. NRCS is offering a range-wide Lesser Prairie Chicken Initiative (LPCI) to encourage targeted range management to improve habitat condition. The PFW program has played a guiding role to establish program parameters that address CO specific species requirements.

The desired impacts of restoration are improved grassland structure and diversity, reduction of fragmentation pressures, and an

increase in numbers of mature birds during annual surveys.

Playa Restoration

Playas are a prevalent wetland type in this short-grass prairie ecosystem. Playas are ephemeral lakes located on clay soils away from stream channels in short-grass prairie or cultivated fields. They are usually circular depressions with no external drainage that are seasonally flooded. Some playas may be dry for multiple years, but most playas experience several wet-dry cycles each growing season creating an unpredictable and rapidly changing hydro-period. Plant species and communities in playas are adapted to this type of environment and change accordingly, which in turn influences faunal diversity. More than 340 species of plants have been identified in playas (Haukos and Smith 2003). Playas provide cover and native forage (seeds and invertebrates) important to the survival of waterfowl and other migrating and wetland dependent birds. More than 200 bird species, including waterfowl, shorebirds, and other waterbirds are known to use playas during breeding, wintering, or migratory seasons (PLJV 2003). Playas are the primary source of recharge for the Ogallala Aquifer, and may possibly be the exclusive source of recharge (PLJV 2003). It is estimated there are 7,500 playa basins in

eastern CO alone, with basin size varying from 0.25 acre to 65 acres (Hutton 2004). These prairie-based wetlands support a rich community of birds, mammals, amphibians, invertebrates, and plants. They also provide critical migration habitat for waterfowl and shorebirds.

Most playas are found on privately owned native range and farmlands. The impacts that threaten these basins include altered hydrology, upland erosion, sedimentation, overgrazing, pesticide/fertilizer runoff, excess nutrients, and overloading of contaminants from feedlot effluent. Restoration practices routinely implemented include managing livestock use via exclusion or establishment of a grazing system (fencing, alternate water source development, and management). Techniques include restoring hydrological function via filling livestock watering pits within the basin, and re-establishment of native vegetation both within the wetland and in immediately adjacent farmed uplands.

Desired habitat improvements include reduced erosional deposition, improved water quality, better wetland function, increased plant species diversification, stronger plant structure, and increased food production (seeds, macroinvertebrates, and amphibians).

Priority species for the Southeast Colorado include:

- Lesser prairie-chicken (Candidate)
- Northern pintail
- Ferruginous hawk
- Mountain plover
- American avocet
- Long-billed curlew
- Burrowing owl
- Loggerhead shrike
- Arkansas darter (Candidate)
- Black-tailed prairie dog
- Plains leopard frog
- Massasauga rattlesnake



*Restored playa basin Las Animas County, Colorado.
Photo by Katy Fitzgerald, USFWS.*

Southeast Focus Area Five Year Targets

Five Year Targets:

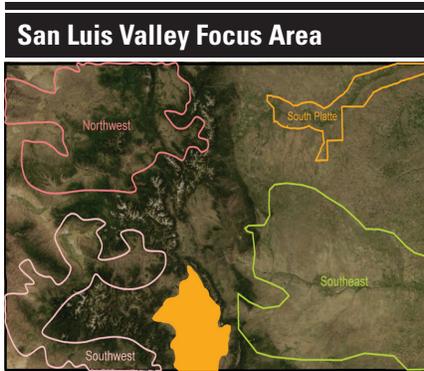
- Wetland Restoration /Enhancement 1000 acres
- Upland Restoration /Enhancement 1250 acres
- Stream Restoration /Enhancement 14 miles
- LPC Fence Marking 20 miles of fence markers distributed.

Partnerships:

- Number of new landowner partners: 50
- Other Partners: 15-20
- Number of Technical Assistance: 560 staff days
- Youth Engagement (RAW) 500 staff hrs
- Percentage leveraging (ratio Service to Partner): 1:3

Estimated Biological Outcomes: Colorado - Southeastern Colorado Focus Areas, 2012-2016

Species (and habitat)	Current Acres	Future Acres	Carrying Capacity current	Carrying Capacity Future	Change in Carrying Capacity	% Goal Current	% Goal Future	Change % Goal
Shorebirds - Nonbreeding								
Playa - Wet	300.00	448.00	2,220.00	3,315.20	1,095.20	0.12	0.18	0.06
Riverine Systems - Floodplain marsh	25.00	50.00	24.05	48.10	24.05	0.00	0.00	0.00
Riverine Systems - River channel	250.00	250.00	185.00	185.00	0.00	0.01	0.01	0.00
						0.13	0.19	0.06
Shorebirds - Nonbreeding Wetland Totals			2,429.05	3,548.30	1,119.25			
Waterfowl - Nonbreeding (Fall)								
Playa - Wet	300.00	448.00	128,400.00	191,744.00	63,344.00	1.15	1.71	0.56
Riverine Systems - Floodplain marsh	25.00	50.00	33,400.00	66,800.00	33,400.00	0.30	0.60	0.30
Riverine Systems - River channel	250.00	250.00	12,500.00	12,500.00	0.00	0.11	0.11	0.00
Waterfowl - Nonbreeding Fall Wetland Totals			174,300.00	271,044.00	96,744.00	1.56	2.42	0.86
Waterfowl - Nonbreeding (Spring)								
Playa - Wet	300.00	448.00	128,400.00	191,744.00	63,344.00	0.35	0.52	0.17
Riverine Systems - Floodplain marsh	25.00	50.00	33,400.00	66,800.00	33,400.00	0.09	0.18	0.09



The San Luis Valley (SLV), spanning approximately 100 miles north to south and 60 miles east to west at its widest point, is considered to be one of the largest and highest inter-mountain valleys on the continent with an average elevation of 7,700 feet. Numerous high-quality wetland and wet meadow habitats are found in the SLV. However, increased human development and landscape modifications have resulted in degradation and loss of wetland habitat throughout the SLV. The greatest potential for wetland and wet meadow habitat restoration and enhancement activities in the SLV lies in voluntary agreements with private landowners. The SLV is well known for

its quality waterfowl nesting habitat and large numbers of breeding pairs. Therefore, habitat restoration and enhancement activities focus on providing quality habitat. Habitat restoration and enhancement provides important migration, foraging, escape, and resting areas for these species. Other high-priority Federal trust species that benefit from these projects include northern harrier, marsh wren, American bittern, and northern leopard frog.

Riparian habitat restoration and enhancement activities focus on regeneration of native vegetative communities associated with the rivers and streams in the SLV. Historic and current land use practices, such as livestock grazing, have impacted the regeneration of cottonwoods, willows, and shrubs within riparian areas. Primary habitat objectives are to restore riparian areas so they will contain a suitable mixed-age class of cottonwoods with a dense understory of willow and other native shrubs. These areas provide high-quality habitat for a wide array of neotropical songbirds including the Federally endangered southwestern willow flycatcher.

Habitat restoration for native fishes (e.g., Rio Grande cutthroat trout, Rio Grande sucker, and Rio Grande chub) is a high priority. Of particular importance is restricting movement of non-native fish species into habitats occupied by native fish through the construction of fish movement barriers. An additional priority is removing and / or replacing detrimental barriers, such as improperly placed culverts, which may restrict access to critical habitats for native fish.

The SLV is within the jurisdictional boundary of the Intermountain West Joint Venture. Other land management units in the area include three National Wildlife Refuges (Alamosa, Baca, and Monte Vista); Great Sand Dunes National Park and Preserve; Blanca Wetland Management Area, owned and managed by the Bureau of Land Management; numerous CPW State Wildlife Areas; and TNC's 100,000 acre Medano-Zapata Ranch. Additionally, numerous perpetual conservation easements are held throughout the SLV by DU, USDA -NRCS, Rocky Mountain Elk Foundation, Colorado Open Lands, and numerous local land trusts.



Wetlands throughout the San Luis Valley are critical nesting and migration habitat for many high-priority waterbird species such as these white-faced ibis. Photo by Corey Kanuckel, USFWS.

Priority species for the SLV Focus Area include:

- Mallard
- Cinnamon teal
- Northern pintail
- White-faced ibis
- Sandhill crane
- American avocet
- Wilson's phalarope
- Long-billed curlew
- Black-necked stilt
- Southwestern willow flycatcher (Endangered)
- Rio Grande Sucker
- Rio Grande Chub
- Rio Grande Cutthroat
- American Bittern
- Northern leopard frog

San Luis Valley Focus Area Five Year Targets

- Upland Restoration / Enhancement: 400 acres
- Wetland Restoration / Enhancement: 1,700 acres
- Riparian / Stream Restoration / Enhancement: 30 miles
- Fish barriers constructed: 3

Partnerships

- Number of new landowner partners: 50
- Other Partners: 10
- Number of Technical Assistance: 250 staff days
- Percentage leveraging (Ratio Service to Partner): 1:4

Related Plans

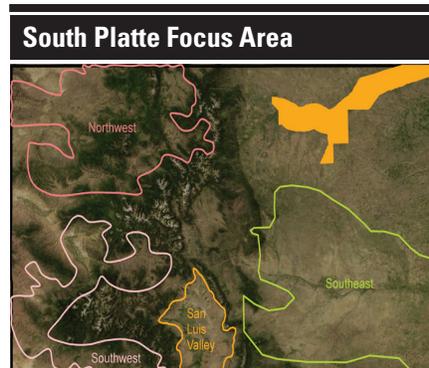
- North American Waterfowl Management Plan (USFWS)
- United States Shorebird Conservation Plan (USFWS)
- North American Waterbird Conservation Plan (USFWS)
- Partners in Flight
- Colorado's Comprehensive Wildlife Conservation Strategy (CDWP)
- North American Bird Conservation Initiative (USFWS)
- Intermountain West Joint Venture Coordinated Bird Conservation Plan
- Coordinated Bird Conservation Plan for Western Colorado (CDWP)
- Southwestern Willow Fly-catcher Recovery Plan (USFWS)
- Conservation Plan for Rio Grande Cutthroat Trout (CDWP)
- Rio Grande Sucker Recovery Plan (CDWP)
- Ducks Unlimited Colorado Conservation Plan: 2003-2012
- San Luis Valley Community Wetlands Strategy (Local)
- San Luis Valley Waterbird Plan (CDWP)
- Southern Rocky Mountains: An Ecoregional Assessment and Conservation Blueprint
- September 2001 (TNC, Neeley et al 2002)



Fencing projects help restore native prairie, while also helping to manage grazing along riparian areas. Photo by Rick Schnaderbeck, USFWS.



Constructed fish barrier to protect a population of Rio Grande Cutthroat trout. USFWS Photo.



The South Platte Focus Area is located in portions of Weld, Arapaho, Morgan, Logan, Phillips, and Sedgwick counties in northeastern Colorado. The floodplain and tributaries of the lower South Platte River, along with associated uplands, are interests within the focus area.

Although much of the land has been altered by agricultural practices and water development, producers are interested in restoring these lands to benefit wildlife and increase their profitability. Restoration of seasonal emergent wetlands, and associated uplands, is a primary conservation objective. Migratory waterbird species, along with a host of other wetland-dependent species, will benefit from these efforts. Additionally, projects which include a groundwater augmentation component will also contribute to improved Platte River flows through the “Big Bend” reach in Nebraska, benefiting ESA Federally listed species such as whooping crane, pallid sturgeon, piping plover, and interior least

tern. Several CPW State species of concern fishes, including suckermouth, brassy, and plains minnows are continued targets for conservation. Floodplain wetland restoration, grazing system establishment (fencing, alternate water supply, rotation) and re-seeding of native grasses and forbs will likely constitute the majority of PFW program activities. Identified threats to conservation include the spread of invasive noxious weeds, fragmentation due to oil and gas drilling, development, increased demand for water by municipalities, and inflation of land prices.



*Contractors restoring the natural form and function of a prairie stream section.
Photo by Matt Filsinger, USFWS.*

Priority species in the South Platte Ecosystem Focus Area include:

- Mallard
- Northern pintail
- Mountain plover
- American avocet
- Wilson's phalarope
- Northern Leopard Frog
- Common Garter Snake



Spring migrants using PFW program wetland restoration / ground water augmentation project site. Photo by Matt Filsinger, USFWS.

**South Platte Focus Area
Five Year Targets**

Habitat

- Upland Restoration / Enhancement: 4,000 acres
- Wetland Restoration / Enhancement: 1,200 acres
- Riparian / Stream Restoration / Enhancement: 15 miles

Partnerships

- Number of new landowner partners: 35
- Other Partners: 15
- Number of Technical Assistance: 400 staff days
- Percentage leveraging (Ratio Service to Partner): 1:4



*Wetland restoration and ground water augmentation project.
Photo by Matt Filsinger, USFWS.*

Estimated Biological Outcomes: Colorado - South Platte Focus Areas, 2012-2016

Species (and habitat)	Current Acres	Future Acres	Carrying Capacity current	Carrying Capacity Future	Change in Carrying Capacity	% Goal Current	% Goal Future	Change % Goal
Shorebirds - Nonbreeding								
Other wetlands - Emergent marsh	200.00	500.00	1,480.00	3,700.00	2,220.00	0.08	0.21	0.13
Other Wetlands - Moist-soil unit	1.00	200.00	3.89	777.00	773.12	0.00	0.04	0.04
Other Wetlands - Saline	200.00	300.00	2,220.00	3,330.00	1,110.00	0.12	0.19	0.07
Playa - Wet	50.00	200.00	370.00	1,480.00	1,110.00	0.02	0.08	0.06
Playa - Wet pit only	50.00	1.00	3.70	0.07	-3.63	0.00	0.00	0.00
Riverine Systems - Floodplain marsh	1.00	100.00	0.96	96.20	95.24	0.00	0.01	0.01
Riverine Systems - River channel	100.00	1.00	74.00	0.74	-73.26	0.00	0.00	0.00
Shorebirds - Nonbreeding Totals			4,152.55	9,384.01	5,231.47	0.22	0.53	0.31
Waterfowl - Nonbreeding (Fall)								
Other wetlands - Emergent marsh	200.00	500.00	267,200.00	668,000.00	400,800.00	2.39	5.97	3.58
Other Wetlands - Moist-soil unit	1.00	200.00	374.08	74,816.00	47,441.92	0.00	0.67	0.67
Other Wetlands - Saline	200.00	300.00	267,200.00	400,800.00	133,600.00	2.39	3.58	1.19
Playa - Wet	50.00	200.00	21,400.00	85,600.00	64,200.00	0.19	0.76	0.57
Riverine Systems - Floodplain marsh	1.00	100.00	1,336.00	133,600.00	132,264.00	0.01	1.19	1.18
Riverine Systems - River channel	100.00	1.00	5,000.00	50.00	-4,950.00	0.04	0.00	-0.04
Riverine Systems - Warmwater Slough	100.00	150.00	42,800.00	64,200.00	21,400.00	0.38	0.57	0.19
Waterfowl - Nonbreeding Fall Totals			605,310.08	1,427,066.00	821,755.92	5.40	12.74	7.34
Waterfowl - Nonbreeding (Spring)								
Other wetlands - Emergent marsh	200.00	500.00	267,200.00	668,000.00	400,800.00	0.73	1.82	1.09
Other Wetlands - Moist-soil unit	1.00	200.00	561.12	112,224.00	111,662.88	0.00	0.31	0.31
Other Wetlands - Saline	200.00	300.00	367,200.00	400,800.00	133,600.00	0.73	1.09	0.36
Playa - Wet	50.00	200.00	21,400.00	85,600.00	64,200.00	0.06	0.23	0.17
Riverine Systems - Floodplain marsh	1.00	100.00	1,336.00	133,600.00	132,264.00	0.00	0.36	0.36
Riverine Systems - River channel	100.00	1.00	5,000.00	50.00	-4,950.00	0.01	0.00	-0.01
Riverine Systems - Warmwater Slough	100.00	150.00	42,800.00	64,200.00	21,400.00	0.12	0.17	0.05
Waterfowl - Nonbreeding Spring Totals			605,497.12	1,464,474.00	858,976.88	1.65	3.98	2.33
Waterfowl - Nonbreeding (Winter)								
Cropland - Corn	100.00	1.00	66,800.00	668.00	-66,132.00	0.10	0.00	-0.01
Cropland - Wheat	100.00	1.00	66,800.00	668.00	-66,132.00	0.10	0.00	-0.10
Riverine Systems - Warmwater slough	100.00	150.00	42,800.00	64,200.00	21,400.00	0.06	0.10	0.04
Waterfowl - Nonbreeding Winter Totals			176,400.00	65,536.00	-110,864.00	0.26	0.10	-0.16

Colorado Statewide Goals



Improve Information Sharing and Communication

Internal Communication:

- Continue to invite other Service divisions and operational functions to attend and participate in annual PFW staff meetings to foster cross-program cooperation and information exchange.
- Maintain regular communications (at least bi-monthly) with Ecological Services Field Supervisor and National Wildlife Refuge System Zone Supervisor.
- Field staff associated with a NWR will attend refuge staff meetings at least bi-monthly and provide PFW program updates.
- Field trips for Washington and Regional office program managers will be arranged by the PFW State Coordinator at least once each FY to view projects and meet cooperators.

External Communication:

- Maintain, and if possible, improve the Colorado PFW program's long-standing partnership with the CPW. Seek to expand habitat types and species which can be addressed with CPW funds.
- Seek out new funding partners to increase the programs financial stability.
- Continue bi-monthly meetings with the USDA – NRCS State Conservationist and CPW Private Lands Coordinator.
- Maintain Colorado PFW staff presence in the two NRCS offices (Sterling and Colorado Springs) currently providing office space. This arrangement has resulted in net habitat gains and productivity for both agencies.
- Community-Based Partnerships: Many rural communities or groups strive to sustain their family operations, community viability, and to provide opportunity to their youth. The techniques related to this approach are largely opportunistic and strive to mesh the goals of the community or landowners with those of the program. The end goal is the building of community trust in the program, a means for the community to interact effectively with the USFWS, and to approach habitat restoration on a landscape and temporal scale.
- Specific examples of implementation include; participation in wetland focus area committees, landowner organizations (i.e. Three Rivers Alliance) and the Ranching and Wildlife (RAW) youth program.
- Maintain and expand PFW program assistance and collaboration with organizations pursuing North American Wetland Conservation Act and other grant programs.
- Invite State, NGO, local cooperators, and landowners on field trips arranged by the PFW program State Coordinator at least once each FY to view projects and meet cooperators.
- 80% of Colorado PFW projects will have accompanying photos.
- Colorado PFW staff will participate in local workshops/meetings as needed to increase landowner interest in habitat restoration.

Enhance Our Workforce

- All six PFW staff will be given the opportunity to acquire a minimum of 40 hours of training each year.
- This may include classes, conference/workshop attendance, and informational visits to other programs (Service, state, ngo).
- Training will be targeted to accomplish two primary functions: 1) improve program operations, and 2) improve career opportunity options for staff.
- There is a need on Colorado's western slope for a PFW program field biologist. Such a position would provide better service to existing and potential cooperators in the area.
- The PFW program would benefit from an entry-level biological technician position to assist in project management and evaluation. This position would provide a career ladder within the PFW program.
- In accordance with the Employee Performance Appraisal System, performance awards will be given and special achievement awards will be used to recognize specific notable staff efforts.

Increase Accountability

- Projects will be entered into HabITS as soon as the Wildlife Extension Agreement, Grant Agreement, Coop Agreement, or similar instrument has been obligated.
- The PFW State Coordinator will ensure HabITS data entries are accurate and timely.
- Each PFW program field biologist will annually inspect / monitor a minimum of 5 projects within respective assigned focus areas.



Karval, Colorado High School Ranching and Wildlife (RAW) students instructing 5th graders.
Photo by Katy Fitzgerald, USFWS.

