

# ***Colorado Division of Wildlife***

## ***Strategic Plan***

***for the***

## ***Wetland Wildlife Conservation Program***



**Version 1.0**

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## **Vision Statement**

*Wetland and riparian habitat in Colorado is sufficient to support desired populations of priority wildlife species and wildlife-associated recreation, and is expected to be sufficient in the future, because ongoing conservation actions are offsetting negative influences on important habitats.*

## **Purpose**

*The purpose of the Wetland Wildlife Conservation Program (Program) is to conserve wetland and riparian habitats and their ecological functions for the benefit of wildlife.*

Wetland habitats can provide a broad diversity of benefits to society. For urban and rural communities, the benefits wetlands provide include hunting, fishing and wildlife viewing for a diversity of wildlife species, improving water quality and flood control, contributing to ground water recharge, and providing open space. They are particularly important to wildlife because they sustain a high level of biological diversity of plant and animal species, including habitat for waterfowl that are important for hunting recreation, as well as habitat for species that are imperiled and the focus of recovery efforts. Wetlands and riparian corridors comprise less than 2% of Colorado's landscape but provide benefits to more than 25% of the wildlife species in the state, including waterfowl and several declining species. Relatively speaking, the conservation of wetlands and riparian areas has a greater positive impact on the general vitality of Colorado's wildlife populations than perhaps any other habitat conservation practice.

The Program facilitates conservation and management of priority wildlife species whose populations depend on wetlands or riparian areas in Colorado. This may be accomplished through protection of these habitats by easements or acquisition, or through conservation and management actions such as habitat manipulation and water management.

Historically, Wetlands projects supported by the Program have occurred on either public or private land, with or without public access, depending on the particular benefits provided to wildlife and the public. There have been projects associated with public access (for example, to increase the public's opportunity for waterfowl hunting) and projects that were not associated with access by the public (for example, on sites important for recovery of species). The dual focus of the program – on species associated with recreation and on species of conservation concern – necessitates flexible requirements, suitable to meeting the objectives of specific projects in the context of the Program's overall goals.

## **Background**

The Wetlands Program's history took a fundamental turn in 1997, when a Legacy Grant from Great Outdoors Colorado Trust Fund (GOCO) in the amount of \$4.46 million provided a significant boost to a nascent cooperative venture between the Colorado Division of Wildlife (CDOW) and partners to target wetlands for conservation efforts. Following this grant to the

partnership's Wetlands Initiative, initial conservation goals were rapidly exceeded. CDOW successfully attracted additional funding from GOCO as well as annual commitments of CDOW funds to continue the program at its new level. In recent years, funding to the agency from GOCO has continued to be targeted to the Program, but at lower levels and through annual funds rather than GOCO's Legacy Program (which involves multi-year commitments). While funding sources remained in flux, the scope of the wetland conservation program placed increasing emphasis on riparian habitats as well, which have many of the same attributes and functions as wetlands. Also in recent years as the program has matured, CDOW has held the projects funded through the Program to a higher standard of scrutiny – for their conservation values, competitive quality, reasonable cost, and compliance with principles of grant management.

Program goals described here are intended to reaffirm the exceptional wildlife values associated with wetlands and riparian areas, and focus on wildlife management within these habitats for both conservation and recreational purposes. Simultaneously, these goals are intended to revitalize the Program's direction in light of new information and needs.

## **Premises**

1. Wetland and riparian areas (see definitions in Appendix A) provide important habitat for a diverse array of wildlife species. See Tables 1 and 2 describing Wetlands Program priority wildlife species, derived from data on waterfowl hunting in Colorado and Colorado's Wildlife Action Plan.
2. Wetland types vary throughout different geographical locations and climate, and their importance to wildlife species varies. Types of wetlands are listed in Appendix B.
3. A landscape strategy is effective in conserving healthy functioning wetlands and riparian habitats of all types.
4. Hydrological functions of wetlands are ecologically significant and socio-economically important to Colorado residents. Wetlands help sustain water flows in streams and rivers, recharge ground water supplies, act as temporary storage areas for flood water, and slow the flow of water allowing impurities to settle, thereby cleansing the water. Protecting hydrological functions conserves ecological integrity, and society benefits through economic savings.
5. The condition of upland habitats that buffer wetlands is associated with the integrity of adjacent wetlands. Adjacent upland habitats are also important to species of wildlife that only require wetlands for a portion of their annual life cycle.

## Priority Wildlife Species

Priority wildlife species for the Program are designated to focus application of available fiscal resources so that improvements in status, abundance, distribution, and hunting opportunity can be realized. Priority species are important to the overall strategic direction of the Program, and are consistent with overall Program goals (see next section). Priority wetland/riparian wildlife species include:

- Waterfowl (primarily ducks) which provide valuable recreational opportunity in the form of hunting and viewing.
- Declining or at-risk species that are dependent on wetlands or riparian areas during part or all of their life cycle.

CDOW's Strategic Plan identifies waterfowl, and specifically ducks, under Achievement Factors H-1.4 and 4.2 as important for providing valuable hunting and viewing recreational opportunities. Priority waterfowl include eight species of ducks that collectively comprise nearly 90% of the Colorado duck harvest (Table 1). These species were selected for their importance to the overall duck harvest in Colorado, except for Northern Pintail and Lesser Scaup, which were selected due to concern for long-term population declines. Other wetland-dependent species such as cranes, rails, coots and snipe will benefit from habitat conservation and management activities targeting priority duck species.

The Strategic Plan addresses wetland conservation priorities for at-risk species and associated habitat under achievement factors S-1.2 and 2.2. CDOW has a mandate to protect these species and enhance their population status. The conservation of wetlands is specifically referenced with respect to protecting habitat on private land and recovery of threatened and endangered species.

Priority at-risk species were selected initially from Tier 1 species in the Colorado Wildlife Action Plan that are associated with wetland/riparian areas. After consultation with species experts from CDOW and partner agencies and organizations, some species were removed from the initial list if 1) they were not strongly associated with wetland/riparian areas, 2) not enough was known about their habitat requirements to develop appropriate habitat conservation actions, or 3) substantial CDOW fiscal resources were available outside the Program for habitat work for the species. The final list of priority at-risk species is shown in Table 2.

## Goals

### **Goal 1. Improve the distribution and abundance of ducks, and opportunities for public waterfowl hunting.**

- a. Maintain or increase the quantity and quality of spring migration and duck breeding habitat, and duck breeding populations and production in breeding areas important to Colorado.

- Geographic areas of emphasis: *Breeding areas* – North Park, San Luis Valley, Yampa/White River. *Spring migration areas* – eastern plains, western valleys, San Luis Valley.
  - Species of emphasis: Primarily dabbling ducks (genus *Anas*) including mallard, northern pintail, green-winged teal, blue-winged teal, cinnamon teal, gadwall, American wigeon (primarily North Park), and northern shoveler. Local concentrations of some diving ducks are of interest, including lesser scaup (North Park) and redhead (San Luis Valley). See Table 1 for a list of Wetlands Program priority waterfowl species.
  - Habitat types of interest: *Breeding areas* – marsh/grassland complexes with temporary, seasonal, and semi-permanent hydrologies; riparian corridors with emphasis on floodplain wetlands and complexes of beaver ponds; areas with low human disturbance. *Spring migration areas* – seasonal marshes and riparian zones with dynamic hydroperiods that support seed-producing annual plants and “pulses” of invertebrate production; habitats must be flooded during the migration period (managed flooding systems are often necessary); low human disturbance.
- b. Improve the quantity and quality of fall migration and wintering habitat to attract and support increased duck numbers, particularly on public areas.
- Geographic areas of emphasis: Eastern plains (lower South Platte River corridor, lower Arkansas River corridor, Republican River corridor, eastern plains playas, Front Range reservoirs and streams), western valleys (Colorado, Gunnison, Uncompahgre, and Yampa River corridors), and San Luis Valley.
  - Species of emphasis: Primarily dabbling ducks (genus *Anas*), but divers (*Aythya*) and wood ducks (*Aix sponsa*) may also be of local interest. See Table 1 for a list of Wetlands Program priority waterfowl species.
  - Habitat types of interest: Seasonal marshes and riparian zones with dynamic hydroperiods that support seed-producing annual plants and “pulses” of invertebrate production; habitats must be flooded during the migration period (managed flooding systems are often necessary); low human disturbance. Also includes sloughs and reservoirs that provide open water for roosting during winter.
- c. Improve public access to waterfowl hunting in Colorado by increasing the number (acres) and diversity (e.g., unrestricted access public areas, reservation only public access, temporal and/or spatial restrictions on public access, leased access to private areas) of public hunting opportunities.
- Geographic areas of emphasis: Statewide.
  - Species of emphasis: All ducks.
  - Habitat types of interest: Appropriate habitats for duck hunting (early, mid, and late season) in each area of the state.

**Goal 2. Improve the status of declining or at-risk species associated with wetlands and riparian areas.**

## Strategies

### Planning

- Support field operations' and wildlife biologists' planning and budgeting related to wetlands protection and monitoring, consistent with statewide goals for wetlands protection.
- Encourage communication and coordination among Colorado's wetland managers and owners to facilitate a landscape scale approach to wetland conservation efforts.
- Plans should demonstrate integration with other conservation plans, including:
  - North American Waterfowl Management Plan
  - United States Shorebird Conservation Plan
  - North American Waterbird Conservation Plan
  - North American Bird Conservation Initiative
  - Partners in Flight

All of the continental bird plans (see Appendix C) are built around conserving important habitats for the birds they address (and they also address activities like population monitoring), and the North American Bird Conservation Initiative is an effort to coordinate all of the activities related to the various plans. The Joint Ventures (JVs) are self-directed partnerships of agencies, organizations, corporations, tribes and individuals that have formally accepted the responsibility of implementing national or international bird conservation plans within a specific geographic area, and have received general acceptance in the bird conservation community for such responsibility. Both of the JVs that include Colorado have identified priority habitat types for birds, including wetlands. The states in a JV have representatives on the JV Management Boards and Technical Committees, to help guide conservation efforts and represent the conservation priorities of their state. The JVs also are important for leveraging regional partners, and funding and other support, particularly for North American Wetlands Conservation Act (NAWCA) and other large grants. So it makes sense to have strong linkages between the JVs and CDOW's habitat conservation programs, including the Wetlands Program.

However, the bird plans and JVs tend to have broad multi-state objectives, and don't necessarily address all of the conservation activities that might be important for CDOW's Wetlands Program. For example, these plans rarely address non-avian T&E species or ongoing O&M activities needed to maintain wetland productivity on highly altered landscapes and intensively managed areas. While part of the CDOW Wetlands Program strategy needs to address how Colorado will integrate with these broader-scale conservation efforts, we also need to have internal consensus and direction on CDOW's priorities for wetland conservation needs and activities.

### Protect, Restore, Enhance and Create Wetland Habitats

- CDOW recognizes that an effective conservation strategy is built upon information about the location and status of riparian and wetland-dependent species, and the condition and threats associated with their habitats. The intent is to compile available information, and develop a conservation strategy for wetlands wildlife using the Colorado Wildlife Action Plan (which focuses on declining or at-risk species), data on waterfowl species associated with hunting

recreation, data on wildlife viewing to the extent this is available for wetlands, GIS databases on habitat types and land ownership, and an assessment of threats to wetland sites statewide.

A simplified but reasonable strategy for implementing conservation action is possible while compiling more comprehensive information. Information available on riparian and wetland-dependent species – those identified as species of greatest conservation need, and those associated with hunting recreation – will be matched with information about wetland habitats that are biologically significant and in need of protection. The latter will be identified using data available on the location, condition and threats associated with specific wetlands in Colorado and data available from conservation efforts conducted by CDOW and by other wetlands conservation partners. The intent is to identify priority geographic areas for wetland conservation projects based on the species present, protections in place or lacking, and the threats posed to specific wetland wildlife habitat sites. Conservation of wetlands also includes maintenance and enhancement of wetland habitat to meet objectives connected to both recreation and species conservation.

- Input solicited from CDOW field operations and biologists at the district, area and regional level, will be integrated with the data described above, to develop more comprehensive and specific strategies for wetlands protection, restoration and enhancement tied to the needs of priority species.
- Strategies should include:
  - Protection (easement or fee-title acquisition),
  - Restoration (e.g., raising the water table to restore historic seasonal flow patterns on small streams, but also vegetation management – including grazing management, weed removal and reestablishment of native plants),
  - Enhancement (e.g., improving water control capabilities),
  - Management (on-going active management of water and habitats, particularly on public areas), and
  - Creation of wetland habitats.
- Acquire and manage new public hunting areas. Maintain or improve wetland habitats on public hunting areas, and manage hunting access to offer a diversity of hunting opportunities, taking into consideration the size of the hunting area, habitat conditions, and proximity to other areas. Within well-defined movement corridors (e.g., lower South Platte River) or wetland complexes (e.g., San Luis Valley), ensure that high-quality “refuge” areas that attract and hold ducks on public and/or private lands are located near public hunting areas.
- Apply priorities identified for wetland wildlife protection to the solicitation of, review and selection of projects to receive funds.
- Wetlands Program activities that involve the enhancement of wetlands for waterfowl should not demonstrably diminish existing wetland habitat for species of greatest conservation need, listed in Table 2.
- Wetlands Program activities that involve the creation of wetlands for any reason should also not demonstrably diminish existing habitat for species of greatest conservation need, listed in Table 2.
- Be proactive in soliciting proposals that may enhance the beneficial use of, and thereby protect, water rights owned by CDOW. Consult with CDOW’s water staff on water rights and hydrologic considerations as these relate to wetland protection projects, considering such



things as changes of use and agricultural water's contribution to wetlands. Where over-appropriation of watersheds makes it difficult to accomplish conservation of wetlands, CDOW and a project proponent could acquire water rights and obtain water court approval of an augmentation plan.

- Work in partnership with the Colorado Water Conservation Board (CWCB) to assess priorities for protection of in-stream flows and natural lake levels.

### **Operations and Maintenance**

- Operate and maintain the wetlands on the State Wildlife Areas (SWAs) to maintain/increase the wildlife populations for the hunting and non-hunting public.  
CDOW needs to commit resources in the long-term to capital projects in which CDOW has invested funds, and include a commitment to future O&M, as needed, for future wetlands capital projects. Also, because of their nature, wetlands require consistent, intensive management whether capital infrastructure has been funded or not. Water management, weed control, vegetation structure and composition management are needed, for example, in order to maintain the habitat quality that wildlife needs. O&M for wetlands is expected to be part of Areas' existing budgets.
- Require that recipients of Wetlands Program funds have a clear O&M plan and committed funds for O&M.

### **Monitoring and Evaluation**

These are critical elements of project tracking, to insure objectives are being met.

A Wetlands Monitoring and Evaluation Project (WMEP) was run by the Rocky Mountain Bird Observatory (RMBO) and included a team that visited project sites pre- and post-delivery and provided a project tracking database. Reasonable objectives now could be:

- Establish a monitoring regime for each of the properties in order to assess ongoing conditions – with highest priority given to properties owned by CDOW.
- Engage contractors as needed, since experience in wetland monitoring and evaluation, and the availability of CDOW staff resources to devote to this, are limited.
- Based on quantifiable objectives, measure habitat and population response variables to evaluate progress toward objectives.
- Monitor both waterfowl and at-risk species to better understand population responses to habitat changes.

### **Research/Inventory**

- To increase knowledge of wetland resources, compile mapping information currently available on the location of Colorado's wetlands, from a variety of sources.
- Generate wetland profiles indicating the type and condition of wetlands, by location.
- Using information gathered on location, type and condition, develop priorities for wetlands protection based on species of highest conservation concern, by regional location, wetland type, and risk of degradation or loss of land to development. Update assessments periodically, to reconsider priorities if conditions change.

- In each priority area, gather baseline indices, estimate current acres of wetland and critical upland habitat, and food production in wetlands; current estimates of duck numbers or use-days, reproductive success, body condition. These provide baseline measures from which to produce more quantitative objectives.
- Under an adaptive management framework, develop a feedback loop on various wetland habitat management practices.

### **Education and Outreach**

- Inform the broader community of the value of wetlands and the objectives of wetlands conservation programs, hold public events to deliver a clear and consistent message about wetland conservation. Such events could include press conferences, wetland tours, workshops for landowners and government officials.
- Coordinate with CDOW's education staff to include wetland discussions in their education and outreach efforts.

### **Partnerships**

- Establish and foster wetlands protection partnerships between CDOW, communities, non-governmental organizations, state government agencies, federal government agencies, counties and municipal governments, development interests, water interests, private citizens and private landowners using existing Focus Area Committees (FACs) and other reasonable means.
- Encourage interaction, cooperation and partnering among wetland protection participants and identify opportunities to make wetlands protection programs in Colorado work better. In areas where FACs are not active, develop alternative means for engaging communities in wetlands conservation – for instance, through relationships with landowners, and by working directly with CDOW staff, local governments and land trusts actively involved with landowners in those areas.

### **Funding**

- Develop goals for leveraging/matching funds with primary wetlands partners including GOCO, Farm Bill, USFWS, and others that are regularly involved with wetlands conservation projects.
- Develop connection with the Natural Resource Damage Assessment program as a possible source for matching funds for some wetlands projects.
- Establish Colorado's funding priorities for submitting proposed projects for NAWCA and Environmental Protection Agency (EPA) funding. Work closely with the JVs in the development of both NAWCA Standard and Small Grant applications and encourage partners submitting NAWCA proposals to coordinate with the JVs.

## **Program Structure**

The Wetlands Program Coordinator will remain the point of contact for Program activities, reporting to the Statewide Wildlife Conservation Programs Supervisor. This position is valuable in focusing strategies for wetlands conservation, as well as being a point of contact for integrating these strategies into other habitat conservation programs conducted by CDOW. Wetland-dependent wildlife populations by definition are most likely to benefit from conservation activities that focus on wetland habitats. A programmatic focus on priority wetland wildlife species will also improve CDOW's ability to monitor and evaluate the effectiveness of these conservation efforts.

The Wetlands Program Coordinator will be the point of contact with Focus Area Committees, funding partners in the non-profit community, JVs, USFWS' Partners for Wildlife program, EPA, CDOT wetlands efforts, and other local, state and federal level wetlands programs operating in Colorado. It is also proposed that this position have a lead role (with assistance from Wildlife Programs biologists and field operations staff) in developing and coordinating operations and management of wetlands projects on CDOW properties, and in monitoring/assessment programs that will provide input to future planning and expenditures for wetlands projects.

The Wetlands Program Coordinator will be responsible for announcing the availability of Wetlands Program funds to potential applicants, and describing the criteria by which funds will be awarded – consistent with the goals and strategies in this plan.

### ***Focus Area Committees***

Local Focus Area Committees (FACs; see Figure 1) have been an integral component of the Program since its inception. FACs were adapted from the successful focus area concept of the North American Waterfowl Management Plan (see Appendix C). Focus areas and their implementation bodies, both nationally and in Colorado, were initially designated to target resources toward wetland conservation in important waterfowl areas, but have evolved into broader habitat conservation initiatives benefitting other wildlife.

FAC membership and meetings generally are open. Membership often is diverse, including agency and NGO biologists, scientists, educators, landowners, and recreationists. FACs function independently and activity levels, meeting frequencies, and participation by various partners differs among FACs.

FACs have been especially valuable to the Program in develop wetland conservation projects for funding consideration, and in leveraging Program funds to secure other available funding for wetlands conservation, often by several fold. The general role of the FACs is to:

- Identify and generate, evaluate and prioritize funding proposals for wetlands projects at the local/regional level.

- Serve as a source for local wetlands knowledge, including quantity, quality, threats, opportunities for conservation, wildlife use, recreational significance, etc.
- Assist in site visits for grant proposals.
- Conduct education and outreach with the local community on wetlands conservation opportunities.
- Provide a forum for wetlands conservation discussions, including how national, regional, and statewide initiatives can be implemented locally on the ground, and establishing local buy-in for projects, especially those that are potentially controversial.
- Participate in forming and nurturing wetlands conservation partnerships.
- Assist the local community in the success of wetlands conservation projects.
- Develop and maintain a strategic plan.

## Plan Updates

Consistent with the principles of adaptive management, this plan is intended to be dynamic. It will be updated as new information on priority wildlife species and their wetland and riparian habitats becomes available, to accommodate changes in strategic direction for habitat conservation, or as otherwise desired by CDOW staff and partners. Interested users of this plan should check the CDOW web site (<http://wildlife.state.co.us/LandWater/WetlandsProgram/>) for updates.

## Contacts

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**Table 1.** Wetland Program Priority Waterfowl Species and Colorado Harvest Estimates<sup>1</sup>

Common Name	2005	2006	2007	3 yr. Ave.	% Harvest
Mallard	48,352	55,111	52,021	51,828	48.5
American Green-winged Teal	10,006	11,619	14,317	11,981	11.2
Blue-winged / Cinnamon Teal	9,548	8,311	14,850	10,903	10.2
Gadwall	11,534	9,844	9,248	10,209	9.6
American Wigeon	8,326	7,988	5,869	7,394	6.9
Northern Pintail	993	888	1,956	1,279	1.2
Lesser Scaup	458	565	356	459	0.4

<sup>1</sup>U.S.Fish and Wildlife Service migratory bird hunting activity and harvest reports for the 2004 -2005 & 2006-2007 hunting seasons.

**Table 2.** Wetland Program Priority Wildlife Species of Greatest Conservation Need<sup>1</sup>

Taxon	Common Name	Priority <sup>2</sup>	PopStatus <sup>3</sup>	ListStatus <sup>4</sup>
Amphibians	Boreal Toad (S. Rocky Mtn. Population)	Tier 1	Low	SE
Amphibians	Northern Leopard Frog	Tier 1	Low	SC
Amphibians	Plains Leopard Frog	Tier 1	Medium	SC
Birds	Least Tern	Tier 1	Low	FE, SE
Birds	Southwestern Willow Flycatcher	Tier 1	Low	FE, SE
Birds	Piping Plover	Tier 1	Low	FT, ST
Birds	Bald Eagle	Tier 1	Low	ST
Birds	Western Snowy Plover	Tier 1	Low	SC
Birds	Western Yellow-billed Cuckoo	Tier 1	Low	SC
Birds	Long-billed Curlew	Tier 1	Low	SC
Birds	Greater Sandhill Crane	Tier 1	Medium	SC
Birds	American Bittern	Tier 1	Unknown	
Birds	Short-eared Owl	Tier 1	Low	
Birds	Red-naped Sapsucker	Tier 1	Medium	
Birds	Lewis's Woodpecker	Tier 1	Medium	
Fish	Northern Redbelly Dace	Tier 1	Low	SE
Fish	Southern Redbelly Dace	Tier 1	Low	SE
Fish	Brassy Minnow	Tier 1	Low	ST
Fish	Arkansas Darter	Tier 1	Medium	ST
Fish	Plains Orangethroat Darter	Tier 1	Low	SC
Mammals	Meadow Jumping Mouse (both subsp.)	Tier 1	Low	FT, ST
Mammals	River Otter	Tier 1	Low	ST
Mammals	Dwarf Shrew	Tier 1	Unknown	
Reptiles	Yellow Mud Turtle	Tier 1	Low	SC
Reptiles	Common Garter Snake	Tier 1	Medium	SC

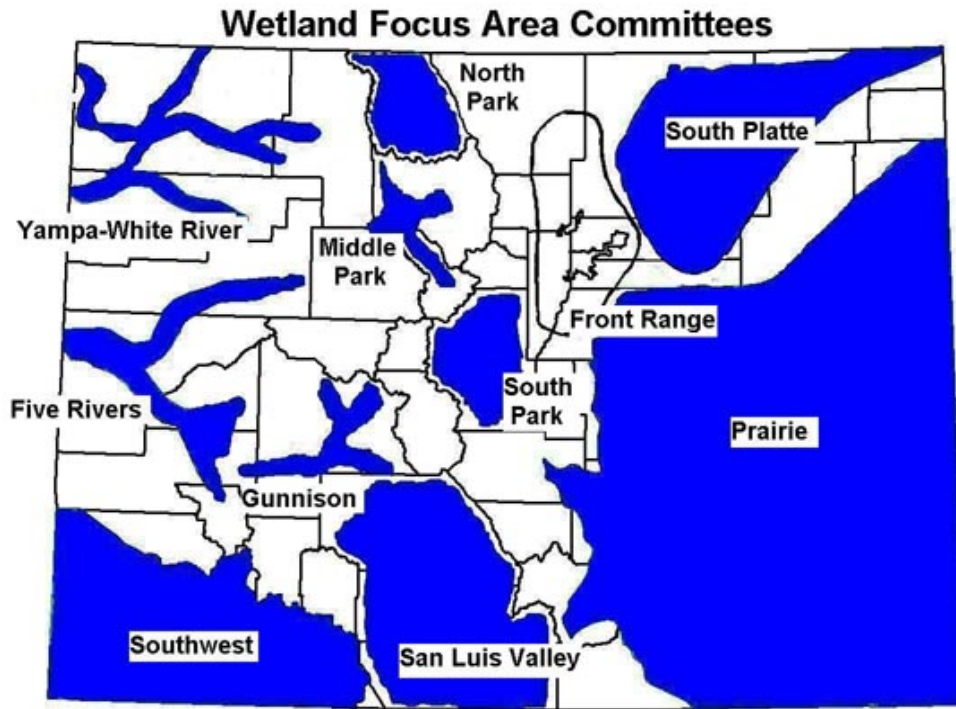
<sup>1</sup>Species identified here represent a priority subset from the Action Plan based on habitat associations.

<sup>2</sup>Priority based on Colorado's Wildlife Action Plan; refer to the Action Plan for a more complete listing of species associated with wetlands/riparian areas and the associated threats and conservation actions.

<sup>3</sup>Population status based on perceived or estimated abundance.

<sup>4</sup>Listing Status: SC=State Species of Concern, ST= State Threatened, SE= State Endangered, FT= Federally Threatened, FE= Federally Endangered.

**Figure 1. Wetland Focus Area Committees.**



**Focus Area Committees (FAC) Contacts:**

Focus Area Committee	Contact	Phone	Email
North Park	Barbara Vasquez	970-723-3270	<a href="mailto:bv_99_munich@yahoo.com">bv_99_munich@yahoo.com</a>
South Park	Sarah McDonald	303-988-2373	<a href="mailto:smcdonald@coloradoopenlands.org">smcdonald@coloradoopenlands.org</a>
San Luis Valley	(1) Pete Clark		
	(2) Rio de la Vista	719-850-2255	<a href="mailto:riovista@rmi.net">riovista@rmi.net</a>
South Platte	Wendy Figueroa	970-842-6340	<a href="mailto:wendy.figueroa@state.co.us">wendy.figueroa@state.co.us</a>
Gunnison	Inactive		
Prairie and Wetlands	Seth Gallagher	970-482-1707	<a href="mailto:seth.gallagher@rmbo.org">seth.gallagher@rmbo.org</a>
Southwest	Catherine Ortega	970-247-7393	<a href="mailto:ortega_c@fortlewis.edu">ortega_c@fortlewis.edu</a>
Yampa/White River	Inactive		
Five Rivers	Inactive		
Front Range	Inactive		
Middle Park	Inactive		

## **Appendix A – Wetland and Riparian Definitions**

"Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of the year." (National Wetlands Inventory, U. S. Fish and Wildlife Service)

"Riparian areas are those plant communities adjacent to and affected by surface or ground water of perennial or ephemeral water bodies such as rivers, streams, lakes, ponds, playas, or drainage ways. These areas have distinctly different vegetation than adjacent areas or have species similar to surrounding areas that exhibit a more vigorous or robust growth form." (Definition used in CDOW's riparian mapping project)

## **Appendix B - Types of Wetlands**

Submerged aquatic (semi-permanent flooding with aquatic plants)  
Emergent marsh (seasonal or semi-permanent flooding)  
Wet meadow (high water table with grass/sedge/rush community)  
Shrublands and floodplains (seasonal flooding with shrubby vegetation)  
Peatlands/fens (flooded during growing season, low decomposition rate)  
Springs, seeps and sloughs (groundwater discharge site)  
Riverine (sand/gravel bars, other wetlands associated with stream channel)  
Playas (temporary lakes in pastures or prairies, flooded seasonally or less often)  
Lakes and reservoirs (included here because of their association with strategic wetlands and migratory waterfowl habitat)  
Artificial wetlands

## **Appendix C - Summaries of National Bird Conservation Plans**

North American Waterfowl Management Plan (NAWMP)  
<http://www.fws.gov/birdhabitat/NAWMP/index.shtm>

The vision of the North American Waterfowl Management Plan is to recover waterfowl populations by restoring and managing wetland ecosystems, to conserve biological diversity in the western hemisphere, to integrate wildlife conservation with sustainable economic development, and to promote partnerships of public and private agencies, organizations and individuals for conservation. Canada, the United States and Mexico are committed to the ongoing continental effort to restore North America's waterfowl and wetland resources.

### U.S. Shorebird Conservation Plan

<http://www.fws.gov/shorebirdplan/>

Partners from state and federal agencies and non-governmental organizations from across the country pooled their resources and expertise to develop a conservation strategy for migratory shorebirds and the habitats upon which they depend. The plan provides a scientific framework to determine species, sites, and habitats that most urgently need conservation action. Main goals of the plan, completed in 2000, are to ensure that adequate quantity and quality of shorebird habitat is maintained at the local level and to maintain or restore shorebird populations at the continental and hemispheric levels. Separate technical reports were developed for a conservation assessment, research needs, a comprehensive monitoring strategy, and education and outreach. These national assessments were used to step down goals and objectives into 11 regional conservation plans.

### Waterbird Conservation for the Americas

<http://www.waterbirdconservation.org/>

This independent, international, broad-based, and voluntary partnership was created to link the work of individuals and institutions having interest and responsibility for conservation of waterbirds and their habitats in the Americas. The vision of Waterbird Conservation for the Americas is that the distribution, diversity, and abundance of populations and habitats of breeding, migratory, and nonbreeding waterbirds are sustained or restored throughout the lands and waters of North America, Central America, and the Caribbean.

### Partners in Flight (PIF)

<http://www.partnersinflight.org/>

Partners in Flight (PIF) launched in 1990 in response to growing concerns about declines in the populations of land bird species, and to emphasize the conservation of birds not covered by existing conservation initiatives. The initial focus was on neotropical migrants, species that breed in the Nearctic (North America) and winter in the Neotropics (Central and South America), but the focus has spread to include all native land birds in North America. The 2004 PIF North American Landbird Conservation Plan includes an appendix delineating PIF Species of Continental Importance which utilize wetland habitats. The central premise of PIF has been that the resources of public and private organizations in North and South America must be combined, coordinated and increased in order to achieve success conserving bird populations in this hemisphere. PIF is a cooperative effort involving partnerships among federal, state and local government agencies, philanthropic foundations, professional organizations, conservation groups, the academic community and private individuals. PIF's mission is: helping species at risk, keeping common birds common, and voluntary partnerships to conserve land birds and their habitats.



North American Bird Conservation Initiative (NABCI)

<http://www.nabci-us.org/>

The U.S. North American Bird Conservation Initiative (NABCI) Committee is a forum of government agencies, private organizations, and bird initiatives helping partners across the continent meet their common bird conservation objectives. Its strategy is to foster coordination and collaboration among the bird conservation community on key issues of concern.

Through annual work plans, the Committee focuses its efforts on advancing coordinated bird monitoring, conservation design, private land conservation, tri-national projects, and institutional support in state and federal agencies for integrated bird conservation.

The U.S. NABCI Committee is dedicated to advancing and promoting integrated bird conservation in North America. Integrated bird conservation is about conserving birds across geopolitical boundaries, taxonomic groups, and landscapes.