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APPENDIX D:  
WETLANDS COMPONENT

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## Appendix D: SCORP Wetlands Component

### *Background*

Since the passage of the Emergency Wetlands Resources Act (EWRA, Public Law 99-645, S. 303), in 1986, the National Park Service has directed each state to include a wetlands component as part of their Statewide Comprehensive Outdoor Recreation Plan (SCORP). Under this act, each state must address the following through the SCORP Wetlands Component:

- Must be consistent with the National Wetlands Priority Conservation Plan developed by the U.S. Fish & Wildlife Service.
- Requires consultation with the state's game and fish management agency.
- Must list the types of wetlands that are priorities for acquisition.

This section of the SCORP reviews the types and classes of wetlands in Colorado, significant programmatic efforts aimed at wetlands protection and management, and provides the results of the current wetlands inventory<sup>1</sup> (managed by the U.S. Fish and Wildlife Service) and wetland and riparian resources, and high quality, high impact watersheds in Colorado (Map 1).

### *Introduction*

From high elevation stream systems to reservoir shorelines, Colorado's diverse wetlands are a small but essential component of the natural landscape. Wetlands comprise less than 2% of Colorado's total land area, but provide benefits to over 75% of the species in the state through the provision of food, habitat, and movement corridors.

Wetlands also provide groundwater recharge, flood control, stream bank stabilization, and the filtration of sediment, excess nutrients, and contaminants. Many of these benefits are not exclusive to wildlife. Wetlands are also important to humans and provide open space, education, and economic benefits related to hunting and bird watching.

Since the state was first settled, over half of Colorado's wetlands have vanished. In the past, wetlands were often regarded as useless lands that had to be drained or filled in order to provide significant value. Today, the values of wetlands to wildlife, humans, and the environment are better understood and effective conservation initiatives have been established.<sup>2</sup>

Since pioneers first began settling the state, Colorado has lost approximately half of its wetlands resources.

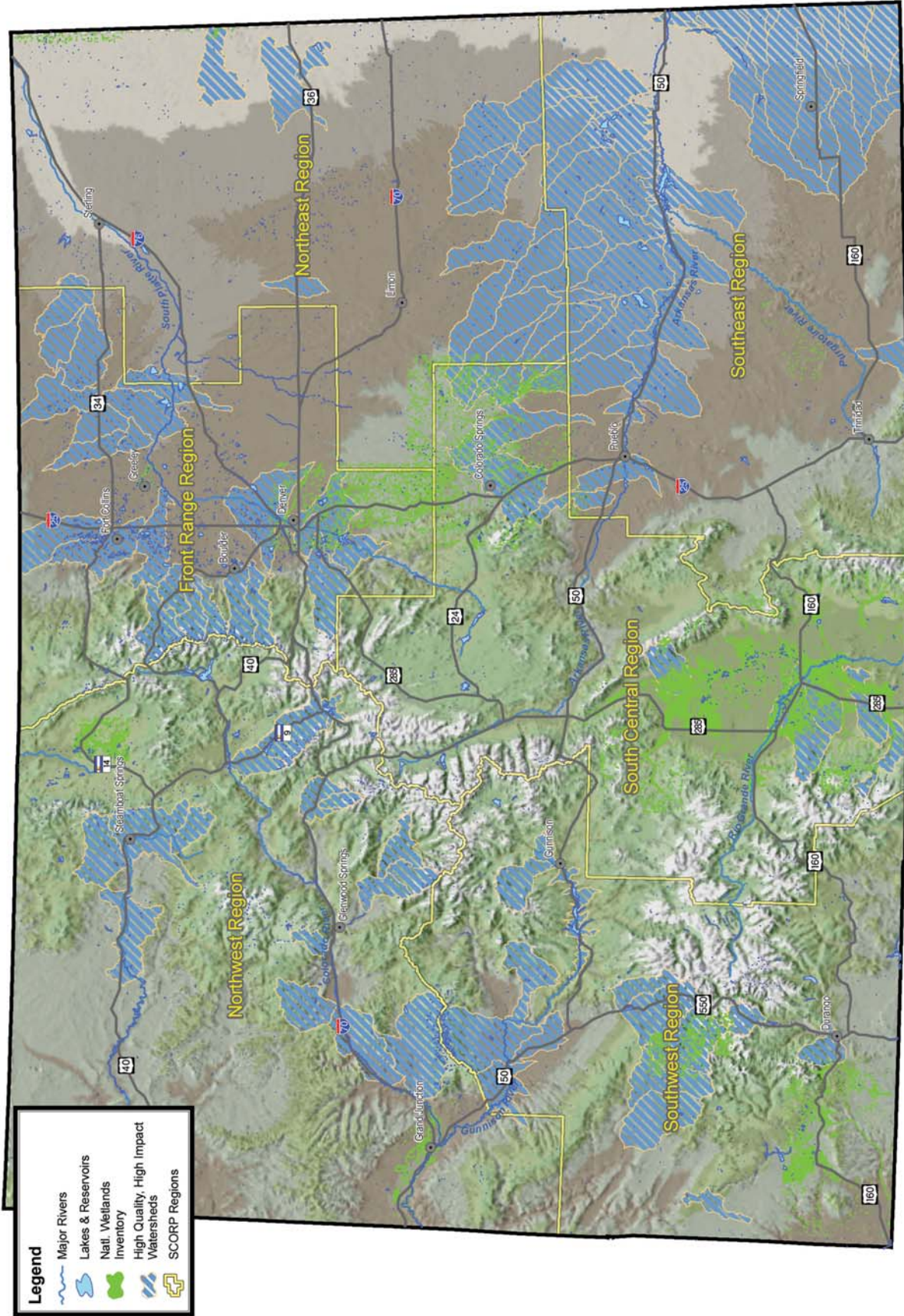
*-Colorado Division of Wildlife  
Wetland Wildlife Conservation  
Program, 2008.*

<sup>1</sup> Current inventory as of Spring 2008. Inventory has not been completed for the entire state of Colorado.

<sup>2</sup> "Wetland Wildlife Conservation Program." Colorado Division of Wildlife. 11 Nov. 2007

<<http://wildlife.state.co.us/LandWater/WetlandsProgram/WetlandsHome.htm>>.

**Map 1: Colorado Wetlands and Water Resources**



Map Scale = 1 : 2,600,000

Source: CDOW & NWI, 2008.

This wetlands inventory is managed by the U.S. Fish and Wildlife Service. Data is current as of Spring 2008. Not all wetlands in Colorado have been inventoried and are therefore not displayed.

## Overview of Wetland Resources in Colorado

Colorado has an estimated one million acres of remaining wetlands, approximately 1.5% of the state's total land mass.<sup>3</sup> In general, vegetation across Colorado is varied with mixed forests, shrublands and grasslands. With semi-desert conditions in most of the state, areas with abundant water provide habitat for much of the state's wildlife and contribute significantly to maintaining Colorado's biodiversity. Colorado Natural Heritage Program (CNHP), one of the state's primary comprehensive biological diversity data centers, tracks approximately 170 rare species in the state that are dependent on wetlands or the associated aquatic system.

Some of these wetlands are displayed in *Map 1: Colorado Wetlands and Water Resources*, which depicts inventoried riparian wetland areas, however, not all wetlands present in the state are displayed. Gaps in data on this map demonstrate the need for continued surveying to identify wetland resources in the state, as part of fundamental conservation efforts. Currently, several major inventory efforts are underway to confirm the number and acreage of wetlands in Colorado, including:

- Colorado Division of Wildlife Riparian Mapping Project
- Colorado Natural Heritage Program Wetlands and Riparian Classification
- Colorado Natural Heritage Program Countywide and Wetland Inventories
- U.S. Fish and Wildlife Service National Wetlands Inventory

Completion of these inventories is anticipated to occur over the next several years and will provide a valuable baseline for evaluating wetland conservation needs.<sup>4</sup>

According to the Colorado Division of Wildlife, wetlands comprise less than 2% of Colorado's lands but provide benefits to over 75% of the species in the state, including waterfowl and several species that are protected by federal and state regulations.

### *What is a Wetland?*

The CDOW defines "wetlands" as the transitional lands between terrestrial (uplands) and aquatic (open water) systems where the water table is usually at or near the surface. Wetlands do not have to be saturated year-round to be considered a wetland. Sometimes water lies just below the surface of the soil where the plant roots grow. In general, a wetland is wet long enough during the growing season to have developed specific characteristics that are unique to wetlands, including the presence of certain plants, soils, and water sources. A wetland may have one or more of the following characteristics:

- It supports hydrophytes (wetland plants)
- It is saturated or covered by shallow water at some time during the growing season of most years
- Its soil possesses predominantly hydric characteristics

<sup>3</sup> Ibid.

<sup>4</sup> "Wetland Wildlife Conservation Program." Colorado Division of Wildlife. 11 Nov. 2007 <<http://wildlife.state.co.us/LandWater/WetlandsProgram/WetlandsHome.htm>>.

## ***Wetland Types***

Wetlands in Colorado include four primary types as defined by the CDOW:

- Peatlands;
- Marshlands;
- Wet meadows; and
- Riparian wetlands.

Protection efforts aim to preserve significant and viable tracts of wetlands within each of these four classifications. Each of these unique wetland types are described in the following section.

### **Peatland**

Peatland is a generic term for any wetland that accumulates partially decayed plant matter. There are two types of peatlands: bogs and fens. Bogs are peat accumulating wetlands without significant inflows or outflows of water. They generally support acidophilic (acid loving) plants and mosses. A fen receives some drainage from surrounding mineral soil and usually supports marshlike vegetation. Fens are the only peatlands type known in Colorado.

Fens form at low points in the landscape or near slopes where ground water intercepts the soil surface. Ground water inflows maintain a fairly constant water level year round, which leads to an accumulation of organic material and gives fens a spongy character. Fens are dominated by herbaceous plants, such as grasses and sedges, and look like meadows. Fens provide important benefits to the watershed by preventing or reducing the risk of floods, and improving water quality through their filtering capability. They also provide unique habitat for plant and animal communities.

### **Marshland**

Marshes are one of the broadest categories of wetlands and in general harbor the greatest biological diversity. Natural marshes may occur next to open bodies of water that do not flow, but have fluctuating water levels. Marshlands form depressions in the landscape known as ponds and kettle ponds, as fringes around lakes, and along slow-flowing streams and rivers. Playa lakes that occur in the eastern plains are also considered marshlands. Marshes typically have mineral soils but can also accumulate organic material. They are frequently or continually inundated and characterized by herbaceous vegetation adapted to saturated soil conditions. Associated vegetation such as cattails and bulrush typically emerge out of the water. Submerged or floating vegetation such as pondweed and duckweed are often observed. Marshes provide excellent habitat and forage for insects, mollusks, crustaceans, algae and waterfowl.

### **Wet Meadow**

A wet meadow is a grassland with waterlogged soil near the surface but without standing water for most of the year. Wet meadows depend on precipitation or ground water as a water source. Wet meadows are also maintained by water from irrigated croplands. They

are found in depressions or on flat landscapes (valleys and irrigated pasturelands). A wet meadow typically appears darker or greener than the surrounding lands and is the most common wetland type in Colorado. Wet meadows are dominated by herbaceous plants such as grasses and sedges. Wet meadows are beneficial for improving water quality and providing habitat for a variety of wildlife such as deer, elk, and sandhill cranes.

## Riparian

Riparian wetlands in Colorado are depicted in Map 1. These wetlands are associated with moving water and are intermittently or seasonally flooded. They typically have a high water table because of their proximity to subsurface water. Riparian wetlands are commonly recognized by bottomland, floodplain and streambank vegetation dominated by trees and shrubs. Riparian wetlands are particularly productive ecosystems and receive large inputs of water and nutrients from upstream sources during flooding. Riparian wetlands and their associated habitat are important for nutrient cycling, and food chain support. They provide nesting habitat, litter, fish habitat and forage for wildlife.<sup>5</sup>

## Wetland Protection Priorities

In Colorado, the CDOW Wetland Wildlife Conservation Program (WWCP) establishes priorities for protecting wetlands by focusing on conservation of wildlife habitat for wetland-dependent species. In the WWCP's *Draft Statewide Goals and Strategy* document created in 2007, the program outlines two major goals:

- 1) Improve the distribution and abundance of ducks, and opportunities for public waterfowl hunting.
- 2) Improve the status of declining or at-risk species.

These goals will be achieved through protecting, restoring, enhancing, and creating wetland habitats after identifying geographic priority 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 will also involve maintaining and enhancing wetland habitat to achieve opportunities for both recreation and species conservation.<sup>6</sup>

The full draft version of CDOW's Wetland Wildlife Conservation Program *Statewide Goals and Strategy* is viewable at:

<http://wildlife.state.co.us/LandWater/WetlandsProgram/>

## Wetland Regulations

In most situations involving potential impacts to wetlands, the U.S. Army Corps of Engineers (COE) has legal authority under the federal Clean Water Act. The COE has

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<sup>5</sup> Best Management Practices for Wetlands within Colorado State Parks. Colorado Natural Areas Program. Denver, CO: Colorado State Parks, 1996. 1 Nov. 2007 <<http://parks.state.co.us/NaturalResources/CNAP/Publications/>>.

<sup>6</sup> Wetland Wildlife Conservation Program Statewide Goals and Strategy Draft. Colorado Division of Wildlife. 2007. 18 Jan. 2008 <<http://wildlife.state.co.us/LandWater/WetlandsProgram/>>.

been involved in regulating activities in navigable waterways since the enactment of the Rivers & Harbors Act of 1899. However, passage of the Clean Water Act in 1972 expanded the COE's role to manage "waters of the United States," including many wetlands. Specifically, Section 404 of the Clean Water Act "regulates the discharge of dredged, excavated, or fill material in wetlands, streams, rivers, and other waters in the United States."

The COE manages Section 404 permits, along with the U.S. Environmental Protection Agency (EPA), for certain activities conducted in or near wetlands and other U.S. waters including development of structures, the creation of ponds, embankments, and stream channelization. Decisions related to the approval of permits must consider the public interest, economic development, and environmental protection.

The wetland permitting process typically requires an assessment to:

- Determine whether a site qualifies as a wetland under the Clean Water Act (this process is also known as wetland delineation)
- Analyze the potential impact to the site (if it is determined to be a wetland)
- Decide whether the activity requires a permit, and if so, what type of permit is required, the extent of review, and the need for offsetting mitigation.<sup>7</sup>

For more details on wetland delineation and permitting processes, visit:

<http://www.usace.army.mil/public.html>

### *Programmatic Efforts and Partnerships*

Today, wetlands conservation in Colorado is a systematic and comprehensive approach involving dedicated funding, wetland and waterfowl experts, and cooperative partners, including private landowners and public land agencies. In Colorado, the primary agencies analyzing wetland resources and coordinating protection efforts include the Colorado Division of Wildlife (CDOW), Colorado Natural Areas Program (CNAP), Colorado State Parks and Colorado Natural Heritage Program (CNHP), in collaboration with many other state, local, and non-profit organizations. The COE and EPA are the two federal agencies that oversee regulatory and non-regulatory wetlands programs and work closely with the U.S. Fish and Wildlife Service (FWS), the state agencies previously mentioned, and other collaborative partners such as local governments and non-profit groups such as sportsman's groups and birding advocates including:

- Colorado Riparian Association
- Colorado Wildlife Federation
- Colorado Wildlife Heritage Foundation
- Ducks Unlimited
- Playa Lakes Joint Venture
- Rocky Mountain Bird Observatory
- The Nature Conservancy

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<sup>7</sup> United States Army Corps of Engineers. 12 Nov. 2007 <<http://www.usace.army.mil/public.html>>.

Many other groups and local governments work actively on a local or regional level across Colorado, too. Refer to Table 1 for contact information for some of these entities working to protect and manage wetlands in Colorado.

Summaries of several of the most active statewide wetlands-related initiatives are detailed below.

### **Colorado Division of Wildlife (CDOW) Wetland Wildlife Conservation Program**

To address the growing need for a comprehensive approach to protecting the remaining wetlands in the State of Colorado, the CDOW launched an aggressive effort called the Wetlands Program in 1997. This program was renamed to the current Wetland Wildlife Conservation Program (WWCP) in 2007. The CDOW WWCP conserves wetland resources through voluntary, incentive-based partnerships with private landowners and public land agencies. Since 1997, approximately \$20 million has been spent on the acquisitions of wetlands, conservation easements and fee titles, wetlands restoration, and enhancement projects. (While the CDOW WWCP is heavily involved in protection efforts in Colorado, it does not have authority in assessing impacts to wetlands or managing regulations or permits).

#### *Highlights of the CDOW Wetland Wildlife Conservation Program accomplishments:*

- Preserved, restored, enhanced, or created almost 220,000 acres of wetlands and adjacent habitat and more than 200 miles of streams
- Nearly \$40 million in funding has been devoted to wetland and riparian preservation in Colorado
- 80+ partnerships established.

*Source: CDOW, 2008.*

The WWCP is voluntary and incentive-based, and focuses on the protection of wetlands via partnerships. In addition to The Nature Conservancy, Ducks Unlimited, Great Outdoors Colorado, the CDOW and landowners, Wetlands Program partners include the FWS Partners for Fish and Wildlife, and Colorado State Parks. The Wetlands Program is a strategic and comprehensive approach to conservation that includes not only waterfowl wetlands but other wetlands as well. The efforts have benefited more than two dozen different species of wildlife.

The goal of the WWCP is to protect wetland-dependent wildlife through incentives and voluntary means. The means to achieve protection can be accomplished through the following actions: restoration, enhancement, management, or acquisition of fee title, or conservation easement (by a non-governmental organization, private individual or government entity).<sup>8</sup>

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<sup>8</sup> "Wetland Wildlife Conservation Program." Colorado Division of Wildlife. 11 Nov. 2007 <<http://wildlife.state.co.us/LandWater/WetlandsProgram/WetlandsHome.htm>>.



## Wetlands Initiative

One of the key strategies of the CDOW Wetlands Program is the Wetlands Initiative (WI), which is a partnership between federal, state and local agencies, non-profit organizations and private landowners including CDOW, Ducks Unlimited, The Nature Conservancy, Partners for Fish and Wildlife, Great Outdoors Colorado, and Colorado State Parks.

In 1997 the Colorado Division of Wildlife and its partners were awarded a \$4.46 million Legacy Grant by Great Outdoors Colorado (GOCO) to fund the Wetlands Initiative. This grant award was matched by other Wetland Initiative Partners to launch a \$17.4 million wetland protection effort. The vision outlined by the Wetland Initiative was to use these funds to protect a minimum of 15,000 acres of biologically significant wetlands and associated uplands by June 2000. In actuality, the Wetland Initiative Partners reported that wetland protection efforts had far surpassed their initial objective. As a result of this collaboration focused specifically on 10 geographic focus areas, the WI protected 13,916 acres of biologically significant wetlands and 85,339 acres of associated uplands – a total of approximately 99,000 acres.

### *Since 1989, the Colorado Waterfowl Stamp Program has:*

- Raised over \$6.7 million through the sale of the hunter version of the Waterfowl Stamp
- Protected 19,500 acres of wetlands

*Source: CDOW, 2008.*

## Waterfowl Stamp Program

Another CDOW program that helps conserve wetland resources in Colorado is the Waterfowl Stamp Program which was initiated in 1989 and mandates that all waterfowl hunters must have a valid state waterfowl stamp in their possession while hunting. The purpose of the legislation was to provide funds for the benefit of wetlands habitat. The Waterfowl Stamp Program has provided waterfowl wetlands projects and served as a model for wetlands conservation in the state. Administered by the CDOW, the Waterfowl Stamp Program involves partnerships with Ducks Unlimited, FWS Partners for Wildlife and Refuges, U.S. Bureau of Land Management (BLM), U.S. Forest Service (Forest Service), Colorado Wildlife Heritage Foundation, Colorado Wildlife Federation, private landowners, and many others.

Since 1989, the Waterfowl Stamp Program and associated partners have completed many waterfowl-wetlands projects throughout the state including wetland restoration, new wetland creation and wetland enhancement. The Waterfowl Stamp Program has also provided funding for wetland purchases. In addition to the wetland protection projects, the Waterfowl Stamp Program has increased waterfowl hunting opportunities and helped form many wetland conservation partnerships.

## Colorado State Parks (State Parks)

State Parks has been involved in inventorying and protecting wetlands for many years. Specifically, numerous EPA-funded wetland assessments and delineations have been conducted and in 1995, wetland resource plans for 44 state parks were developed,

through the Colorado Natural Areas Program (CNAP), a program managed by Colorado State Parks. Since then, comprehensive stewardship plans for many state parks have been completed detailing many wetland and water-related issues. These plans have proven to be a critical tool in resource management at state parks, and efforts are underway to complete mapping for recently acquired acreages and new parks.

State Parks has also been conducting systematic surveys of State Land Board (SLB) lands for the last nine years. This statewide project is about 80% complete. In collaboration with SLB, State Parks has applied for another EPA grant to integrate and expand the earlier wetlands effort into a comprehensive, system-wide Wetland Management Program.

The Colorado Natural Areas Program has been involved in numerous wetlands protection efforts in Colorado. CNAP has participated in *The Comprehensive Statewide Wetlands Classification and Characterization (CSWCC)* project, a multi-year effort of the Colorado Natural Heritage Program (CNHP), in partnership with Colorado State University, Colorado Department of Natural Resources, and CDOW Wetland Wildlife Conservation Program to integrate previously collected data and develop a floristic classification for the wetlands of Colorado. It also establishes a basis for focusing wetland research, land management, and conservation efforts where they will be most effective and beneficial.

## **U.S. Environmental Protection Agency**

The U.S. Environmental Protection Agency (EPA), in partnership with other government agencies, nonprofit organizations and local citizens, actively works to protect Colorado's wetland resources. EPA's Wetlands Division incorporates a watershed approach in much of its work with other agencies, states, and organizations. EPA wetland activities include the following:

- Funding state watershed projects through State Wetland Protection Grants
- Developing guidance linking wetlands protection programs to watershed planning efforts
- Integrating a watershed approach into Federal floodplain management activities
- Supporting a series of national and regional meetings on wetlands and regional watershed planning.

Since 1990, the EPA has been providing grants to state, Tribal Governments, and local governments through the Wetlands Program Development Grants. CDOW and Colorado State Parks, through its Colorado Natural Areas Program, have been recipients of numerous Wetlands Program Development Grants which have helped create an effective wetlands conservation program in Colorado.

The EPA's Adopt-A-Wetland Program encourages local groups to act as guardians of wetland resources by becoming familiar with Section 404 of the Clean Water Act. Once a completed application for dredging or filling a wetland is submitted to the Army Corps of

Engineers office, a public notice is issued, and a public comment period follows where citizens are encouraged to express their concerns.

EPA's Wetlands program consists of both regulatory and non-regulatory components. Activities under the regulatory component include permit review and veto authority over the U.S. Army Corps of Engineers through the Clean Water Act, Section 404 permitting program. EPA also has enforcement responsibility of Section 404.<sup>9</sup>

### Summary

A significant trend is emerging with respect to resource protection and recreation needs in Colorado: partnerships between public land agencies and private stakeholders have created an effective means for achieving wetlands protection. Government agencies and resource protection professionals are continuing to focus on fostering partnerships in conservation and recreation. The synergy of these forged partnerships is illustrated by the success of the CDOW Wetland Wildlife Conservation Program and the many other efforts described in this Wetlands Component.

For more information on wetlands or to view publications on wetland protection and inventory efforts contact the organizations in Table 1.

**Table 1: Wetlands Information Resources (alphabetically)**

| Contact   | Phone        | Website   |
|---|--------------|---|
| Army Corps of Engineers, Colorado Service Office                | 303-831-6052 | <a href="http://www.spa.usace.army.mil">www.spa.usace.army.mil</a>  |
| Colorado Division of Wildlife                                   | 303-297-1192 | <a href="http://www.wildlife.state.co.us">www.wildlife.state.co.us</a>                                      |
| Colorado Riparian Association                                   | 303-443-3282 | <a href="http://www.coloradoriparian.org">www.coloradoriparian.org</a>                                      |
| Ducks Unlimited   | 719-852-0925 | <a href="http://www.ducks.org">www.ducks.org</a>  |
| The Nature Conservancy  | 303-444-2950 | <a href="http://www.nature.org">www.nature.org</a>  |
| FWS Partners for Fish and Wildlife                              | 303-275-2435 | <a href="http://www.partners.fws.gov">www.partners.fws.gov</a>  |
| Colorado Division of Parks and Outdoor Recreation (State Parks) | 303-866-3437 | <a href="http://www.parks.state.co.us">www.parks.state.co.us</a>  |
| Colorado Natural Areas Program                                  | 303-866-3203 | <a href="http://parks.state.co.us/NaturalResources/CNAP">http://parks.state.co.us/NaturalResources/CNAP</a> |
| Colorado Wildlife Federation                                    | 303-987-0400 | <a href="http://www.coloradowildlife.org">www.coloradowildlife.org</a>                                      |
| Colorado Wildlife Heritage Federation                           | 303-291-7212 | <a href="http://wildlife.state.co.us/cwhf">http://wildlife.state.co.us/cwhf</a>                             |
| Playa Lakes Joint Venture                                       | 303-926-0777 | <a href="http://www.pljv.org">www.pljv.org</a>  |
| Colorado Natural Heritage Program                               | 970-491-1309 | <a href="http://www.cnhp.colostate.edu">www.cnhp.colostate.edu</a>  |
| Rocky Mountain Bird Observatory                                 | 303-659-4348 | <a href="http://www.rmbo.org">www.rmbo.org</a>  |

<sup>9</sup> U.S. Environmental Protection Agency. 2 Nov. 2007 <<http://www.epa.gov/owow/wetlands/>>.