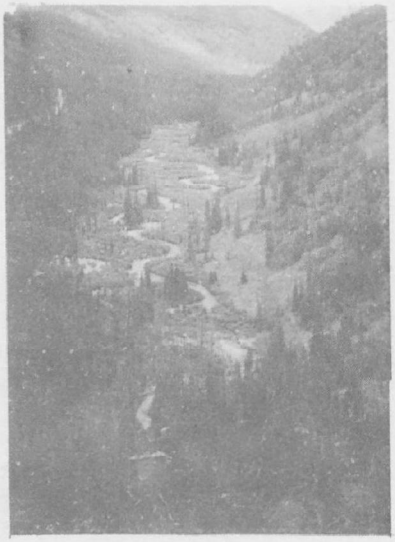
U.S. Environmental
Protection Agency

Water Management Division
Region 8
Denver, CO

BE AWARE OF WETLANDS...

"Like winds and sunsets, wild things were taken for granted until progress began to do away with them. Now we face the question whether a still higher standard of living is worth its cost in things natural, wild and free. That land is community is the basic concept of ecology, but that land is to be loved and respected is an extension of ethics. That land yeilds a cultural harvest is a fact long known, but latterly often forgotten."

Aldo Leopold, Sand County Almanac



HISTORY

Throughout America's history, our nation's wetlands have been considered wastelands, to be eliminated. This attitude has resulted in the loss of over half of our nation's wetlands. The original base of 215 million acres has diminished to 99 million acres today. Despite major changes in national attitudes and policies, the destruction of wetlands continues at the alarming rate of 450 thousand acres a year! Beyond the outright loss of wetland areas, deterioration of the quality and function of these natural resources affects the overall balance of the ecological cycle.

Contrary to past misconceptions, marshes, swamps and bogs make invaluable contributions to the ecosystem which they nurture. The need to conserve wetlands has never been more critical than it is today. Wetlands encompass biological and economic assets which enhance the lives of every American, in addition to sustaining our nation's waterfowl, aquatic life and other wildlife.

WHAT ARE WETLANDS?

The term "wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Through their biologically diverse and productive natural habitats, wetlands provide all the vital elements necessary to nurture and sustain many species of plants and animals important to humankind. In many cases, wetlands provide a place for these species, not to be found anywhere else on the earth.

The realization is growing that the continued loss of our nation's wetlands will have unexpected and exorbitant, long-term economic and environmental costs. Public support is essential to the effective protection and maintenance of these valuable assets.

WETLANDS ARE VALUABLE

The purpose of this brochure is to increase the understanding of and appreciation for the immeasurable benefits of these valuable natural resources. Wetlands play a crucial role in water quality protection, flood control, groundwater and surface water recharge, wildlife habitat and recreation. These diverse functions are discussed below.

WATER QUALITY PROTECTION

Wetland vegetation reduces erosion, thereby controlling the amount of sediment entering water bodies. Riparian wetland habitats found along rivers, streams, lakes, ponds and reservoirs, perform a water purification process trapping pollutants from agricultural and urban run-off. Through these natural treatment processes, cleaner water enters the river and reduces the level of treatment necessary for downstream water withdrawal for domestic use. As a result, the cost of water treatment is significantly reduced for the consumer.

FLOOD CONTROL

The landscape depressions and vegetation of wetlands act as holding basins for water. These features slow the rushing waters of heavy rains and snowmelt and reduce flooding peaks. The flood control functions of wetlands provide an invaluable economic benefit! In addition, sediment contained in the rushing waters is allowed to settle, thereby improving the water quality further downstream.

GROUNDWATER RECHARGE

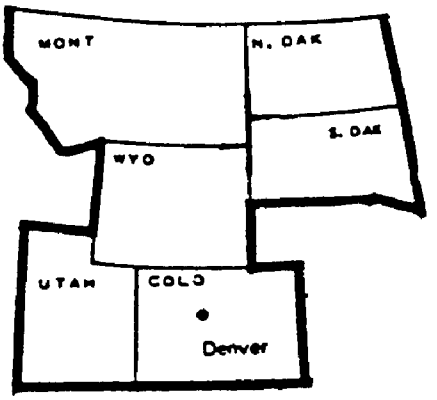
Water is permanently or temporarily held within the saturated soil of wetland habitats. These conditions enable water from the wetlands to recharge underground water tables. In addition to this function, recent studies are suggesting that some wetlands also contribute to surface waters.

WILDLIFE HABITAT

Wetlands provide an abundance of aquatic vegetation and nutrients, which replenish and sustain numerous complex food chains within the ecosystem. By capturing and utilizing nutrients such as phosphorous and nitrogen, wetlands nourish rich and diverse biological communities. Wetlands are prime spawning, feeding, nursery and wintering grounds for many species of wildlife. Wetlands are especially important in our semi-arid and arid environment. Within the prairie pothole region, waterfowl populations depend upon various wetland types for their reproduction and brooding - the "duck factory" of North America. Other water-saturated habitats are the primary source of survival for wildlife in urban areas, as well as in mountain environments.

RECREATION

For America's outdoor enthusiasts, wetland habitats are a priceless resource. Incalculable pleasure is derived from the vast and varied forms of wildlife, which are nourished and sustained by wetlands. Whether hunting, fishing, photographing or exploring this living classroom, wetlands provide something for all to enjoy!



WETLANDS IN REGION VIII (6 States)

The six semi-arid and sub-humid states of EPA's mountain and plains Region VIII contain portions of the dwindling wealth of our nation's wetlands. The limited riparian habitats found along rivers and streams, the higher elevation mountain meadows, the urban wetlands, and the prairie potholes continue to be encroached upon and lost to agricultural, recreational and urban development. Each of the Region VIII states has experienced substantial impacts to their wetland resources.

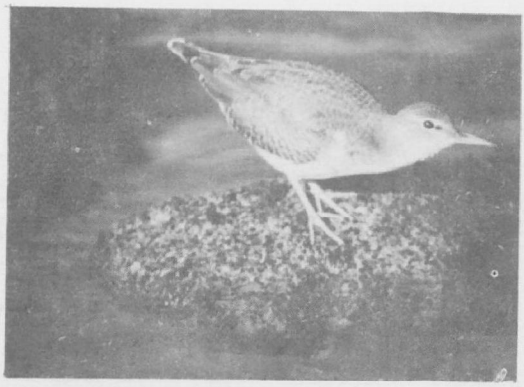
COLORADO: Urban and recreational development have had a major impact on Colorado's wetlands. Through dredging and rechannelization, much riparian wetland habitat has been lost in urban areas, while recreational development has encroached upon the montane wetlands. In addition to the actual loss of these wetlands, the productivity of these habitats has been affected by diminished water quality, resulting from these development activities.

MONTANA: About two-thirds of this state is high plains and prairie and one-third mountainous terrain. The headwaters for the Missouri and Columbia Rivers are in Montana. These great rivers and their many tributaries supply water for irrigated agriculture, and important industry in this semi-arid state. These river valleys are the main arteries of transportation through the state, as well as the location of the major cities. Riparian wetlands located in these river valleys continue to be threatened by agricultural and transportation activities and urban encroachment.

A significant area of prairie pothole habitat (15% of the state) occurs in the northeast corner of the state. In Montana, wetlands are threatened by the forest industry and recreational development in the mountainous terrain and by "sod-busting" of grasslands on prairie terrain, in addition to transportation and agricultural activities.

NORTH DAKOTA: North Dakota is the number one duck producing state in the nation. The prairie pothole region, which encompasses over half of the total area of the state, has been called the "duck factory" of North America. By 1985, over half of the wetlands in the state had been drained or otherwise affected. Agriculture, the primary industry in the state, has been predominantly responsible for wetland losses in North Dakota. Transportation and energy development have also impacted wetlands. As facilities are up-graded and/or additional resources are developed, the threat for further losses will continue to occur.

SOUTH DAKOTA: Prairie potholes and riparian wetlands are the most critical wetlands in South Dakota. Wetland losses in the state are mainly the result of various agricultural practices. In an effort to put more land into crop production, wetlands are drained, filled, or plowed. Often they are filled just to make agricultural machinery easier to maneuver. A more recent threat to wetlands in this state is a number of proposed water development projects. Some of these projects, in order to increase agricultural acreage, would inundate wetlands, while other projects would drain them. Riparian wetlands in South Dakota are impacted by agricultural activities, and in urban areas by commercial and residential development.



UTAH: Much of Utah is arid or semi-arid. Therefore, water and wetlands are at a premium in the state. In Utah, montane wetlands are lost or severely impacted by recreational developments and water development projects. Riparian wetlands in the valleys are constantly under pressure from development of residential communities and commercial and industrial parks. Grazing has also adversely affected riparian wetlands in Utah.

WYOMING: Wetland destruction in Wyoming has resulted from such activities as stream relocations, urban development, roadway construction, agricultural activities, attempts to get rid of "swamps", and various mining and energy production efforts. Wyoming contains vast unpopulated areas, and many wetlands in these areas have remained largely unaffected. However, with increased exploration for minerals and other surface and subsurface resources, the potential for wetland alteration and destruction in these areas increases. It becomes more important that those involved in resource production activities be informed about wetland values and the laws and regulations which govern activities in wetlands.

WETLAND PROTECTION

In recent years, the Federal government, through the Fish and Wildlife Service (FWS), the Corps of Engineers (COE), and the Environmental Protection Agency (EPA), has taken a role in the protection of wetlands. Section 404 of the Clean Water Act regulates the discharge of dredge and fill materials into waters of the U.S., including wetlands on both public and private property. Effective regulation is intended to prevent the unwarranted destruction of wetlands!

YOU, AS A CONCERNED CITIZEN, can play a role in the protection of wetlands which may exist in your community. You can have a voice in the way local wetlands are used. Development activities can co-exist with wetlands and be enhanced by reaping the many environmental and socio-economic benefits. The intent is not necessarily to prohibit all discharges into wetlands, but to prohibit or modify those with unacceptable adverse effects; those where there is a practicable and less damaging alternative; and those where adverse impacts on wetlands are not reasonable minimized or mitigated.

If you would like more information on wetlands or if you have any questions about the need for a Section 404 permit, **contact the Region VIII office of the Environmental Protection Agency in Denver.**

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