United States
Environmental Protection
Agency

Office of Water
Office of Wetlands,
Oceans and Watersheds (4502F)

America's Wetlands

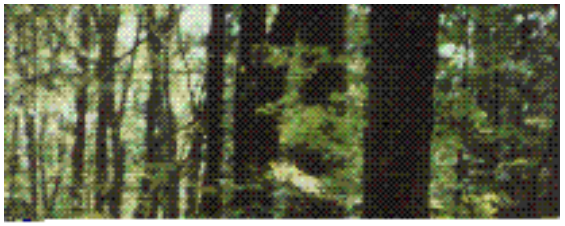
OUR VITAL LINK BETWEEN LAND AND WATER

America's Wetlands

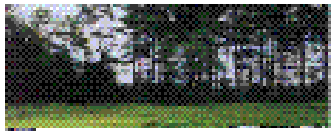
Wetlands are indeed the vital link between water and land. "Wetlands" is the collective term for marshes, swamps, bogs, and similar areas found in generally flat vegetated areas, in depressions in the landscape, and between dry land and water along the edges of streams, rivers, lakes, and coastlines. Wetlands can be found in nearly every county and climatic zone in the United States. Most likely, a wetland exists in your neighborhood or very close to it. Because they are so varied, wetlands can be difficult to recognize. Some are wet all of the time; some may look completely dry most of the time. Our ideas of what a wetland should look like may not include all types of wetlands. Some wetlands are large and some are very small. Many have been altered by human activities such as farming, ranching, and the building of roads, dams, and towns.

Wetlands have often been regarded as wastelands — sources of mosquitoes, flies, unpleasant odors, and disease. People thought of wetlands as places to avoid or, better yet, eliminate. Largely because of this negative view, more than half of America's original wetlands have been destroyed—drained and converted to farmland, filled for housing developments and industrial facilities, or used to dispose of household and industrial waste.

As people understand ecological processes better, attitudes towards wetlands change. We now know that



EPA Region 1



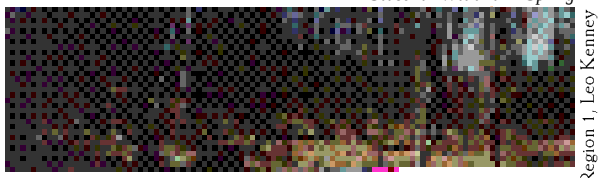
lands are recognized: coastal or tidal wetlands and inland or non-tidal wetlands.

Coastal wetlands in the United States, as their name suggests, are found along the Atlantic, Pacific, Alaskan, and Gulf coasts. They are closely linked to our nation's estuaries, where sea water mixes with fresh water to form an environment of varying sal1 (m)-5124 (a)-33 (t233 (tr)-1 ( )63J T* (m)-33 (e)-14 m)-33 (e)-14 mPsiths12 (n)-23 (t)m (s)-2 (a)9] TJ T* [-104-14 mPsitha2 (r)v8 (e)6 (rl (l)-12 (fw -104-1((h) d4 (d)-2 (-1 ( )6-8)63 (t)-18

- *bogs and fens of the northeastern and north-central states and Alaska*
- *wet meadows or wet prairies in the Midwest*
- *inland saline and alkaline marshes and riparian wetlands of the arid and semiarid west*
- *prairie potholes of Iowa, Minnesota and the Dakotas*
- *alpine meadows of the west*
- *playa lakes of the southwest and Great Plains*
- *bottomland hardwood swamps of the south*
- *pocosins and Carolina Bays of the southeast coastal states*
- *tundra wetlands of Alaska.*

Many of these wetlands are seasonal (they are dry one or more seasons every year), and, particularly in the arid and semiarid West, may be wet only periodically. The quantity of water present and the timing of its presence in part determine the functions of a wetland and its role in the environment. Even wetlands that appear dry for a few months — such as vernal pools — often provide critical habitat for wildlife adapted to breeding exclusively in these areas.

Seasonal Wetland in Spring



EPA Region 1, Leo Kenney

Seasonal Wetland in Summer

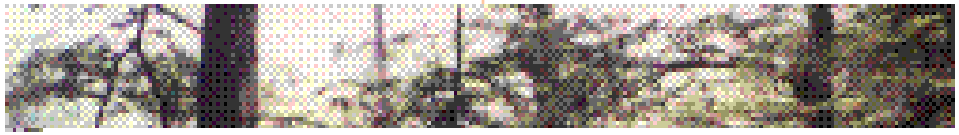
complex, dynamic relationships among the organisms inhabiting the wetland environment are referred to as food webs. (see illustration)

Wetlands support a rich food web, from microscopic algae and dragonfly larvae to alligators and black bears.

Mark Sharp

levels of nutrients, and primary productivity is ideal for the development of organisms that form the base of the food web and feed many species of fish, amphibians, shellfish, and insects. Many species of birds and mammals rely on wetlands for food, water, and shelter, especially during migration and breeding.

Wetlands' microbes, plants, and wildlife are part of global cycles for water, nitrogen, and sulfur. Furthermore, scientists are beginning to realize that atmospheric maintenance may be an additional wetlands function. Wetlands store carbon within their plant communities and soil instead of releasing it to the atmosphere as carbon dioxide. Thus wetlands help to moderate global climate conditions.



Bottomland Hardwood Swamp

		study showed that, without the Congaree Bottomland Hardwood

and restoring wetlands, together with other water retention, can often provide the level of flood control otherwise provided by expensive dredge operations and levees. The bottomland hardwood-riparian wetlands along the Mississippi River once stored at least 60 days of floodwater. Now

Natural Products for Our Economy

We use a wealth of natural products from wetlands, including fish and shellfish, blueberries, cranberries, timber, and wild rice, as well as medicines that are derived from wetland soils and plants. Many of the nation's fishing and shellfishing industries harvest wetland-dependent species; the catch is valued at

Alligator U.S. EPA

Texas Parks and Wildlife Dept.

Recreation and Aesthetics

Wetlands have recreational, historical, scientific, and cultural values.

For more information, contact the EPA Wetlands Information Hotline

Status and Trends

Peat Mining in a Wetland/Montane EPA Region 8, Paul McIver

Current Situation

The lower 48 states contained an estimated 103.3 million acres of wetlands in the early 1980's. This is an area about the size of California. An estimated 170-200 million acres of wetland exist in Alaska — covering slightly more than half of the state while Hawaii has 52,000 acres. Next to Alaska, Florida (11 million), Louisiana (8.8 million), Minnesota (8.7 million), and Texas (7.6 million) have the largest wetland acreage.

In the 1600s, over 220 million

Major Causes of Wetland Loss and Degradation

Human Actions

Drainage
Dredging and stream channelization
Deposition of material
Diking and filling
Tilling for crop production
Levees
Logging
Mining
Construction
Runoff
Air Pollution

Percentage of Wetlands Acreage Lost, 1780's-1980's

Twenty-two states have lost at least 50 percent of their original wetlands. Seven states- Indiana, Illinois, Missouri, Kentucky, Iowa, California, and Ohio have lost over 80 percent of their original wetlands. Since the 1970s, the Louisiana, Mississippi, Arkansas, Florida, South Carolina, and North Carolina.

Status and Trends

		water. Global climate change could affect wetlands through increased air temperature; shifts in precipitation; increased frequency of storms, droughts, and floods; increased atmospheric carbon dioxide concentration; and sea level rise. All of these impacts could affect species composition and wetland func,-2 s2 (f491 (c)6 (d)-2 t4 (u)2 (n)-f(n)

Jennifer Matchett

grams that help protect wetlands.

Recently, partnerships to manage whole watersheds have developed among federal, state, tribal, and local governments; nonprofit organizations; and private landowners. The goal of these partnerships is to implement comprehensive, integrated watershed protection approaches. A watershed approach recognizes the inter- connectedness of water, land, and wetlands resources and results in more complete solutions that address more of the factors causing wetland degradation. The government achieves the restoration of former or degraded wetlands under the Clean Water Act Section 404 program as well as through watershed protection initiatives. Together, partners can share limited resources to find the best solutions to protect and restore America's natural resources.

While regulation, economic incentives, and acquisition programs are important, they alone cannot protect the majority of our remaining wetlands. Education of the public and efforts in conjunction with states, local governments, and private citizens are helping to protect wetlands and to increase appreciation of the functions and values of wetlands. The rate of wetlands loss has been slowing, but we still

Wood Ducks U.S. FWS, Tim McCab

have work to do. You can be a part. Approximately 75 percent of wetlands are privately owned, so individual landowners are critical in protecting these national treasures.

What You Can Do

Despite the efforts of governments and private conservation organizations, pressures that destroy wetlands will continue. The problems of degradation of wetlands from pollution, urban encroachment, groundwater withdrawals, partial drainage, and other actions also require attention.

Many opportunities exist for private citizens, corporations, government agencies, and other groups to work together to slow the rate of wetland loss and to improve the quality of our remaining wetlands. First, state and local governments need to be encouraged to establish programs to effectively protect wetlands, especially inland wetlands, within their borders. Second, because individual landowners and corporations own many of the nation's wetlands, they are in a key position to determine the

How Can I Make a Difference?

- *Get involved — find out where wetlands exist near your home, try to learn more about them, and support educational efforts.*
- *Support wetlands and watershed protection initiatives by public agencies and private organizations.*
- *Purchase federal duck stamps from your local post office to support wetland acquisition.*
- *Participate in the Clean Water Act Section 404 program and state regulatory programs by reviewing public notices and, in appropriate cases, commenting on permit applications.*
- *Encourage neighbors, developers, and state and local governments to protect the function and value of wetlands in your watershed.*
- *Rather than draining or filling wetlands, seek compatible uses involving minimal wetland alteration, such as waterfowl production, fur harvest, hay and forage, wild rice production, hunting and trapping leases, and selective timber harvest.*
- *Select upland rather than wetlands sites for development projects and avoid wetland alteration or degradation during project construction.*
- *Maintain wetlands and adjacent buffer strips as open space.*
- *Learn more about wetland restoration activities in your area; seek and support opportunities to restore degraded wetlands.*
- *In New England, participate in EPA's "Adopt-a-Wetland" program.*