

WETLAND FLOODPLAINS HELP MAINTAIN WATER QUALITY

- Studies of heavily polluted waters flowing through Timicum Marsh in Pennsylvania have revealed significant reductions in biological oxygen demand, phosphorous, and nitrogen within three to five hours
- The value of Georgia's 2,300-acre Alcovy River Swamp for water pollution control has been estimated at \$1 million a year. The bottomland forested wetlands along the river have been shown to filter impurities from flood waters



Riparian habitats sustain ecosystems that include many large mammals such as bear, white-tailed deer, and caribou

White-tailed deer, St. Andrews Bay, Florida

especially in wetlands, can reduce erosion by binding the soil with its root systems. Moreover, friction between the vegetation and the water dampens waves and reduces current velocity. Coastal barriers—elongated, offshore formations of sand and other unconsolidated sediments lying generally parallel to mainland coastlines—protect large portions of the coast, including estuaries, bays, and wetlands, from the direct effects of high water, waves, and currents caused by both normal and storm conditions.



Floodplains and wetlands not only help maintain water quality, they also provide a natural environment for diverse species

Bottomland hardwood swamp, Louisiana

Surface Water Quality Maintenance

Natural floodplains can reduce the cost of waste water treatment and water quality maintenance; they can reduce sediment loads, process chemical and organic wastes, and reduce nutrients, thereby protecting the physical, biological, and chemical integrity of water. Floodplains buffer rivers, streams, lakes, and estuaries from upland sources of pollution.

Groundwater Supply and Quality

Conditions beneath undisturbed floodplains can facilitate the infiltration and storage of water, permit groundwater recharge, purify water entering the aquifer, reduce flood peaks, and ameliorate the frequency and duration of low flows in groundwater systems. These functions help maintain and improve conditions for municipal and private wells, wildlife, irrigation, and watering livestock during drought.

Living Resources

Floodplains are among the most productive of the planet's ecosystems. Because of their relative abundance of water, they provide habitat for a multitude of plant and animal species, and the energy and nutrients from their healthy function are passed along to organisms in adjacent and downstream areas.

Wetlands

Wetlands are perhaps the most prominent and familiar of floodplain resources. They are lands transitional between terrestrial and aquatic systems and are covered by shallow water or have a water table at or near the surface. There are slightly in excess of 100 million acres of wetlands in the 48 contiguous states, and the majority of these are in floodplains. Florida, Louisiana, and Alaska have the most wetland acreage.

Wetlands are classified by the U.S. Fish and Wildlife Service according to five ecological systems, of which estuarine and palustrine wetlands are best known. Estuarine systems include such coastal wetlands as salt and brackish tidal marshes, mangrove swamps, and intertidal flats, as well as the deepwater habitats associated with bays, sounds, and coastal rivers. Palustrine wetlands