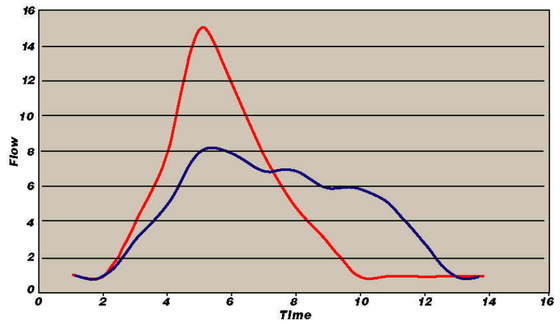
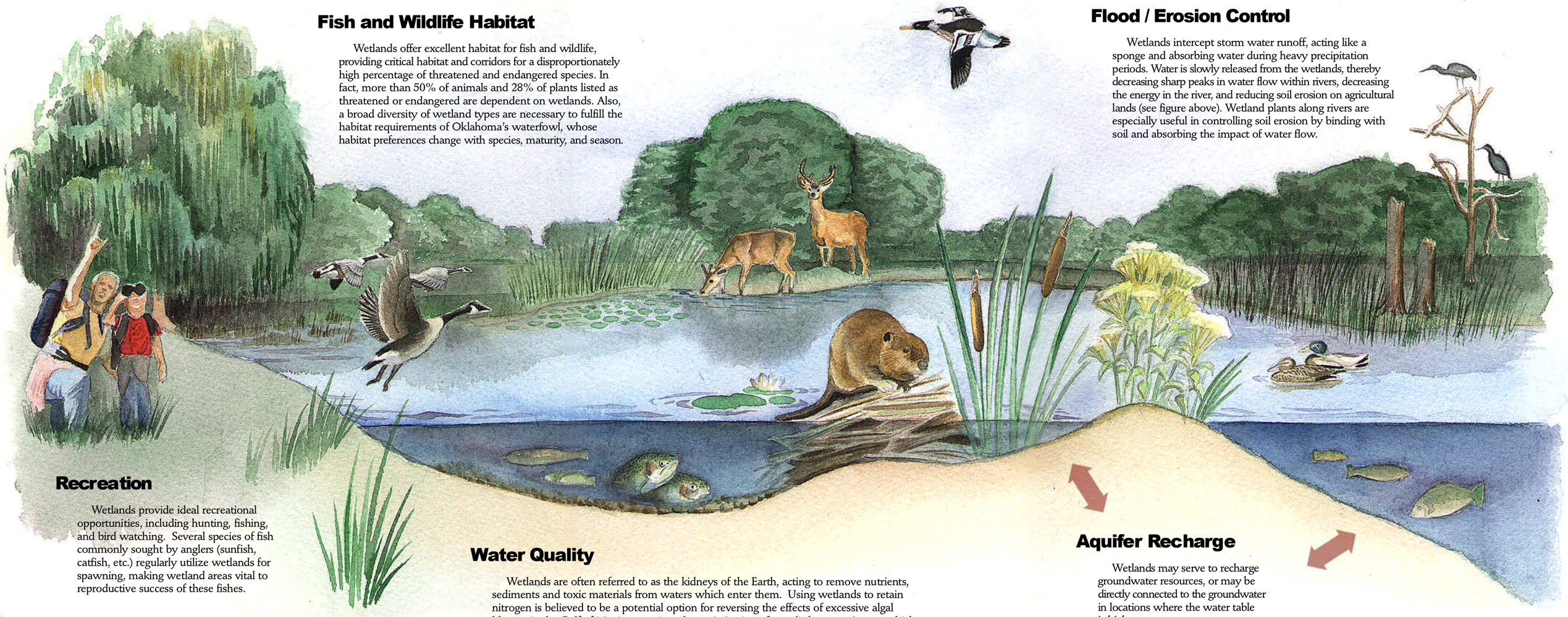
Oklahoma's Wetland Resources:
Appreciate The Values And Functions

Wetlands are transitional zones between upland and aquatic ecosystems, whose area is inundated with water for a long enough period to support vegetation adapted to life in saturated soils. Often viewed as wastelands because they offer no production value, wetlands have historically been drained or filled, converting over half of the original 200 million acres of wetland in the lower 48 states to upland habitat. In Oklahoma alone, over two million acres of wetland have been lost since 1780, resulting in a total area of approximately 950,000 acres of wetland currently (see map).

Wetlands offer many benefits to humans and nature alike. Humans benefit from wetlands because these ecosystems provide water storage, thus decreasing the effects of flooding and erosion, and contaminant filtering and aquifer recharge capabilities, while also providing habitat for wildlife. Oklahoma's Comprehensive Wetland Conservation Plan was established to provide the state with a focused strategy for identifying, understanding, managing and enjoying one of Oklahoma's most diverse and ecologically valuable resources.



Red line represents sharp peaks associated with flooding when wetlands are removed from the landscape. Blue line represents flow where wetlands exist in the landscape, indicating the storage capabilities of wetlands and the decreased flows in receiving waters.



Fish and Wildlife Habitat

Wetlands offer excellent habitat for fish and wildlife, providing critical habitat and corridors for a disproportionately high percentage of threatened and endangered species. In fact, more than 50% of animals and 28% of plants listed as threatened or endangered are dependent on wetlands. Also, a broad diversity of wetland types are necessary to fulfill the habitat requirements of Oklahoma's waterfowl, whose habitat preferences change with species, maturity, and season.

Flood / Erosion Control

Wetlands intercept storm water runoff, acting like a sponge and absorbing water during heavy precipitation periods. Water is slowly released from the wetlands, thereby decreasing sharp peaks in water flow within rivers, decreasing the energy in the river, and reducing soil erosion on agricultural lands (see figure above). Wetland plants along rivers are especially useful in controlling soil erosion by binding with soil and absorbing the impact of water flow.

Recreation

Wetlands provide ideal recreational opportunities, including hunting, fishing, and bird watching. Several species of fish commonly sought by anglers (sunfish, catfish, etc.) regularly utilize wetlands for spawning, making wetland areas vital to reproductive success of these fishes.

Water Quality

Wetlands are often referred to as the kidneys of the Earth, acting to remove nutrients, sediments and toxic materials from waters which enter them. Using wetlands to retain nitrogen is believed to be a potential option for reversing the effects of excessive algal blooms in the Gulf of Mexico, causing a hypoxic (region of very little oxygen) zone which is degrading the fisheries industry in the region.

Aquifer Recharge

Wetlands may serve to recharge groundwater resources, or may be directly connected to the groundwater in locations where the water table is high.