



Kentucky contains a plethora of ecosystems, and one of the most diverse is the wetland. Most people are unaware of the numerous benefits that Kentucky wetlands provide, including flood control, wildlife habitats, and pollutant filtration. There are several ways of preserving the state's wetlands, such as reducing pollution, both physical and chemical, as well as working with organizations to reduce wetland degradation and introduce new wetland ecosystems. Because Kentucky has such a diverse environment, the wetlands that lie within it are equally varied and support a wide range of species; thus, it is vital that these areas are protected and taken care of as they are crucial to the health of Kentucky's ecosystems and economy.

In order to understand why wetlands are important and what benefits they provide, it is essential to understand what they are. The word wetland is a collective term that is used to refer to a rich variety of ecosystems such as marshes, swamps, bogs and floodplains ("Understanding Kentucky's Wetland Ecosystems"). However, to be considered a wetland, an area must have shallow water covering the soil for either the entire year, or part of the year ("What Are Wetlands"). Wetlands are not only inland ecosystems, they can also be found along coastlines and have salty water. A well-known example of a coastal wetland is the Mississippi River Delta, while an example of an inland wetland would be Trumbo Bottom, found here in Kentucky ("Exploring a Wetland"). Wetlands are not always filled with water, some wetlands are seasonal and have dry spells, allowing unique species to thrive.

Due to wetlands being one of the most productive ecosystems in the world, the variety of species found within the different types is immense ("Why Are Wetlands Important"). The organisms found within these ecosystems can range from tiny microbes to huge mammals, and all sorts in between. Climate, location, and even geology, can be defining factors in the species

found in wetlands, which is why there is such a variation in the wildlife found between inland and coastal wetland species (“Why Are Wetlands Important”). Inland wetlands are home to many species, such as wood ducks, beavers, and muskrats; whereas organisms such as bottlenose dolphins, otters, and sea turtles can be found in coastal wetlands (“6 Types of Wildlife and Plants That Thrive in Salt Marshes”; “Essential Habitats: U.S. Fish & Wildlife Service”). Not only are they important for mammals, wetlands also serve as habitats for amphibious species. In Kentucky, wetlands are vital for one native species in particular, the Tiger Salamander. These native amphibians are reliant upon our wetlands because they spend their whole life cycle within hundreds of feet of their home wetland (“The Secret Life of Wetlands”). Kentucky wetlands are essential to these salamanders because they are seasonal. These dry spells allow amphibians such as the Tiger Salamander to grow and survive longer without the threat of being eaten by fish that live in these wetlands during the wet season.

In addition to providing wildlife habitats, wetlands also shield the environment around them by acting as natural flood barriers. Wetlands are perfect for absorbing excess water, which is extremely important during bouts of heavy rainfall. All of this water is absorbed rather than emptied into nearby rivers and streams, which are prone to overflowing into the surrounding environment; the wetland will then slowly release the excess water, preventing floods. (“Why Are Wetlands Important”) In Kentucky alone, wetland ecosystems save the economy millions of dollars in flood damage a year (“Wetlands”). This is yet another reason why wetlands are so important to conserve and protect.

In addition to mitigating floods, wetlands also safeguard surrounding areas and ecosystems by acting as natural water filters (“Wetlands Purify”). The soil that is found in wetlands, called hydric soil, is unique and highly effective as it can absorb many gallons of

water, as well as filter pollutants and waste (“Understanding and Protecting Kentucky Wetlands”). The tiny microbes found in hydric soil are responsible for breaking down these pollutants as they empty into wetlands from rivers or streams, preventing them from entering other waterways. Wetlands that are found downstream of urban areas are especially valuable, as they capture runoff that contains pollutants such as motor oil and other chemicals (“Wetlands Purify.”). By naturally removing these substances, wetlands protect surrounding ecosystems and help maintain clean and safe water for both human and animal use.

Despite all of the benefits that wetlands offer, they are increasingly threatened and negatively impacted by human activities. These ecosystems face a range of issues, such as degradation and land loss. Land management and activities have been largely blamed for wetland loss. This is due to new farm and cropland, as well as stream channelization (“Understanding and Protecting Kentucky Wetlands”). Wetland degradation is typically caused by industrial and commercial activities, such as highways and coal mining. The damage and loss of these ecosystems not only reduce the biodiversity of Kentucky, but also diminishes the natural filtration and water storage that wetlands offer.

Finally, because of the importance that wetland ecosystems hold, it is vital that they are protected. A few different ways wetlands can be conserved and protected include things such as supporting wetland restoration as well as cleaning up pollution. By volunteering with environmental organizations and working with local conservation districts, wetland degradation can be reversed and new wetlands can be created. For private landowners especially, local conservation districts can be of great help when it comes to building new wetlands, or helping restore pre-existing ones. As for pollution, chemical pollutants, such as pesticides and motor oils should be used conservatively, and properly cleaned up when spilled. Physical pollution, like

trash should be cleaned up, and disposed of (“10 Ways You Can Help Conserve Wetlands: U.S. Fish & Wildlife Service”). By doing these simple things, wetlands can be conserved and protected for future generations.

In conclusion, Kentucky’s wetlands are among its most valuable natural resources, supporting and protecting both humans and animals. These remarkable ecosystems house diverse plant and animal life, filter pollution, and absorb excess water. By engaging in conservation efforts and reducing pollution, chemical or physical, these valuable ecosystems can continue to thrive and ensure the survival of native species and protection of the surrounding environments. Protecting Kentucky’s wetlands today guarantees that future generations will continue to benefit from their ecological and economical impacts.

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