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# THE VALUE OF SHORELINE VEGETATION

*To maintain a quality resource such as Hartwell Lake, sound management of shoreline vegetation by the U.S. Army Corps of Engineers and by adjacent property owners is critical in preserving and protecting a healthy vegetative buffer and adjacent reservoir. Some of the important functions of shoreline vegetation are outlined below.*

## Shoreline Stabilization and Water Quality Protection

The roots of trees and shrubs along the shoreline help hold soils in place, preventing erosion. The layers of vegetation present in a natural shoreline provide multiple layers of protection for the soil from the adverse impacts of hard rainfalls by slowing the velocity of the raindrops, resulting in less impact force when they strike the ground. The resulting slower rainfalls result in less granulation of the soil and less movement of soil particles off site (erosion). The loss of soil nutrients is high in erosion, as the finer grained particles, which are the first to be washed away, are also the highest in fertility. The more small soil particles preserved by a protective buffer of shoreline vegetation, the higher the soil fertility.

Shoreline vegetation also traps sediment and pollutants, helping keep the water clean. Vegetative buffers provide an area where chemicals, pesticides, and fertilizers can decompose, rather than placing a load on the waterbody. Toxic pesticides are converted to non-toxic forms through biodegradation, which occurs in the vegetative buffer. Nitrogen applied as fertilizer can be converted into organic matter, and later decomposed and released into the air, rather than flowing directly into the lake resulting in adverse effects to water quality.

## Thermal Cover and Temperature Moderation

A vegetative buffer shields a waterbody from summer temperature extremes, thus moderating the waterbody temperature. The cover of leaves and branches brings welcome shade that provides a cooler area for aquatic life. Cooler areas hold more dissolved oxygen, which fish need to breathe. Shoreline vegetation also provides an area of filtration of storm water runoff, thereby increasing recharge of ground water. Later releases of flow from ground water to the lake occur on a gradual basis and are cooler than overland flows. The entry of this cooler water into the lake also helps to moderate the water temperature, making it less stressful to aquatic life.

## Wildlife Habitat and Food Chain Support

Many wildlife species use shoreline areas during all or part of their life cycle. Shoreline vegetation provides food, cover, nesting, and sanctuary for these animals. For example, 80% of the bird population around Hartwell Lake nests within 15 feet of the ground, making underbrush vitally important to their survival. These vegetative buffers also form the foundation of the wildlife food chain by providing a basic food source for insects and smaller birds and animals.



In addition to the above reasons for maintaining a healthy vegetative buffer around the Hartwell Lake, shoreline vegetation is also essential for maintaining the natural beauty of the lake and adding to aesthetic enjoyment. The Corps of Engineers is committed to protecting and preserving the shoreline vegetation at Hartwell Lake to ensure resource protection and enjoyment for future generations.