



BLUE PAPER

Part 3 - Why Forests Matter

Winter, 2020
Blue Paper No.8_a

Article by Char Ekroth

Tall trees, twittering birds, buzzing bees and the occasional snort of an alert deer are the sights and sounds of a walk in Brennan Woods. This Clear Lake forest world is part of the approximately 10 billion acres of forested land around the globe. Although worlds apart from the one we inhabit, these forests are vitally connected to our everyday lives. Year in and year out, we benefit from their important contributions. And in return, the stewardship we provide ensures healthy forests for future generations.



Photo credit: Bridget Harrison

Forests Clean the Air

A look up to the forest canopy of Brennan Woods, our 46-acre property, confirms the abundance of green leaves taking in the carbon dioxide emissions of our daily lives. Using the process of photosynthesis, forests are indispensable to us because they remove carbon dioxide from our atmosphere and add oxygen to it. One acre of forest absorbs six tons of carbon dioxide (CO₂) and puts out four tons of

oxygen (O₂) annually. So, for Brennan Woods, that comes to 276 tons of CO₂ absorbed and 184 tons of O₂ emitted. Forests also absorb other pollutants and additional carbon dioxide that help reduce the amount of atmospheric CO₂, a greenhouse gas. This unique ability to capture carbon and store it plays an important role in mitigating climate change.

If an area the size of the United States could be restored as forests, it would have the potential of erasing nearly 100 years of carbon emissions, according to the Tree Restoration Project. Thus, every forest—big and small—can help to clean the Earth's increasingly dirty atmosphere. Moreover, forests help conservation focused companies comply with regulatory demands to reduce their carbon emissions.



Photo credit: Don Luepke

Forests Shelter Wildlife

Experts estimate that forests provide habitats for 80 percent of the world's land-based wildlife. Forests everywhere support an immense variety of life from worms and ants to birds, herbivores, and carnivores. In deciduous forests, such as CLTLC's evolving open oak woodlands, oak tree acorns supply food for white-tailed deer, raccoons, squirrels, and rabbits.

More and more, some forests benefit from management techniques that are used to encourage the growth of wildlife populations and species diversity. Selective tree harvest, a practice CLTLC uses to strategically remove poor quality trees, changes the light levels, promotes the growth of desirable trees, and increases the habitat diversity for wildlife. In Brennan Woods, the result has been to accelerate growth of older trees and an eventual return of the acreage to the open oak woodlands of its past. These oak woodlands are favored by owls and other species such as the Prothonotary Warbler spotted recently in Brennan Woods. Using another forest management technique, CLTLC has removed a thick leaf litter

layer and ground level vegetation with a prescribed burn. This low intensity burn created more ideal conditions for seedling oak trees and other native understory plants to flourish. These oak seedlings, pictured right, are among the billions of seedlings that naturally regenerate deciduous forests and help maintain habitats for wildlife.



Forests Improve Water Quality

Because tree leaves capture rainfall and their roots trap sediments and pull out pollutants, forests work continually as a filter for their surroundings. Water that is slowly absorbed into the ground filters to aquifers which provide drinking water or feed springs, lakes and rivers. A fen in the Clear Lake Nature Preserve adjacent to Brennan Woods is a glacially formed wetlands sloping toward Clear Lake. As rainwater percolates through this soil, it becomes clean, clear spring water. That water flows downhill into Clear Lake where it helps to maintain the lake's high-water quality.

Forests Promote Health and Recreation



Outdoor recreation has increasingly become important to our health and enjoyment. Experiencing the beauty of nature has proven to have psychological, physical, and social benefits. Forests offer them all. Hikers, nature photographers, campers and bird watchers can all find rejuvenating activities in a forest. Rivers and lakes that are a part of forest preserves also provide kayaking, boating, canoeing, sailing or river rafting opportunities for recreation. In our Clear Lake Nature Preserve, work continues on hiking trails that encourage exploration and enjoyment of this beautiful property.

Forest Diversity

The variety of forests worldwide gives us numerous medicines and wood products. They also serve as world-wide environments in which humans can live and work, thereby contributing to national economies and their way of life.

Whether it is a forest of the world or the world of a Clear Lake forest, each is a legacy for future generations. A walk in the woods can periodically remind us of why forests matter and the necessity of preserving them. In our world, CLTLC works to preserve, protect, and manage its forested properties. Each one is cared for in a way that reflects its unique ecological qualities to include wildlife, habitat, potential impact on water quality and value to the community. By its actions CLTLC has made an investment that our children's children will be able to cherish and enjoy.

References & Resources:

www.arborday.org/benefits

National Geographic July 4, 2019, "How to Erase 100 Years of Carbon Emissions?"

Wall Street Journal August 24, 2020, "Emissions Rules Turn Saving Trees into Big Business"

<http://www.forestry.ok.gov/top10>

Clear Lake Township Land Conservancy Blue Paper, *Land Stewardship 101*

www.conservation.org/forest/con

Soundings, 2019.

<https://clearlakeconservancy.org/projects-and-programs>

www.fs.usda.gov/top 10 U.S. Forest Service People & Forests