BLUE PAPER

Land Stewardship 101

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One of the Conservancy's primary functions is natural areas preservation and water quality enhancement through sound practices of land management and water protection. We work to ensure that all CLTLC nature preserves (preserves) are sustainably managed to maintain and enhance their conservation values.

We protect and preserve a growing number of important properties within the Clear Lake watershed. Preserves are managed to reflect their unique ecological qualities considering their habitat, wildlife, potential impact on water quality and value to the community. CLTLC's management strategies depend on each individual property and are included in our Land Stewardship & Management Plan for each preserve.

Two significant stewardship approaches include forest health improvement in our wooded areas and invasive species control in all areas. We want to ensure survival of the native species, and in some cases, restore a preserve to a previous natural state, such as Brennan Woods and Kasota Island.

Forest Health Improvement: Much has been written on best practices that improve the vigor, composition, productivity, and quality of forest stands. Research indicates that it's better to have fewer quality trees than a larger quantity of inferior or undesirable trees. Forests are much like gardens; weeds can quickly take over. Vegetation aggressively occupies any available growing space, so one way to alter the forest, or control its composition, is to remove the undesirable trees and vegetation. Different practices may be used at different times in the life of a tree stand. These may include selective harvests or prescribed burns. *[Sources: Nat'l Wild Turkey Federation, U.S. Department of Forestry and Natural Resources, Purdue University, Indiana Department of Natural Resources, Division of Forestry]*

Selective Tree Harvest: Strategically removing only some trees removes poor quality trees and improves aesthetics. Selective harvests change the light levels in the forest, increase growth in desirable trees by up to 2x growth, and encourages remaining trees to naturally seed open areas (up to 7x than previous state). This also increases the habitat diversity for birds and other species. *[USDA Timber Stand Improvement, 2011]*

Prescribed Burns: Fire is a very cost-effective tool for improving and maintaining tree stands, as well as grasslands/prairies. Trained professionals set controlled, low intensity burns that knock back older vegetation, increase soil fertility, open up the tree canopy, and spur the dense regrowth of trees, shrubs, and other plants. This leads to improved wildlife habitat, and maintains the many plant and animal species whose habitats depend on periodic fire. The prescribed fire in 2017 in Brennan Woods helped to remove a thick leaf litter layer. This created more ideal growing conditions for native understory plants, which included seedling oak trees. *[http://www.tposfirescience.org/rxfire/]*

Invasive Species Control: The USDA defines an invasive species as "a species that is: 1) non-native (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health." Invasive species can be plants, animals, or other organisms (e.g., microbes).

Some examples of invasive plants in our area include:

- Purple loosestrife
- Japanese honeysuckle
- Asian bush honeysuckle
- Canada thistle
- Autumn olive
- Tree of heaven
- Glossy buckthorn
- Common reed
- Garlic mustard
- Callery Pear
- Norway Maple
- Burning bush
- Winter creeper
- English ivy
- Winged euonymus
- Reed canary grass
- Narrow-leaved cattail
- Yellow floating hearts
- Duck lettuce
- Eurasian watermilfoil
- Hydrilla

We work to identify and remove several of these invasive plant species through physical removal like hand pulling or mowing, and/or herbicide use.

Mowing: Controlling annual weed growth by mowing establishes native warm season grasses. This also controls the invasion of woody stem plants in grasslands, and reduces the amount of standing vegetation prior to conducting a prescribed burn or herbicide treatment. Conservation best practices are to leave 6-15 inches height for ground cover for wildlife in prairie/grasslands. Mowing can be conducted between August 1 and October 1 to allow plants to reach sufficient heights to provide winter cover benefits while removing woody vegetation. *[IL DNR conservation mowing]*

Herbicides: Controlling vegetation with herbicides is limited to situations where no other reasonable means of control are available. Herbicides are toxic to plants and use must be in accordance with local agency rules that govern the specific chemicals to be used. The Conservancy contracts professional, licensed applicators for the application of herbicides.

Our mission of preserving our natural lands and water quality benefits our community as a whole, improves our quality of life, and leads to greater sense of place for each of us. Please contact CLTLC (clearlakeconservancy.org) if you would like more information on our land management strategies or to learn about ways you can volunteer to support this important work.

Sources and Additional Reading:

Restoration of Midwestern Oak Woodlands and Savannas [2015]
https://www.fs.fed.us/nrs/pubs/jrnl/2015/nrs_2015_dey_001.pdf]
Land Use and Wildlife Resources, https://www.ncbi.nlm.nih.gov/books/NBK208757/
Oak Woodlands and Forests http://www.oakfirescience.com/research-publications
Restoring the Prairie, https://www.americanprairie.org/restoring-the-prairie
USGS, Invasive species Science, https://www.usgs.gov/centers/fort/science/invasive-species-science