

**RECOMMENDATIONS FOR PRESERVING AND PROTECTING
BOTTOMLAND FORESTS AND NATURAL STREAM CORRIDORS**

IN CHAPEL HILL

April, 2022

1. Recommendation to permanently protect and expand the Town’s bottomland Forests and Stream Corridors.

Recognizing the bottomland forest ecosystem’s contribution to reducing the impact of climate change, protecting clean drinking water in Jordan Lake, providing wildlife habitat and enhancing biodiversity, moderating peak stream flows and many other “Ecosystem Services”, **we recommend permanently protecting and expanding valuable bottomland forests and aquatic ecosystems in Chapel Hill.**

2. Effects in practice and benefits of these recommendations.

This recommendation would protect existing town- owned bottomlands, streams and other aquatic ecosystems by placing a conservation easement on the properties and by acquiring additional flood plain properties with the goal of creating unbroken forested corridors. In addition to easements and land purchases, protection of targeted bottomlands can be supported by land use planning and appropriate rules to limit development that would encroach on these areas. These recommendations will have the following benefits:

- **The Mitigation of Stormwater and Flooding**

The value of bottomland forests and stream corridors cannot be over emphasized. Forested bottomlands and riparian areas naturally mitigate flooding by intercepting floodwaters and reducing velocity after storms. The forests’ irregular natural topography, presence of organic debris and pervious soils impede and absorb floodwaters. The trees, shrubs and other natural vegetation intercept and take up vast amounts of water from the soil and vegetation through interception, transpiration and evaporation. Bottomland forests are our best stormwater and flooding mitigation systems and they operate for free! For this reason alone, they should be protected and expanded as a high priority for Chapel Hill.

- **Ecosystem Services**

Bottomland forest and natural stream corridors have many other functions and values that are noteworthy including carbon sequestration, wildlife habitat, and travel corridors, cool microclimates compared to open areas, habitat for fish, amphibians and reptiles and places for human meditation and escape from the developed world. These are “Ecosystem Services” and are critical to life itself since they include production of oxygen through photosynthesis and clean water.

- **Increased Opportunities for Recreation**

Acquisition of more land in these corridors can have the added benefit to the Town of providing green space, walking trails, wildlife observation opportunities, improved aesthetics plus other social benefits. Increasing protected forested green space will have long-term benefits for Chapel Hill. Chapel Hill currently has below average percentage of lands in this category compared to other towns of similar size. Our recommendations could change this for the long-term benefit to the Town.

3. How implementation of these recommendations would be different from current Town operations.

Chapel Hill does not currently have a plan to permanently protect the town owned bottom land forest from being removed. We are losing our forests and the percentage of land in natural forests compared to non - forested areas is rapidly declining. We need to permanently protect our bottomland forests as well as the land in the flood zones.

4. Sources:

[Emerging EPA guidelines recognize the importance of targeted pollutant reduction:](#)

“Traditional stormwater management approaches that rely on peak flow storage have generally not targeted pollutant reduction and can exacerbate problems associated with changes in hydrology and hydraulics.” The benefits of effective stormwater runoff management can include: protection of wetlands and aquatic ecosystems.

[Will Harman – Hierarchy of Stream Functions and Restoration](#)