Greater Alewife Ecosystem Restoration Planning

All species and ecological processes are interconnected in a massive web although the average person does not view the natural world in this way, and may miss the opportunity to grow human environmental awareness and satisfaction by avoiding a continuous and fascinating relationship with Mother Earth. The “greater Alewife ecosystem” provides a local environmental model and nature center to identify nearby natural resources, bonding with them, thus improving one’s mental and physical health. Located at the convergence of Cambridge, Arlington, and Belmont, residents understand and value the various ecological communities when they participate in ecology walks by the Friends of Alewife Reservation to stroll in the woods and along the river bank with family and friends. The biodiversity of Alewife consists of wetlands, shrub lands, grasslands, river banks, streams, ponds, riparian vegetation, meadows, and land where a rare silver maple forest once stood, with abundant plant and animal species that flourish in habitat provided at the DCR Alewife Reservation and its core buffers (former forest area).

Biodiversity is quickly apparent in this urban wild area of 115 acres, interconnected within a largely deforested and surrounding heavily populated residential corridor from Boston. Part of its ecology is a 100 year floodplain which provides the neighboring towns and Belmont/ Cambridge downstream communities of Somerville and Medford much needed flood retention and erosion control, an historic problem for residents. The pending inappropriate land use for the former forest area will produce an unhealthy ecosystem with storm water run off destined for the adjacent Cambridge wetlands which are legally protected by the Wetlands Protection Act stemming from the Federal Clean Water Act, with recently produced hydrological charts calculating tens of thousands of polluted water discharged eventually to flow through city and towns after contaminating our 6 acres of Cambridge’s largest wetlands on Acorn Park Drive.

Now that the “Greater Alewife Ecosystem” has been de-forestated of 7 acres, the communities’ ability to mitigate against future disasters such as sea rise and greater rain fall is more difficult because the reduction of a key feature of the upland-wetland ecology has been removed. Thus, a significant portion of nature’s bounty for storm water retention, ecological succession, and mitigating benefits are now lost, but not forever. Seeds remain in the mucky soils for long periods to return with either restoration or natural functions.

We in the environmental world are banking on ecological restoration at Alewife. This is happening throughout the world and it can happen here in the Cambridge region.

The Alewife floodplain of the Upper Alewife Basin of about 500 acres represents a natural filtering system, with water percolating back into the ground and replenishing groundwater. When the floodplain is separated from the adjacent river with a new 300 unit residence on a Peninsula shaped land mass (Belmont Uplands), the natural, built-in benefits are lost or reduced. Vegetation coverage has a natural cooling system provided by “albedo”, the reflection of light and heat. The deforestation disrupts this albedo to produce heat contributing more to the climate change crisis. The wetlands and a restored forest land will naturally absorb surplus carbon dioxide and release oxygen. Open space soil under vegetation itself is one of the largest carbon sinks in the global ecosystem, and wetlands abundant at Alewife Reservation, are the most productive ecosystems in the world. They hold the largest pools of stored carbon on earth, They have a high recovery rate from disturbance, and great ability to mitigate climate change as is apparent from recent disasters after wetlands are removed. Bare soil heats up higher and kills important bacterium and microorganisms while soil that is covered with vegetation is cooler, retains moisture and promotes growth. The continuous free benefits of ecosystems are the most effective services that exceed any artificial system such as holding tanks under ground or artificial storm water basins. They save communities millions of dollars in damages to homes, highways, bridges etc.

In an effort to restore the Alewife ecosystem, future plans are in place to build coherent plant communities for diversification throughout the area, to restore river and stream banks and small springs that have been obscured by erosion. Part of the Silver Maple forest that has been clear cut can be converted into a conservation site where successful carbon storing grassland will self-organize and grow naturally over the bare carbon sink soil.

In a world where global climate change is rapidly shifting and the human population is growing, it is imperative that local Alewife communities join together to plan regional land use and development before more of the vital publicly owned open space is decimated and removed from human and wildlife usage expanding the threat to human life. It is helpful to blur the line separating people and their natural environment to better protect ourselves and future generations.

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