



The Community Ecosystem Restoration Initiative (CERI) is an urban restoration project developed by ERA Ecosystem Restoration Associates Inc. and the District of Mission.

Funding is supported by ERA partners and ethical companies, organizations and individuals committed to voluntarily help address climate change and support the restoration of urban forests.

At no cost to the taxpayer, this urban ecosystem restoration program yields multiple benefits for the urban community and its residents.

Benefits include:

- **Biodiversity**
 - The re-establishment of native conifers increases biological diversity within ecosystems. New seedlings planted amongst older trees create multi-aged ecosystems while the felling of hazard trees provides unique habitat for species dependent on decomposing material (ie. Fungi). A variety of species at different ages within an ecosystem increases natural resilience to diseases.
 - The conversion of even-aged single species ecosystems to multi-aged, multi species ecosystems generates opportunities for natural regeneration as younger individuals gradually replace older generations of trees.
- **Carbon Sequestration and Climate Change Mitigation**
 - Photosynthesis is the natural process of removing carbon dioxide (CO₂) from the atmosphere and converting it into sugar molecules and other carbon compounds required by the tree. Oxygen (O₂) is also released by photosynthesis into the atmosphere. Carbon dioxide is the dominant greenhouse gas in our atmosphere and a contributing factor in climate change. The removal and long term storage of carbon within trees through ecosystem restoration is an important element in mitigating climate change.
- **Green Nodes**
 - Restoration of conservation areas provides enhanced refugia for migrating and local species. Known as green nodes, these patches of habitat provide shelter and nutrients to wildlife along their journey. Healthy ecosystems supply necessary nutrient requirements and safe resting sites for migratory birds. Lack of these elements reduce the ability of species to arrive at their destination in a healthy state and reduces their survival and breeding capacity.
- **Invasive Species**
 - Invasive species have significantly encroached upon the natural landscape. Their aggressive growth habit causes choking of many native species not capable of competing. Invasive species such as the Himalayan blackberry and English ivy dramatically suppress native

species and reduce native biodiversity. Without management, these species continue to out-compete and dominate the landscape, reducing habitat and food resources for native wildlife.

- **Slope/Soil Stability**

- Planting native conifers increases slope stability and reduces soil erosion. Their root systems form an extensive underground structure that stabilizes slopes and promotes infiltration of rainwater. Along riverbanks, tree roots assist in bank stability and decrease slumping into the waterways. Uncontrolled soil run-off into rivers and streams results in negative impacts to aquatic organisms.

- **Wildlife Trees and Hazard Trees**

- Wildlife trees are an important aspect in an ecosystem and provide valuable shelter and nutrients for cavity wildlife such as woodpeckers and owls as decomposing trees are filled with insects and natural openings provide nesting habitat.
- Hazard trees are comprised of dead or dying trees that possess dead limbs which pose a public safety risk and which do not display wildlife tree characteristics. These trees are felled and remain on site to provide additional habitat. As trees decompose their nutrients are cycled back into the soil and increase the nutrient pool available to existing and future vegetation. This decomposition component is extremely valuable in an ecosystem as it enables the continued cycling of nutrients.

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