



Cavity in standing dead tree with CWD on the ground behind.

Habitat Creation

Downed wood provides a long list of micro-climates and areas where wildlife and plants can establish themselves in highly competitive ecosystems.

- Standing dead trees provide cavities for all sorts of different cavity nesting species (woodpeckers, nuthatches, owls etc.)
- CWD provides habitat/cover that gives small mammals a place to live and refuge from predators.

Conclusion

Downed trees are often viewed as a nuisance in a park setting, but in a forest ecosystem, these biological legacies offer incredible benefits. The next time you are out in a county park, look for downed trees and see how many you can find!



Always inspiring fun!

About Us

Allegheny County Parks offer a wide variety of activities, such as golfing, swimming, fishing, kayaking, running and skiing – just to name a few. Yet, each park also offers its own exciting and unique experience.

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Coarse Woody Debris

The importance of biological legacies in our forest ecosystems



Coarse Woody Debris

What is it? What does it do for me?

If a tree falls in the forest and nobody is there to hear it, does it even matter? The answer to that question is resoundingly “Yes!” When trees fall during weather events or due to old age, they become coarse woody debris (CWD). CWD provides essential ecological benefits to forest ecosystems and offers a steady stream of nutrients.

Coarse woody debris is defined as “Sound and rotting logs and stumps that provide habitat for plants, animals and insects and a source of nutrients for soil development. Material generally greater than 8-10cm in diameter.” (Stevens 1997)

Forest Productivity

CWD provides a variety of benefits to the forest, including: adding organic matter to the soil; providing habitat for decomposer organisms; retaining moisture in the soil during drought; retaining a pool of nutrient resources for the ecosystem; and providing a site for the regeneration of conifers!

CWD is important to forest biodiversity and ecosystem function!

Nurse Logs

Have you ever seen a tree seedling growing out of a rotting log on the forest floor? These “nurse logs” provide habitat for many species of plants to get a foothold in highly competitive ecosystems. CWD can also provide protection from the browsing pressures of common ungulates like deer.

Ecosystem Benefits

CWD is important in many different types of forested habitats, especially areas near streams and areas with steep terrain. These large woody structures help retain soil in a system and offer slope stability. CWD in steeply sloped environments provides erosion prevention and controls storm runoff.



CWD creates complex habitat in riparian areas.

Long-Term Carbon Storage

Did you know that the removal of CWD from forested landscapes is the second leading cause of CO₂ release in the atmosphere behind the consumption of fossil fuels?

In many forest systems, decaying matter on the forest floor can contribute up to 25-30% of the carbon storage in the ecosystem. By retaining the downed wood in our forest ecosystems, we allow the trees to release carbon into the atmosphere at a slow and natural pace!

