

NATIVE CONIFER RESTORATION IN SEATTLE PARKS

RESEARCH OBJECTIVES

- Carry out a field experiment to help understand the effectiveness of methods used to reduce summer drought stress and improve seedling establishment.
- Propose best management practices based on field experiments, literature search, and a basic analysis of costs and benefits.
- Improve long-term restoration effectiveness, addressing significant seedling mortality (> 80%) experienced at Interlaken Park during previous restoration efforts.



GREEN SEATTLE PARTNERSHIP

- Research suggests that 70% of Seattle's forested lands will become "ecological dead zones" in the next 30 years if issues like plant invasions and an aging canopy are not addressed.
- The City of Seattle has partnered with Cascade Land Conservancy to change the future of Seattle's forests by engaging the community to restore 2,500 acres by 2025.



"The forest restoration practice involves both art and science. Scientific experiments refine the practitioners palette so that we may more effectively realize our site objectives." - Katie Moller, Seattle Parks Urban Forester

FIELD EXPERIMENT

The first field experiment was implemented during February 2008, with 1,260 conifer trees planted in two parks. Growth data will be collected for the next two summers.

Mulch:

Potential to increase soil's organic content, decrease moisture evaporation, and increase tree growth. Limited research exists for application in urban forests.

DriWater:

Gel product made primarily of water that releases when degraded by soil organisms. Little info exists on its effectiveness in a restoration context.

Drip Irrigation:

Although complicated in a forest setting, irrigation may reduce water stress and increase tree growth.

Locations

- West Duwamish Greenbelt
- Interlaken Park

Tree species

- Western Red Cedar
- Western Hemlock
- Grand Fir

Treatments

- mulch only
- mulch + irrigation
- DriWater only
- DriWater + mulch
- irrigation only
- control

