



## Trees Among Us: The Critical Role of Urban Forests in Iceland's Urbanised Landscape (Poster)

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With 95% of Iceland's population residing in urban settings, most Icelanders encounter trees primarily within urban environments. Recent research provides the first comprehensive assessment of Iceland's urban forest canopy distribution and structure.

A nationwide analysis reveals heterogeneous tree canopy cover across regions (national average: 9.4%), with the Northwestern (15%) and East (13%) regions demonstrating substantially higher coverage than the Westfjords (7%) and Southern Peninsula (1%). Statistical evaluation indicates a significant positive correlation between urban canopy metrics and access to cultivated woodland areas, suggesting communities with stronger forestry traditions maintain greener urban environments.

Research in Reykjavík (8.7% canopy cover) quantifies substantial ecosystem services: 793 million ISK in carbon storage and annual values of 170 million ISK for carbon sequestration, air pollution removal, and avoided runoff. Notably, Reykjavík's trees prevent 137 million litres of stormwater runoff annually. The urban forest's structural value (CAVAT methodology) reaches 576 billion ISK, while visual amenity contribution (Helliwell method) is valued at 1.2 billion ISK.

Species composition analysis reveals concerning vulnerability, with just four taxa constituting 78% of Reykjavík's tree population. This limited diversity presents significant risk from climate change-associated stressors, underscoring the need to reconsider species selection beyond biogeographic origin toward functional traits conferring resilience.

This research establishes foundational parameters for evidence-based urban forestry policy in Iceland and proposes strategic targets for enhancing both canopy extent and functional diversity to optimise ecosystem services and urban resilience in a changing climate.

