



PLANTINGDESIGN FORARESILIENT FUTURE

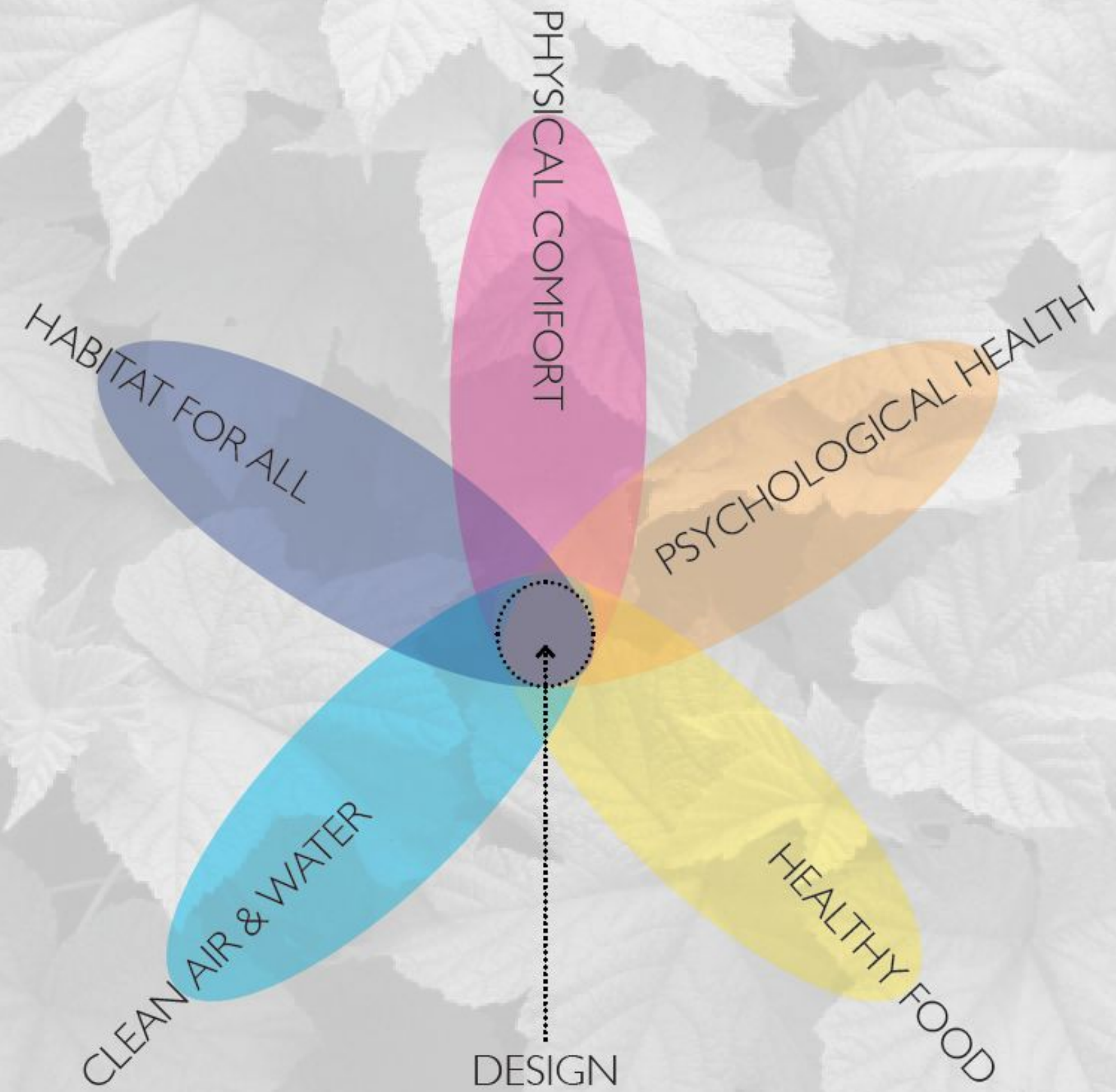


We believe plants are essential to creating a healthy and resilient future through intentional design.

COMPONENTS OF AN EQUITABLE CITY



BENEFITS PROVIDED BY PLANTS

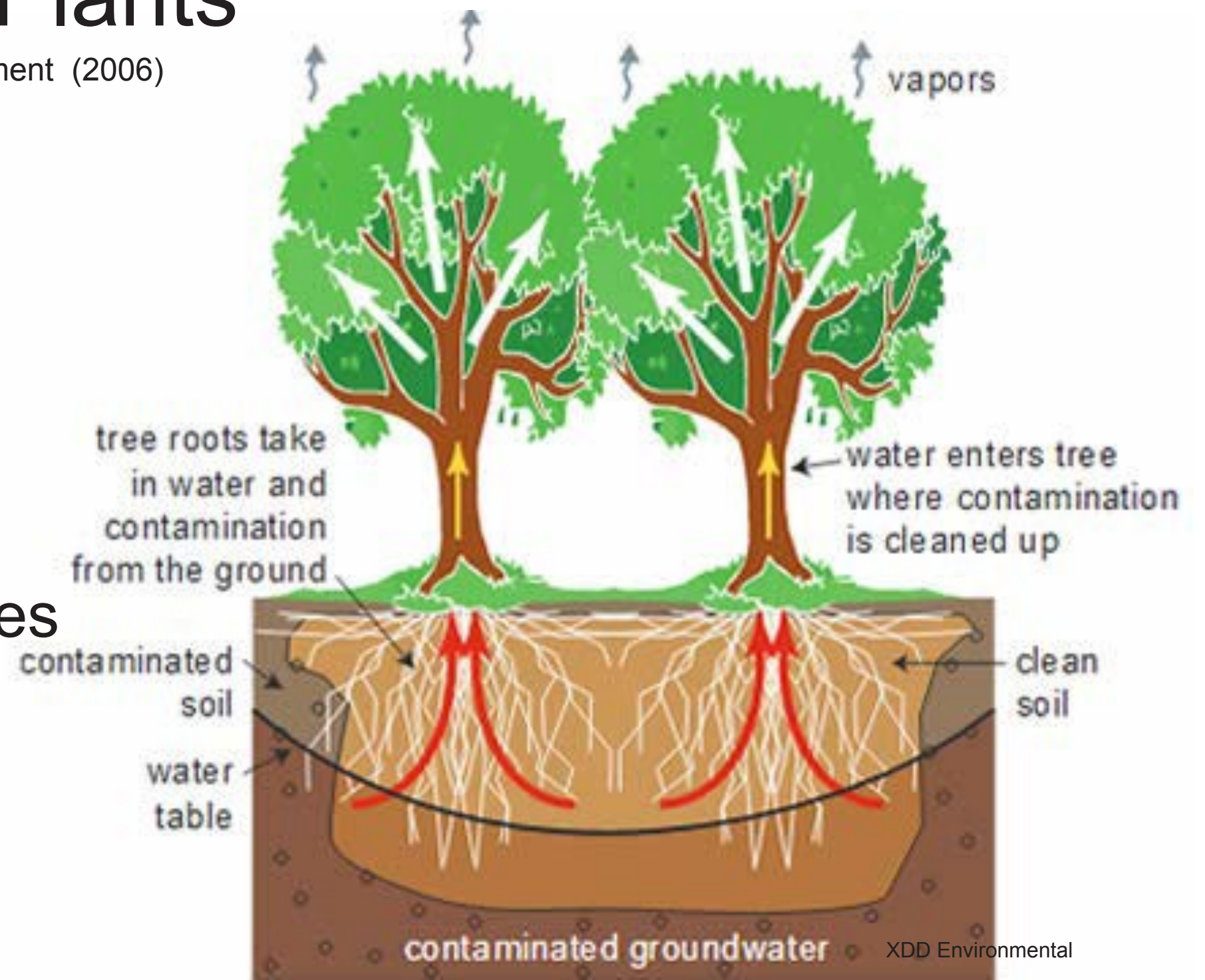


Environmental Services of Plants

Phytoremediation

“the benefits people obtain from ecosystems” - Millennium Ecosystem Assessment (2006)

- clean air, water, and soil
- climate regulation
- ecosystem support
- production and regulation of resources
- therapeutic effects and treatments



IslandWood

- recreation and education
- habitat
- equitable environments
- and many more...



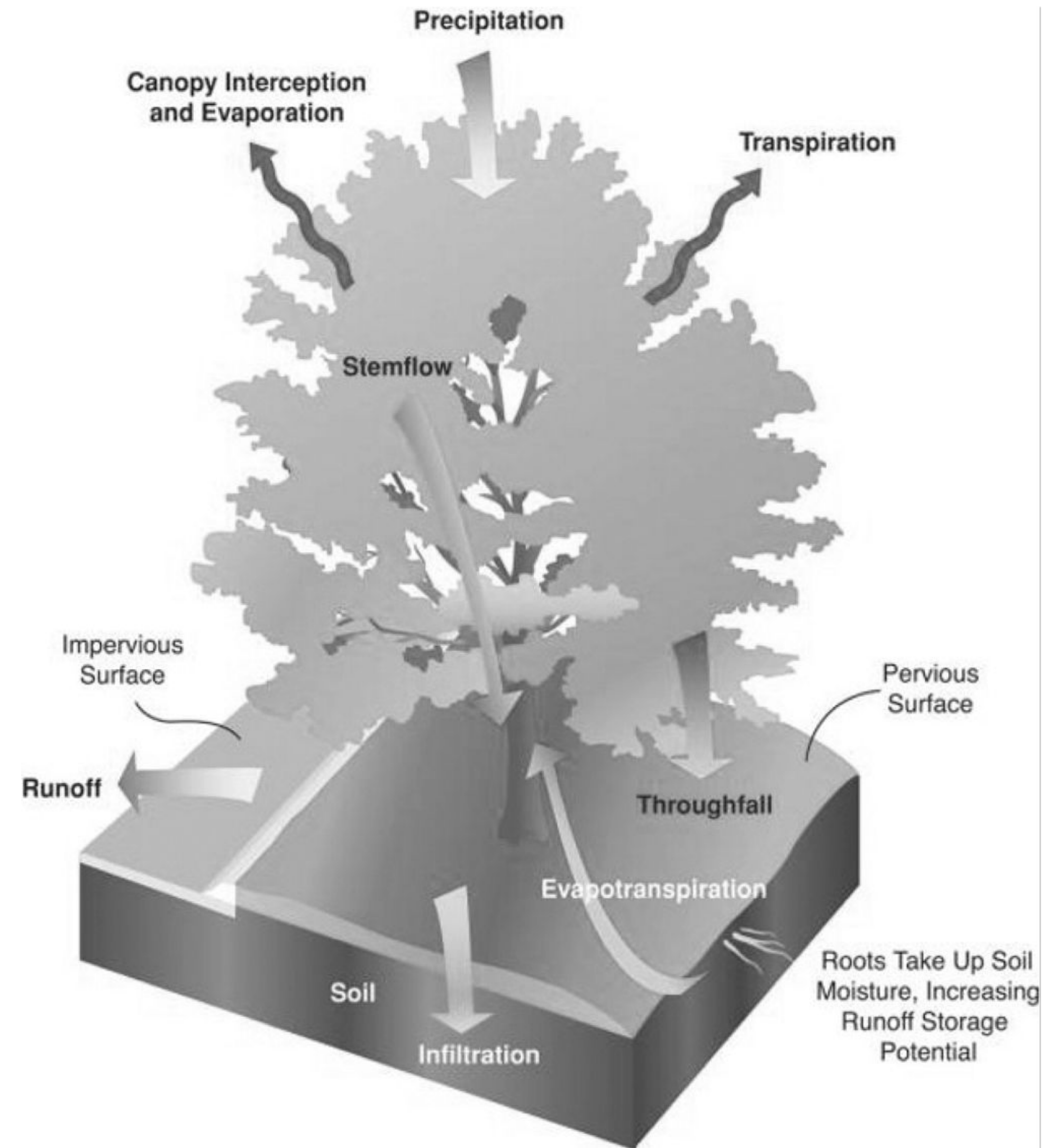
Benefits of a Single Street Tree

One 20 inch diameter (roughly 33 year old) London Planetree can

-intercepts 1,526 gallons of stormwater runoff per year

-reduces atmospheric carbon by 595 pounds.

A Mature London Planetree





Benefits of an Urban Forest

-provides (+)\$150 in environmental benefits per tree every year

-Trees sequester carbon as they grow

-More carbon is sequestered as trees mature

-Clean polluted city air and water

-Store and use pollutants that are damaging to human health

-Increase property values

Canopy Cover and Environmental Benefits

-Current Canopy Cover (2016): 4.35 million trees and tree-like shrubs and 28% canopy cover

-Some neighborhoods with as little as 5% canopy cover

- Many aging, diseased, or damaged trees

- Canopy

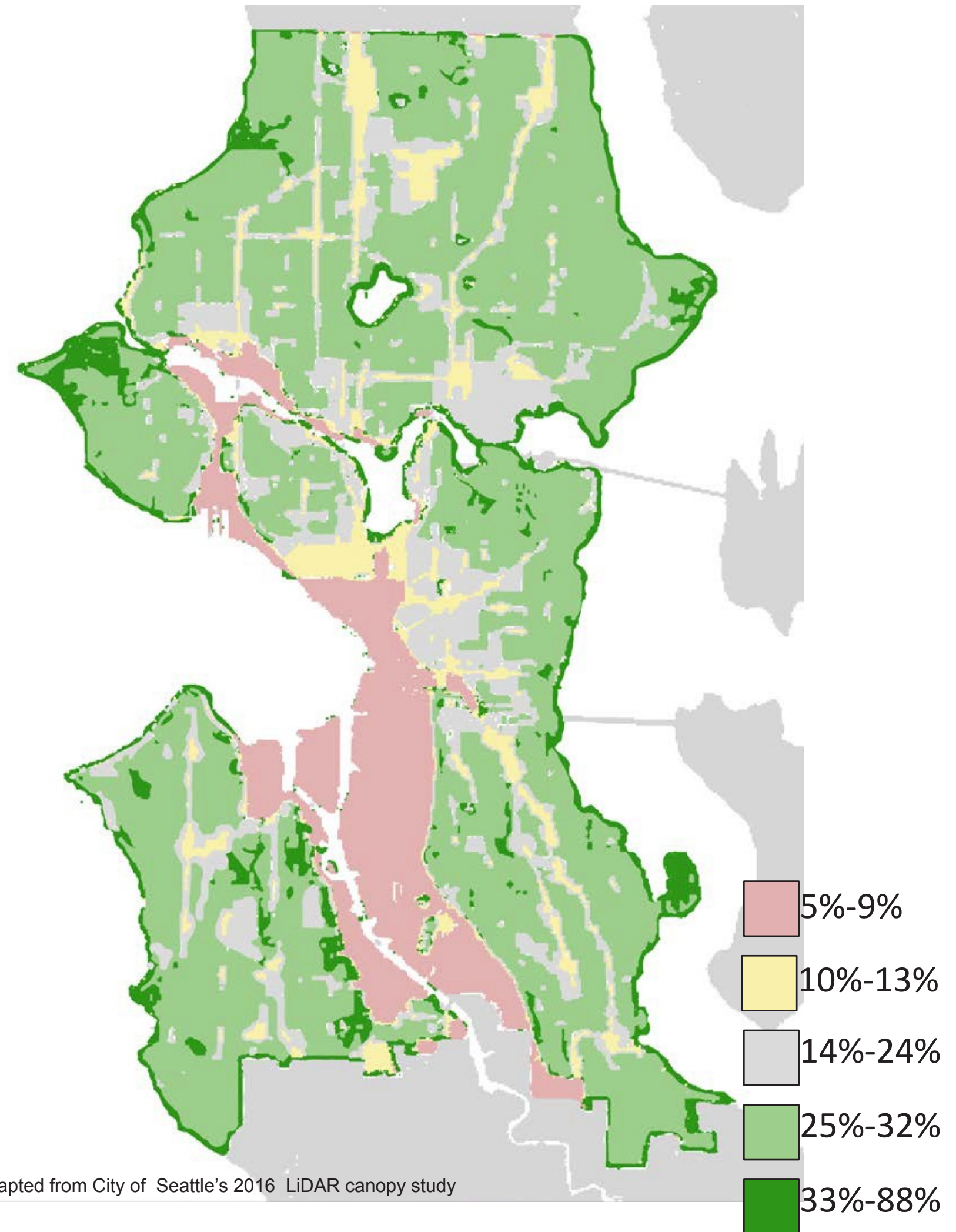
Goals:

- 30% by 2037

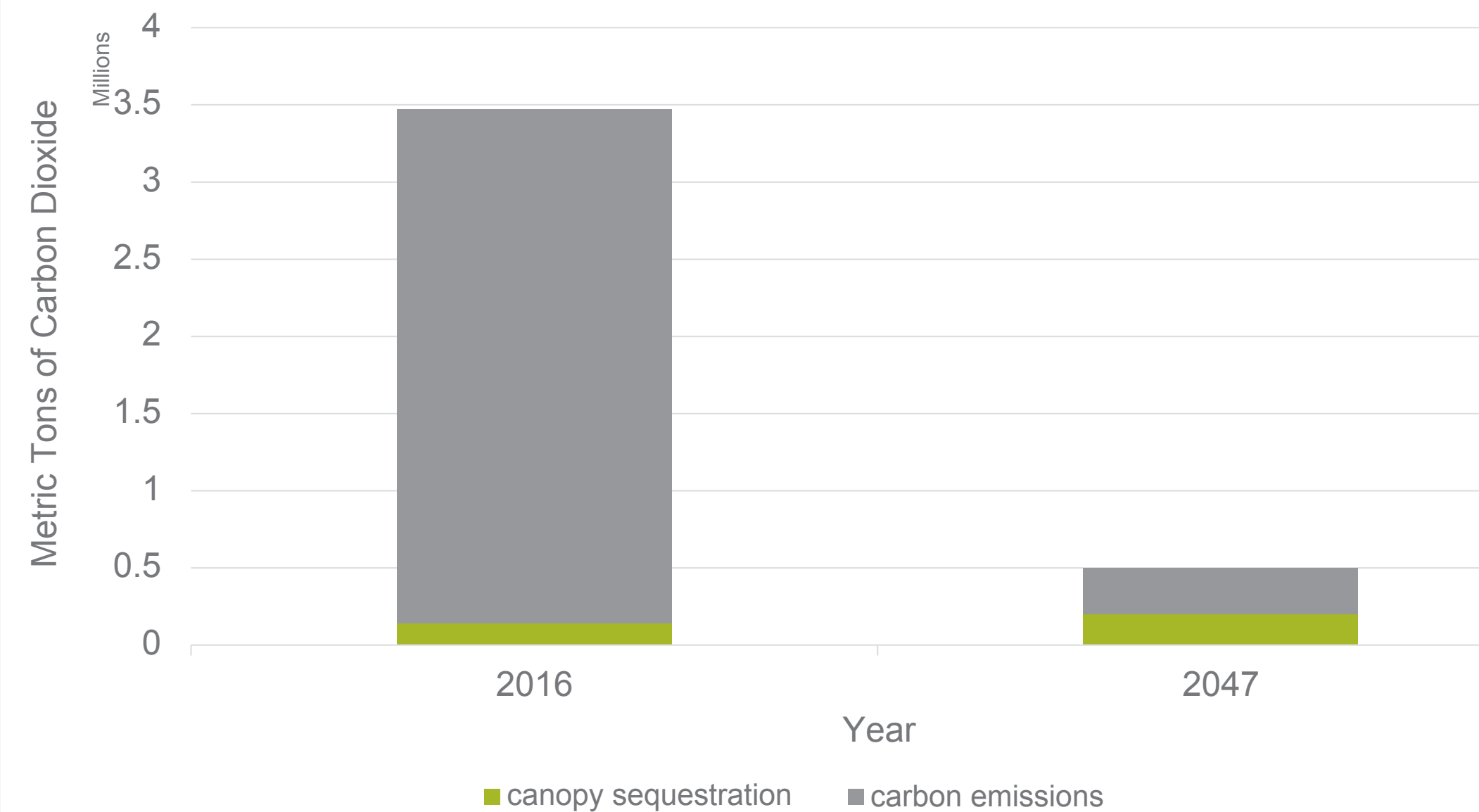
- 40% by 2047

Where should these new trees be planted?

2016 Canopy Cover



Percent of Emissions Sequestered



Adapted from City of Seattle's 2016 LIDAR canopy study

GREEN SEATTLE

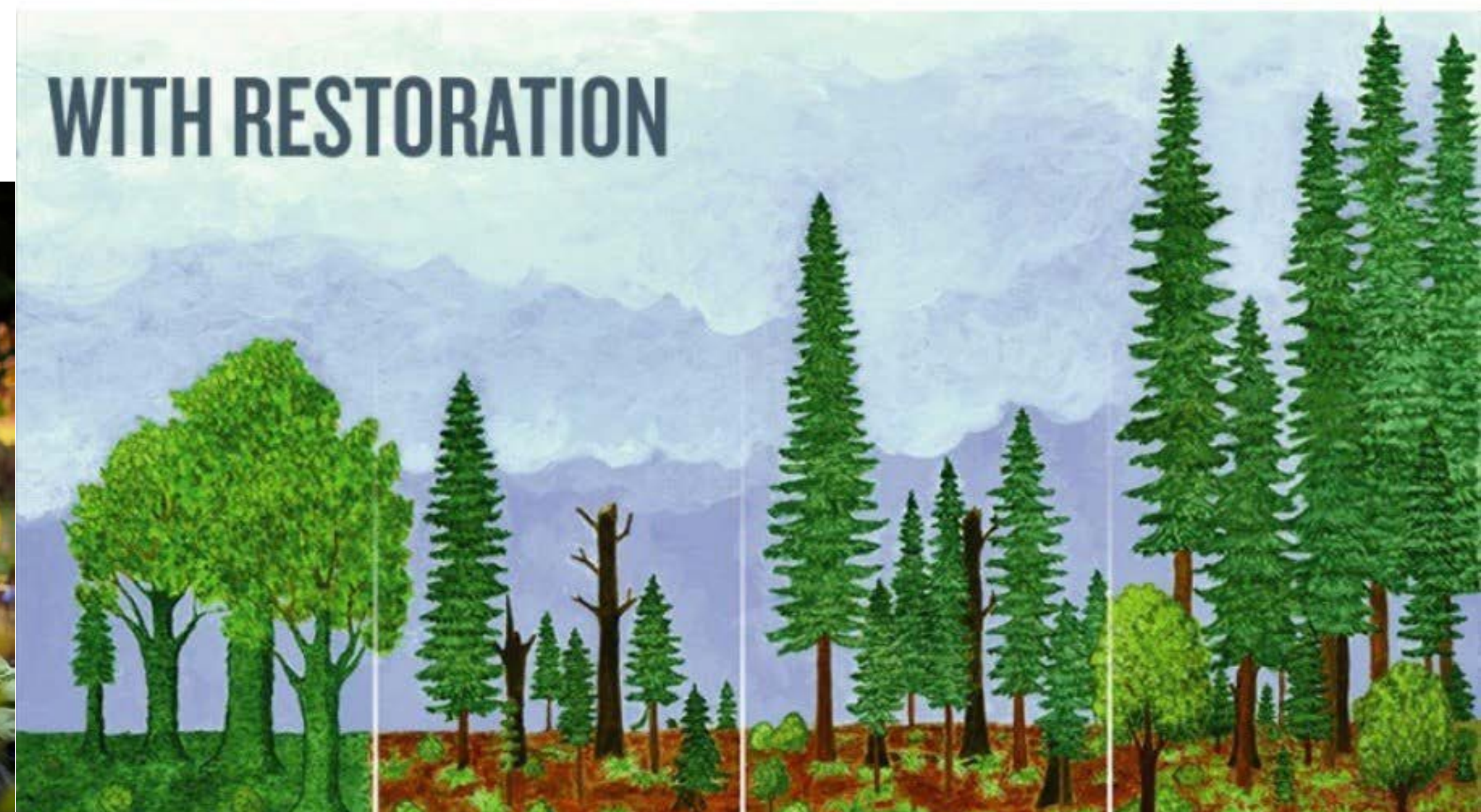
PARTNERSHIP



A partnership between the City of Seattle, Forterra, and community organizations

Restoring, renewing, and creating Seattle Parks by:

- removing invasive species and pollutants
- replacing diseased, dead, and dying trees
- replacing and adding additional plants and trees
- engaging community volunteers and partners
- help meet maintenance and funding needs



Images and logo from Green Seattle Partnership

Seattle Green Partnership Enables Everyone

Every year, Seattle parks provide:

- \$1 million dollars benefit in stormwater management
- \$195,000 of air cleaning services
- 15% increase in adjacent property values
- connections with the natural environment
- and so much more...

Seward Park, 9 years after restoration



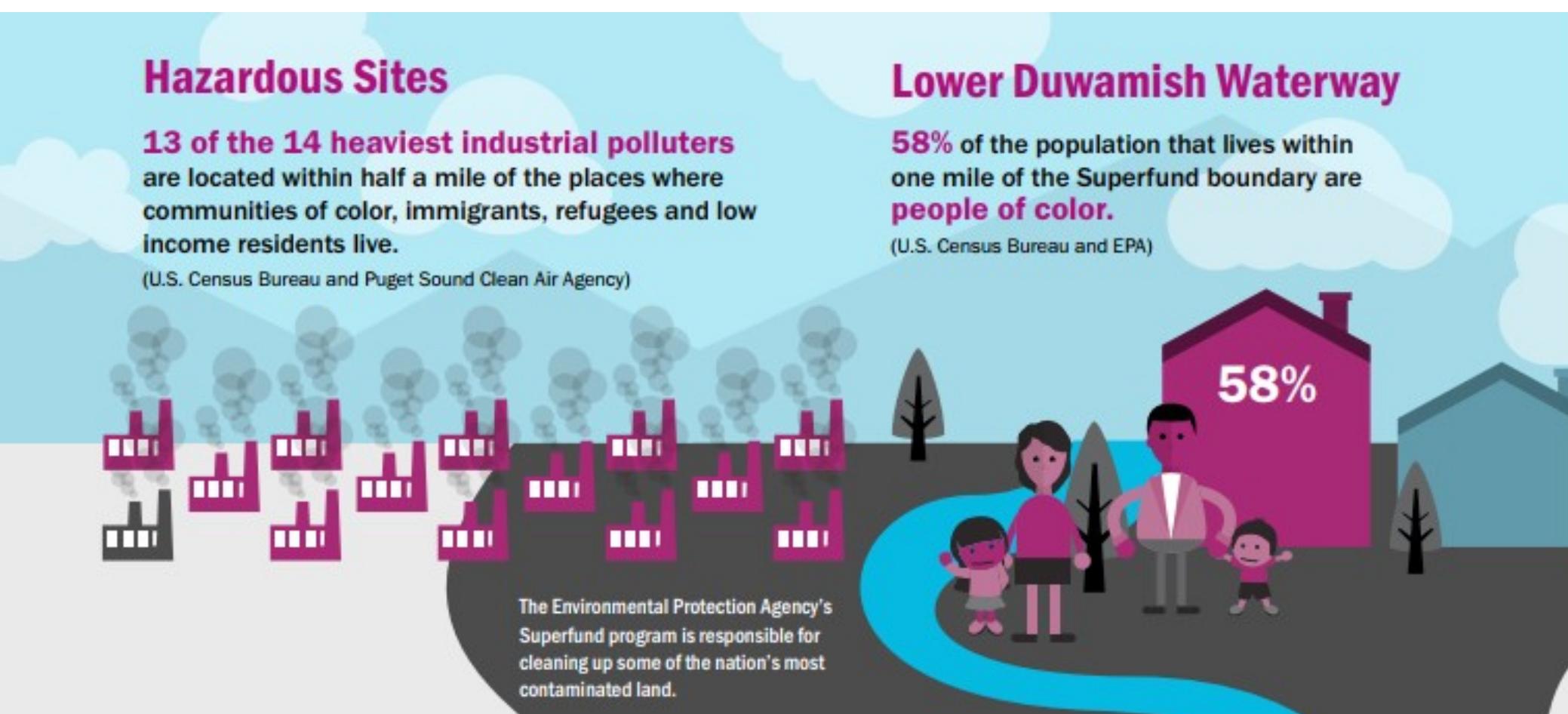
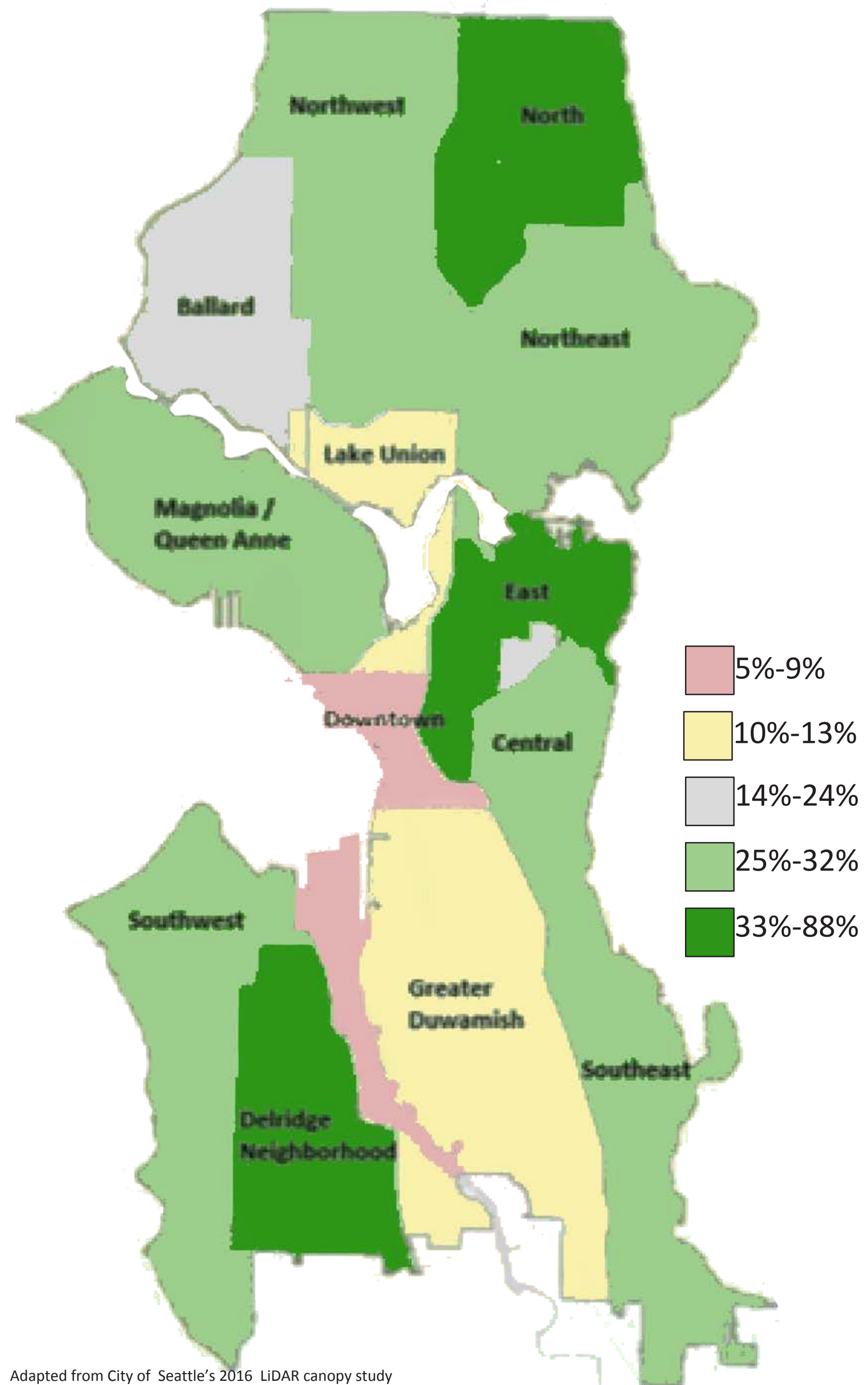
Volunteers preparing to remove ivy strangling trees



Canopy Cover, Nature, and Equity

Neighborhoods with the least canopy cover are:

- Lower income, greater diversity
- adjacent to industrial areas with heavy pollutants near residential neighborhoods
- have limited access to green space
- these neighborhoods are often not where trees are being planted
- People of Georgetown have an life expectancy 8 years shorter than Seattle's average due to environmental health factors.



From the City of Seattle's "Equity and Environment Agenda," p.7 and Duwamish Valley Cumulative Health Impacts Analysis: Seattle, Washington

Adapted from City of Seattle's 2016 LiDAR canopy study

Hamm Creek: Point Rediscovery

Restoring people through ecological restoration

- Habitat
- Ecological Restoration
- Equity
- Job Training
- Community Building
- Education





- John Beal started to restore Hamm Creek in the 1980's
- Hamm Creek is a salmon bearing tributary of the Duwamish River
- Pt. Rediscovery is a parcel owned by Seattle Public Utilities and funded through WaterWorks Grant Program



Edge of the pond
after planting day
(June 2017)





- DIRTCorps is contracted to restore the site by removing invasives and planting native plants to improve habitat.
- Volunteers and workers learn about the hydrology, native flora and fauna, and environmental stewardship strategies.





DIRT Corps

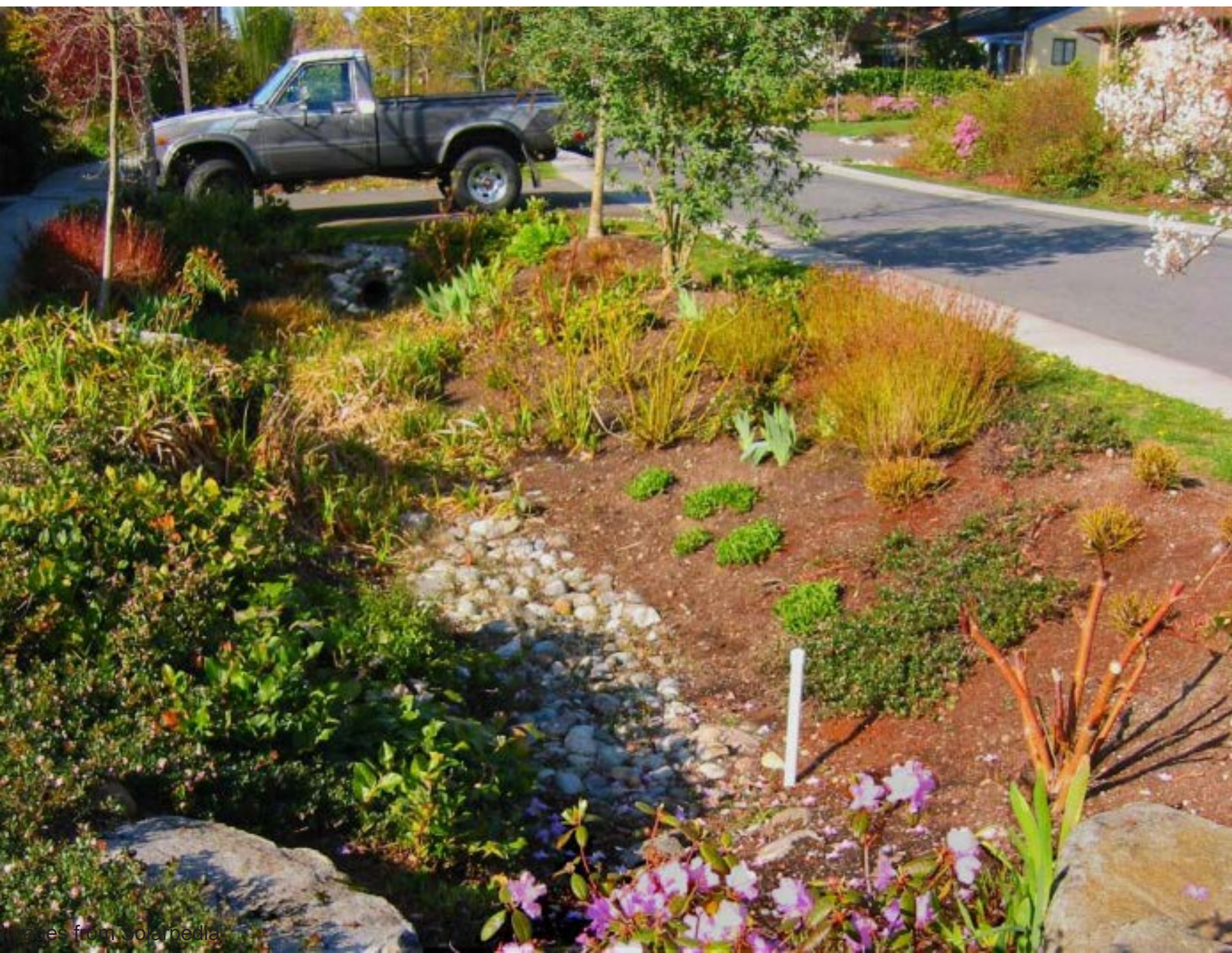
Duwamish Infrastructure Restoration Training Corps

- Provides green job training and experience in the South Seattle area, specifically for women, people of color, LGBTQ+, and veterans.
- Projects focus on ecological restoration and green infrastructure, and urban forestry near the Duwamish.

SEA Streets - North Seattle

Seattle Public Utilities

- Stormwater
- Water quality
- Habitat
- Traffic Flow
- Depaving
- Community Engagement





Before:

- asphalt streets
- erosion and water quality problems in Piper's Creek
- fast traffic flow

After

- narrowed, curved streets allow slower traffic flow
- stormwater flows into bioswales
- plants prevent erosion and clean pollutants
- improves salmon habitat in Piper's Creek
- porous paving
- sidewalks added



2004 - right after planting



2006 - maturing vegetation

SEA Streets

Bioswale



- 99% runoff volume reduction
- 25% less expensive than traditional roadside treatment
- Increased property values
- mature trees preserved
- native, salmon-friendly species planted

VA Puget Sound Fisher House

Soothing and refreshing the spirits of military and Veteran families



- Healing
- Stormwater Treatment
- De-paving
- Community Engagement

“ What makes a healing garden at a hospital different from any pleasing garden involves understanding what might help ‘ transport’ people away from the medical process or the medical center. For example, knowing that some people grapple with the emotions of a difficult prognosis or treatment, a healing garden might include a spot in the garden for privacy.”

- Daniel Winterbottom, UW Professor

The Healing Gardening:

By Friends of VA Puget Sound

Fisher House and the University of Washington.

- depaved parking lot
- garden haven for families
- event space for celebrations and memorials
- group space for friends and families
- individual space for reflection and healing
- flexible in allowing for sitting, standing, or walking
- garden space

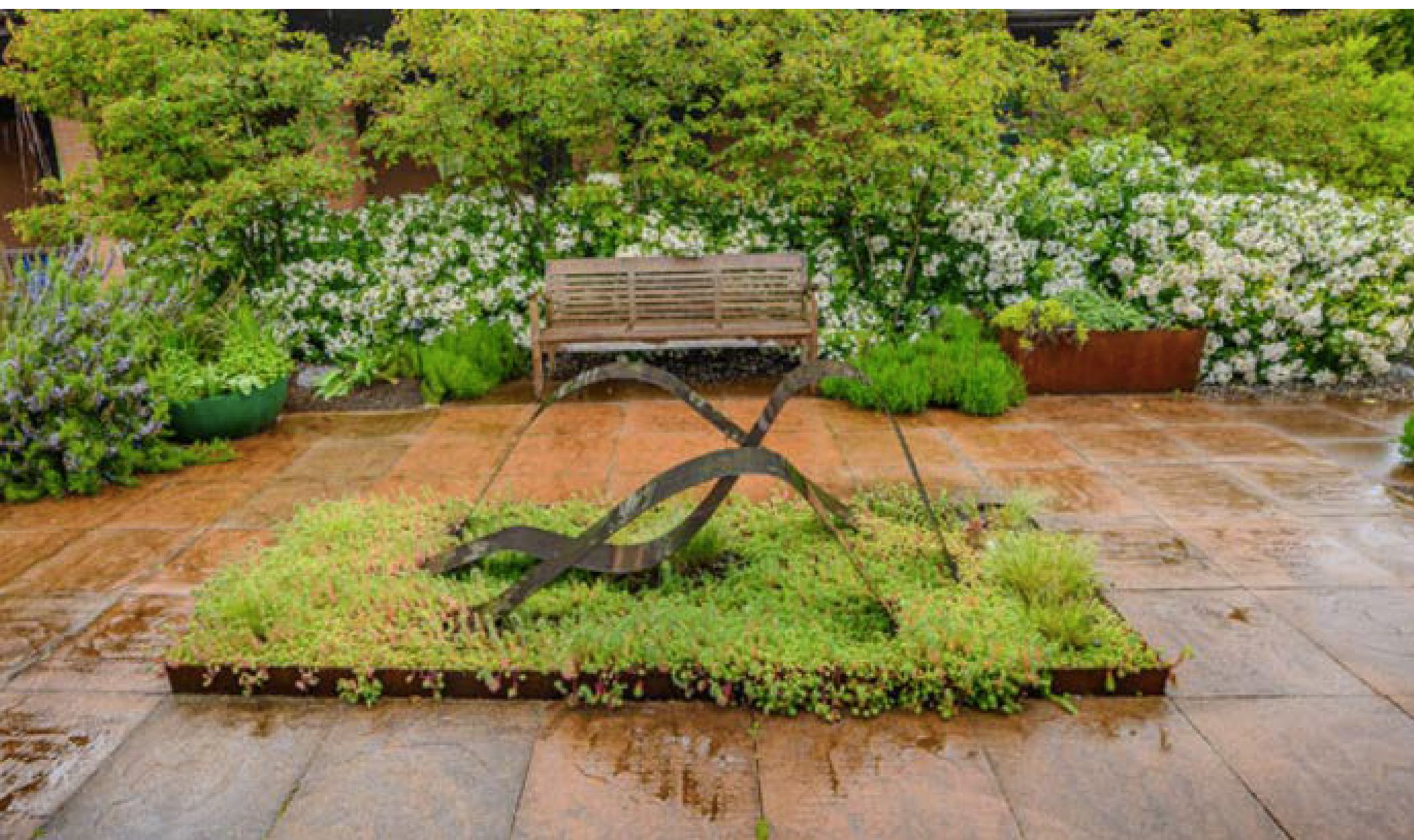




Top Left:
bridge over raingarden
provides a meandering
path over flowing water

Bottom Left:
sculptural element
provides meditative area
for self-reflection

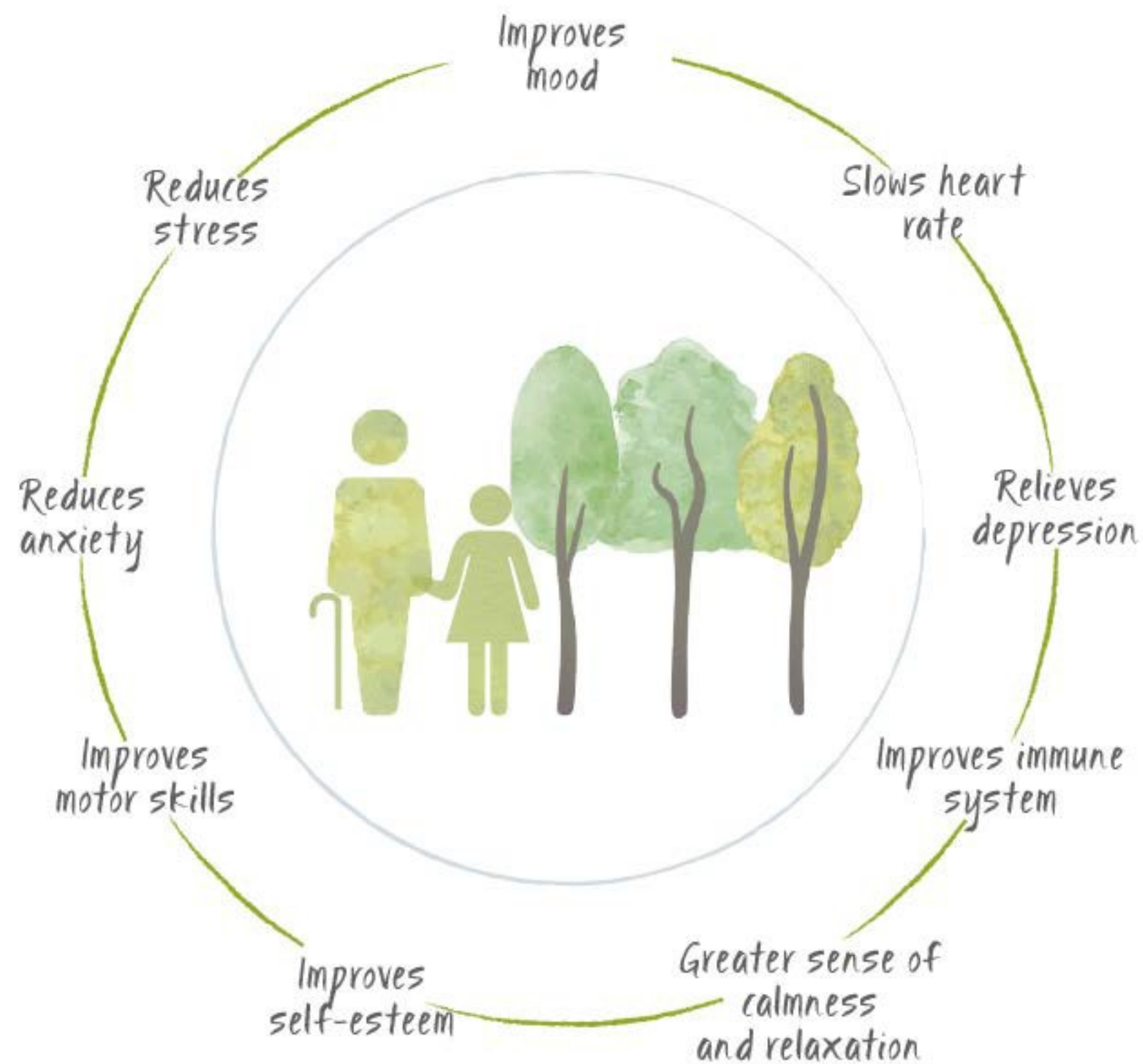
Bottom Right:
plan illustrates lush
vegetation and a variety of
spaces that replaced the
underutilized
parking lot



Benefits of Healing Gardens

Many types of illnesses benefit from therapeutic gardens

Benefits of Healing Gardens



Effectiveness and design can depend on:

- plants vary depending on the illness(es) treated
- water and other natural sounds
- object height and material
- meandering paths
- Sight, Sound, Touch, Smell, and Seasonality
- Interactive and scenic elements



Seattle P-Patch Program

Started by the Picardo family in 1973

- Food
- Equity
- Community Space
- Pollinator Habitat
- De-paving

63,511 lbs of donated produce in 2017



Bradner Gardens Park

-1987: Seattle P-Patch Program established site utilized by Mien immigrants from Laos and local Mt. Baker neighborhood.

-1994: The city planned to building housing but was resisted by the community

-Friends of Bradner Gardens Park formed, and lobbied city officials.

-Small and Simple Projects Fund grant to hire a landscape architect.

-Project was completed in 2003.



Bradner Gardens Park

“A place where people of all ages, cultures and abilities can create and learn about urban gardening and the environment in a park that is salmon-friendly and encourages water and resource conservation.”

-- Bradnergardenspark.org



source: Barker Landscape Architects

Landscape Architect:

-Barker Landscape Architects

Partners:

-Seattle Parks and Recreation

-Seattle Tilth

-P-Patch Program

-City Fruit

-Mt. Baker Community Club



Breaking Ground, 1998

<http://www.bradnergardenspark.org/>



Features:

- 61 garden plots
- Educational Children's Garden
- Show gardens
- Arboretum of small street trees
- Native plant habitat
- Bee hives
- Indoor and outdoor community gathering space

Effective Design uses Plants

- serve multiple functions/address multiple challenges
- cost effective
- human and animal health, healing, and well-being
- resource production and maintenance
- respond to a changing climate and extreme weather events



