Port of Seattle

GREEN DES MOINES PARTNERSHIP

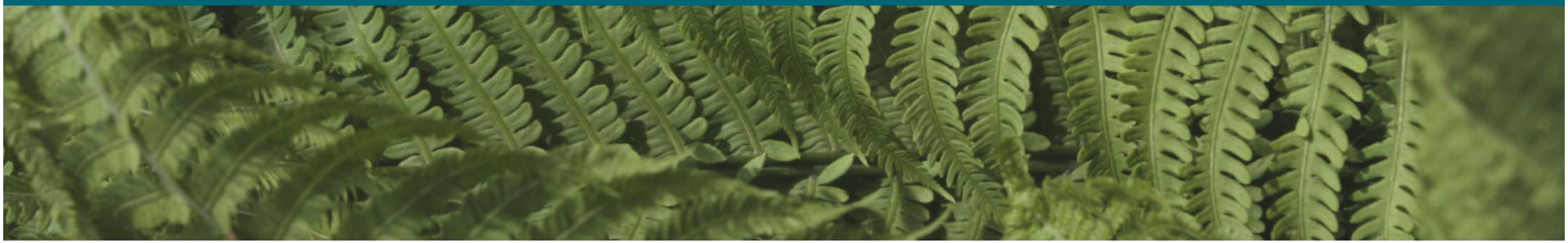
ALI LAKEHART

Forterra

Green Cities Program Manager

FORT&RRA

FOR THE PEOPLE. FOR THE LAND. FOREVER.



GREEN CITY
PARTNERSHIPS
SEATAC - BURIEN- DES MOINES

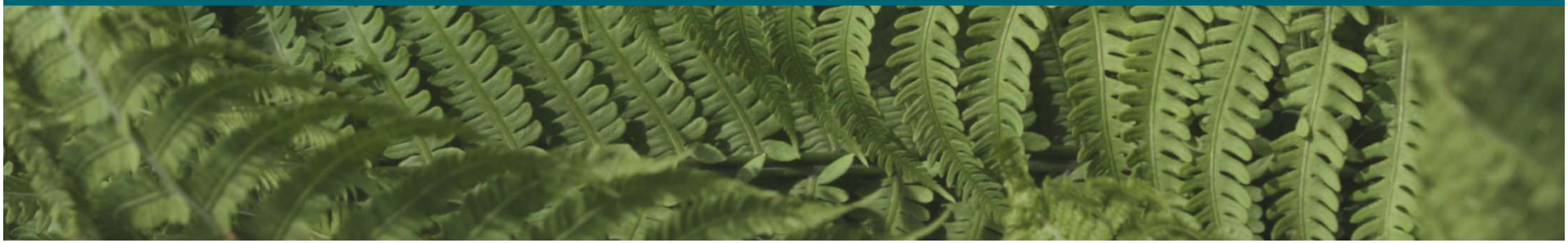
CITY OF DES MOINES
Sails With Pride

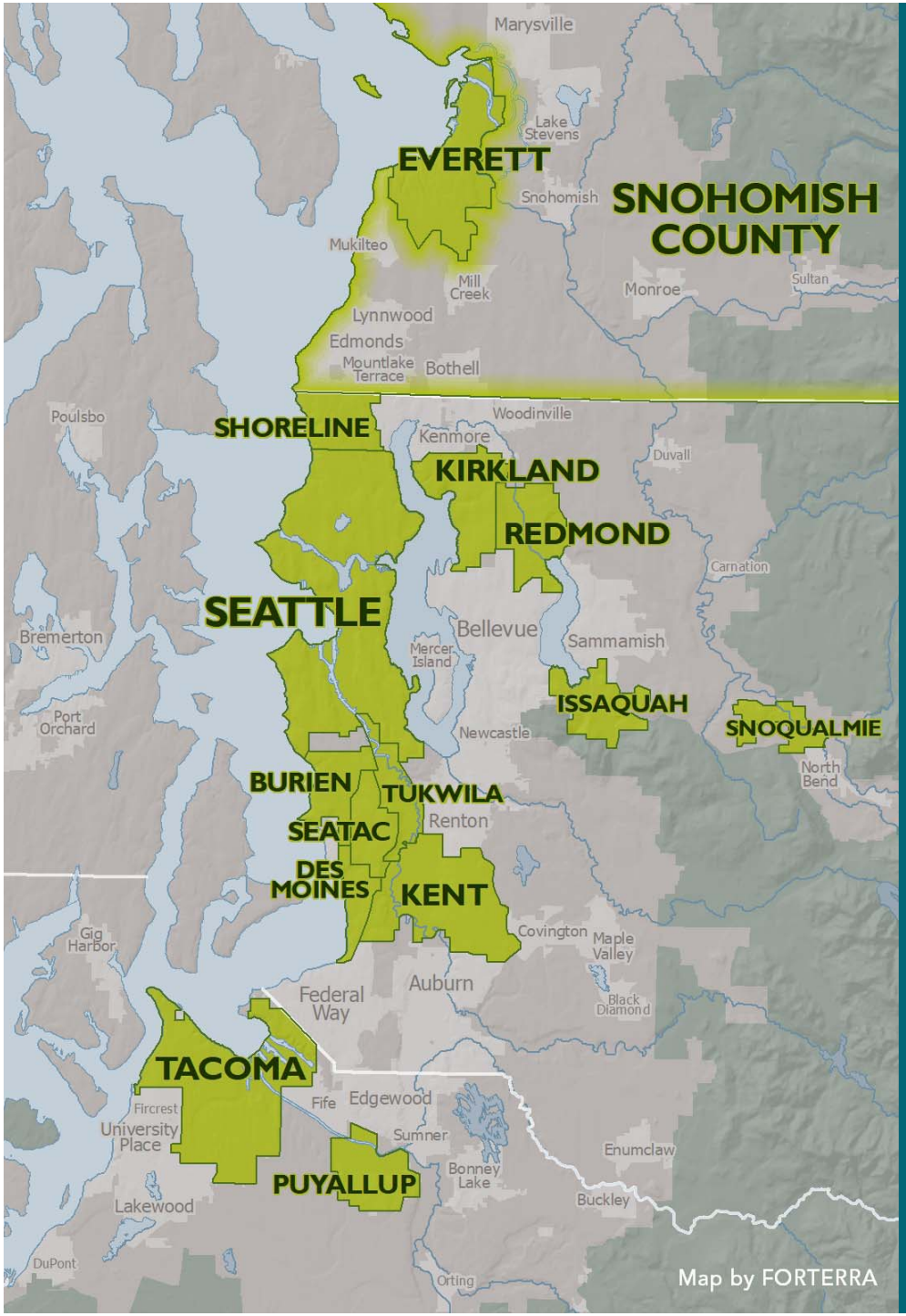
CITY OF SEATAC
EST. 1990

Burien

FORT&RRA

Port of Seattle®





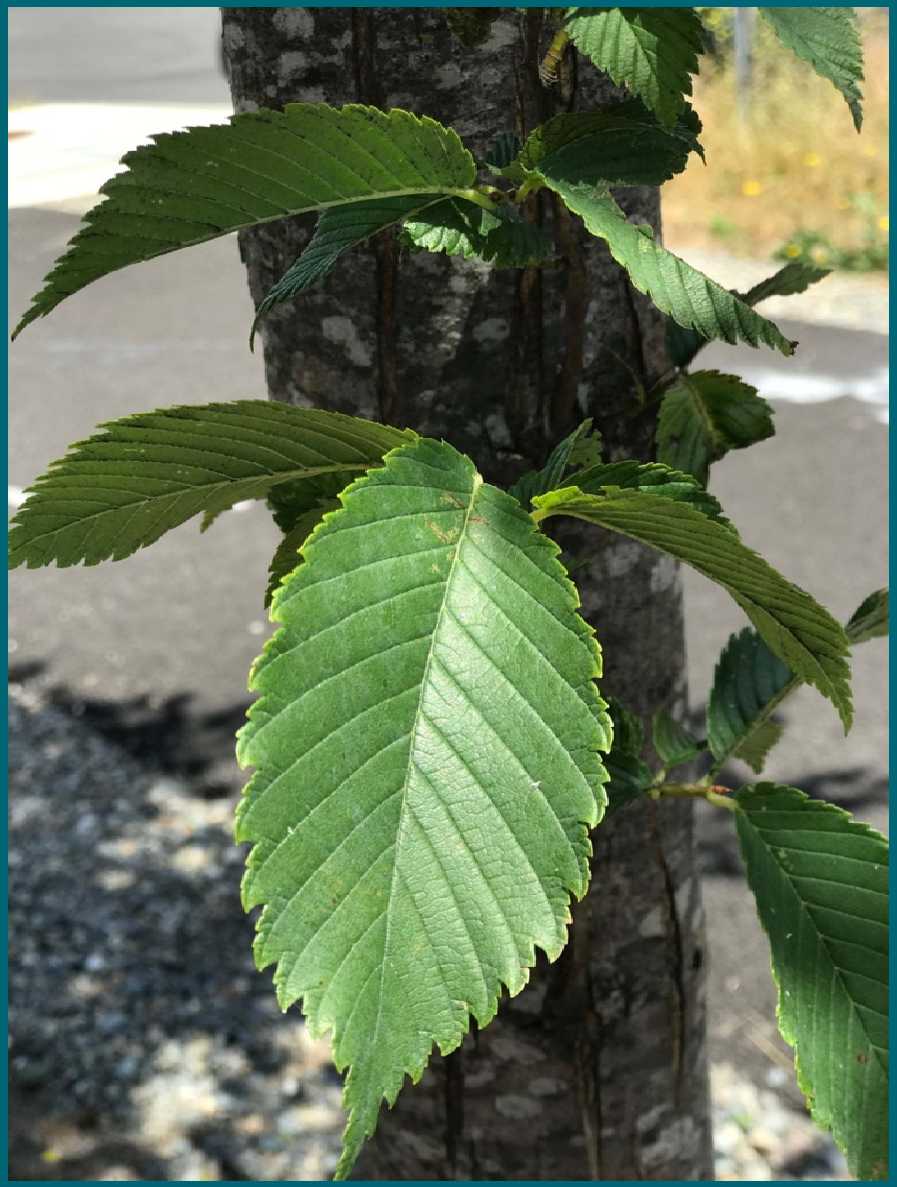
Growing a Regional Network of Healthy Urban Forest

Program to Date (2005-2019)

- 15 Green Cites/County
- Combined Restoration Goal: ~13,000 acres
- Serving more than 1.6 M people

GREEN CITY PARTNERSHIPS

WHAT IS THE URBAN FOREST?



ALL OF A CITY'S TREES

- **Residential trees**
- **Street trees**
- **Trees in parks**
- **Trees on private land**
- **School trees**
- **Business's trees**

BENEFITS OF URBAN FORESTS

A conifer can remove 50 pounds of particulates from the air per year (Dwyer et al. 1992).

Just 20 minutes in nature can significantly lower stress hormones such as cortisol (Hunter et al. 2019).

Air filtration alone by urban trees in Washington State is valued at $261 million.

Nationwide, urban trees prevent 670,000 cases of acute respiratory conditions annually (Nowak et al. 2018).

Every 1% increase in a city's usable or total green space results in a 4% lower rate of anxiety/mood disorder treatment (Nutsford et al. 2013).

Buffers of trees and shrubs can reduce 50% of noise detectable by the human ear (USDA Forest Service 1998), including high-frequency noise, which is the most distressing to people (McPherson et al. 2001).

THREATS TO OUR URBAN FORESTS

- Urban growth
- Loss of large canopy trees
- Invasive non-native plant species
- Aging canopy
- Invasive non-native insects and disease
- Improper tree care
- Lack of understanding about the value and benefits of urban trees
- Climate Change
- Inadequate urban forest planning, management, and funding

URBAN FOREST STEWARSHIP PLAN

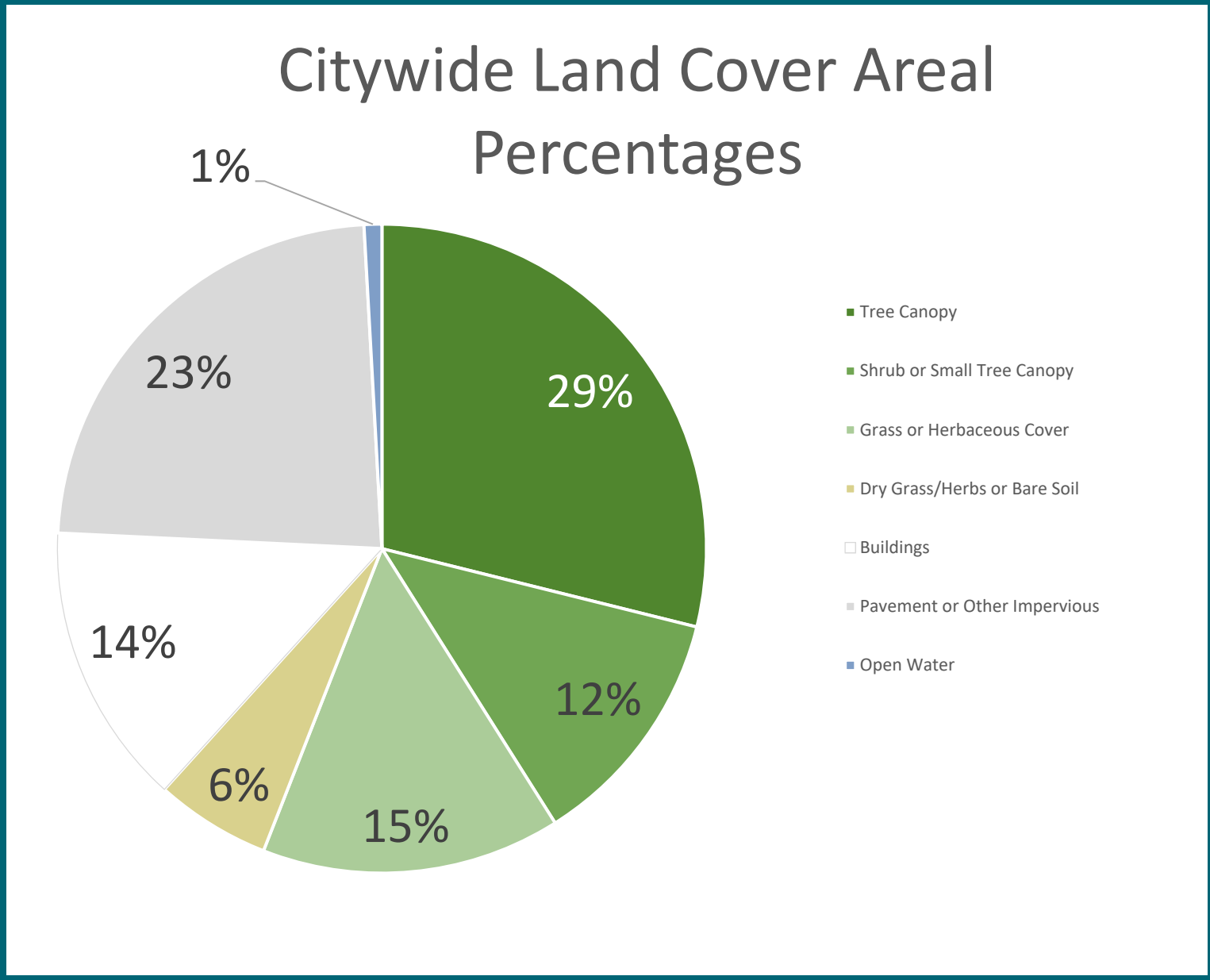
- Presented to Council and published online 2021
- Reference and guidebook to volunteer projects and City staff -2020 and onwards

COMMUNITY ENGAGEMENT

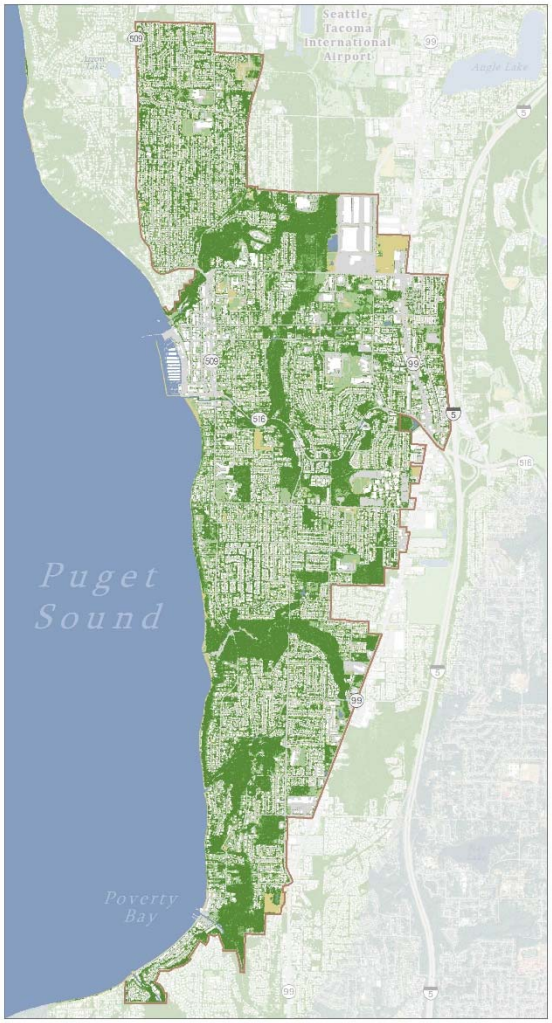
Over 300 engaged	Primary concern: air quality
Seniors, youth, and Native voices	Relaxing and Mental Health
Over 50% want to be involved	Trees = community

DES MOINES' URBAN FOREST TODAY

CANOPY COVER



CANOPY COVER & SOCIAL VULNERABILITY

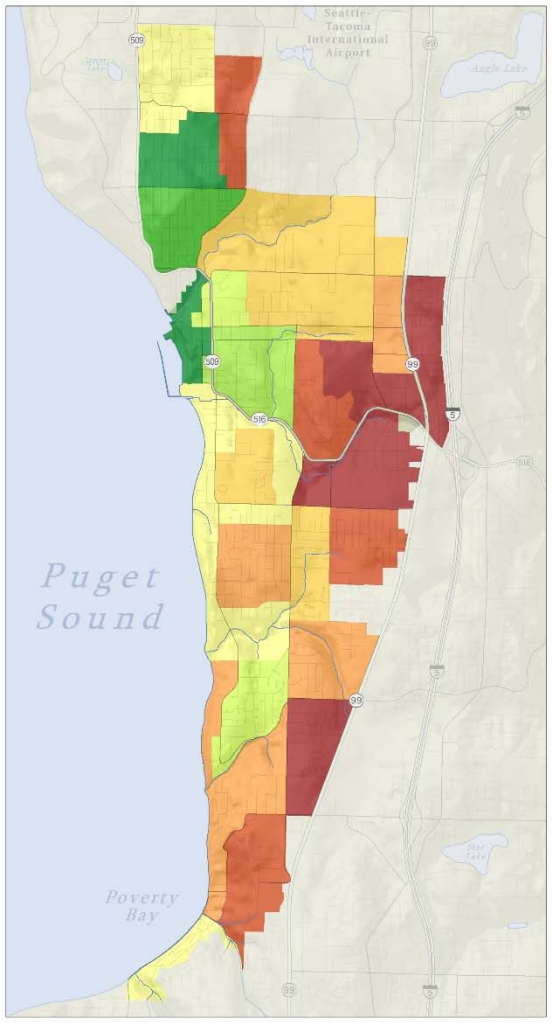


Map created by FORTERRA in partnership with the City of Des Moines with support from the Port of Seattle Airport Community Ecology (ACE) Fund.

2017 Land Cover Classification

- Tree Canopy
  1,186 acres
- Shrub or Small Tree Canopy
  499 acres
- Grass or Herbaceous Cover
  612 acres
- Dry Grass/Herbs or Bare Soil
  236 acres
- Pavement or Other Impervious Surface
  959 acres
- Buildings
  578 acres
- Open Water
  36 acres

Land cover information shown on this map was produced by CORE GIS on behalf of Forterra in July 2018. This data was derived using guided classification techniques based primarily on USDA NAIP four-band aerial imagery captured during the summer of 2017 at a resolution of one meter. Vegetated areas were stratified by height into three classes based on height information obtained from 2016 King County LiDAR data. Preliminary results were further refined through the use of vector data delineating building footprints and paved areas provided by the City of Des Moines along with 2015 King County impervious surface data.



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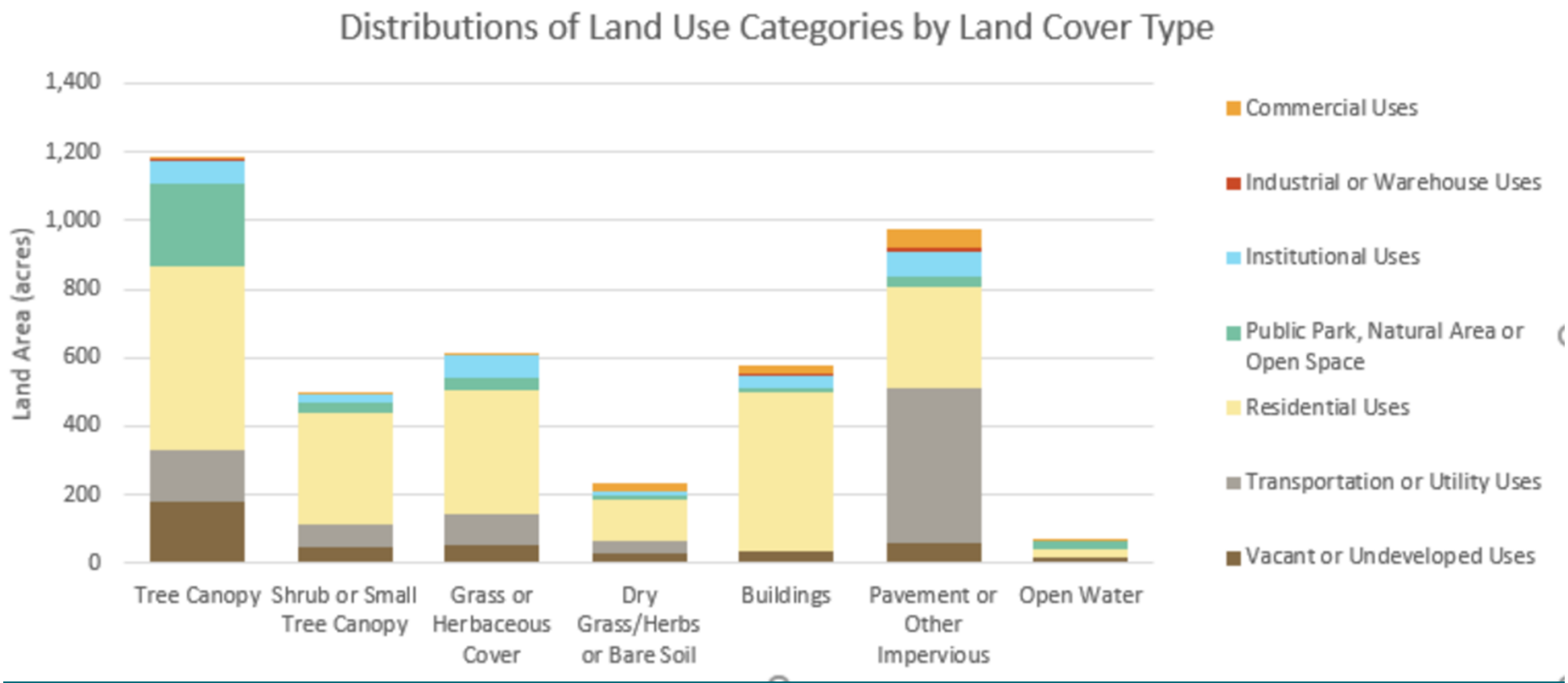
Social Vulnerability
by Census Block Group

- 10 - Most Vulnerable
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1 - Least Vulnerable
  (none in Des Moines)

Social vulnerability refers to the relative ability of a given community to overcome stressors such as abuse, social marginalization, disease, pollution or natural hazards. This lack of resilience can persist due to reinforcing social, political and institutional influences, while reducing social vulnerability can decrease both human suffering and economic loss.

The measure of social vulnerability used here is the U.S. Environmental Protection Agency's EJScreen Alternative Demographic Index, which incorporates six population characteristics from the U.S. Census: income, race, education attainment, linguistic isolation, children and the elderly.

WHERE ARE DES MOINES' TREES?



CANOPY ON PRIVATE LAND

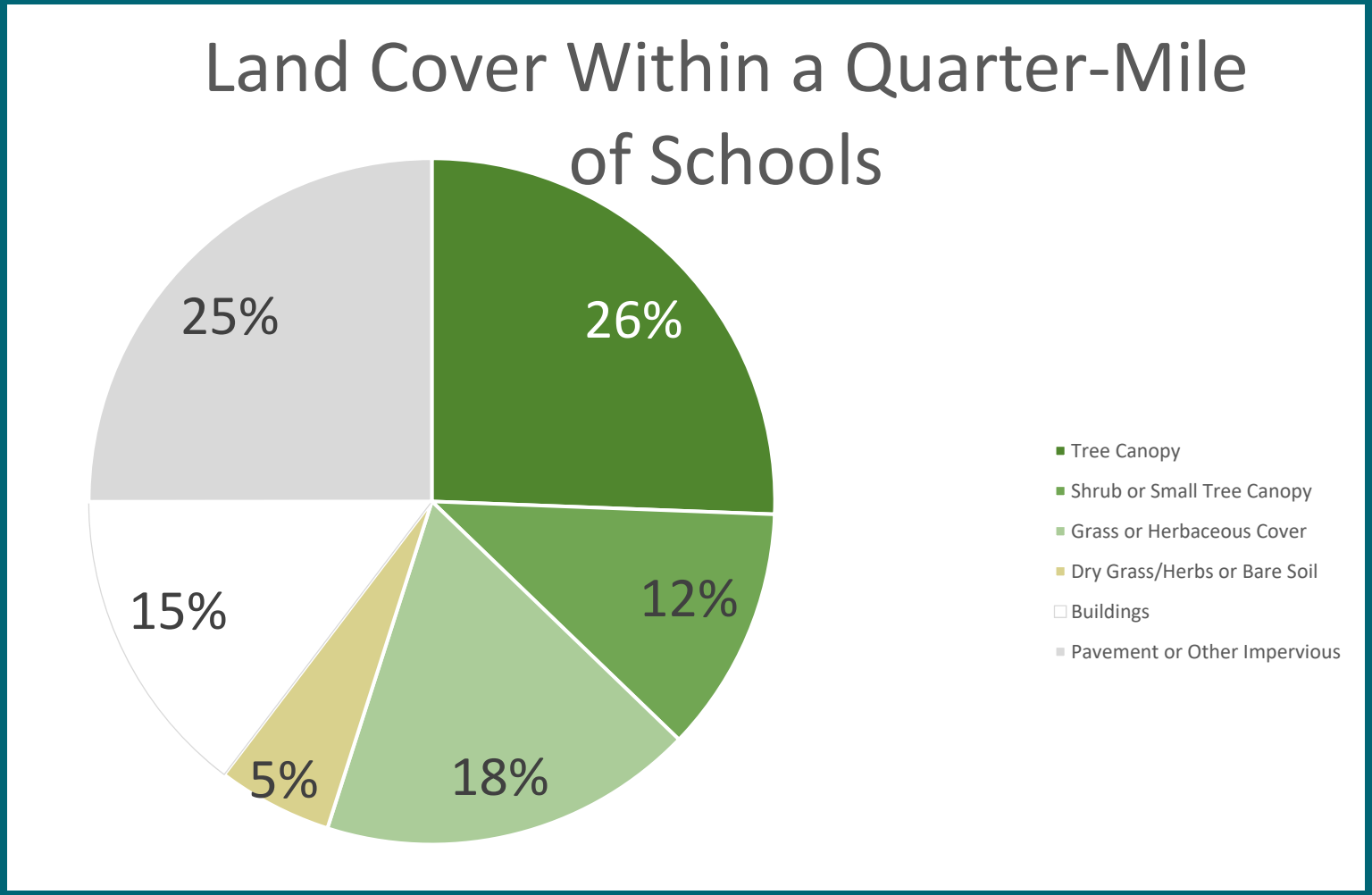
45% of Des Moines' canopy on private land

Only 25% of residential land covered with canopy

Greatest potential for retention

Greatest Potential for canopy

CANOPY COVER IN RELATION TO SCHOOLS



GREEN CITY PARTNERSHIP GOALS

- Steward and enhance the urban forest with an active community.
- Retain forested parks by restoring and maintaining 326 acres of public parkland.
- Ensure sustainability by establishing long-term resources.

NEIGHBORHOOD TREE PROGRAM

- Yard Tree Distributions 2020 and 2021
- Virtual Tree Walk
- Virtual Tree Care Training
- Education about Trees
- DMMD Memorial Elm distribution

CANOPY RETENTION- PARKS

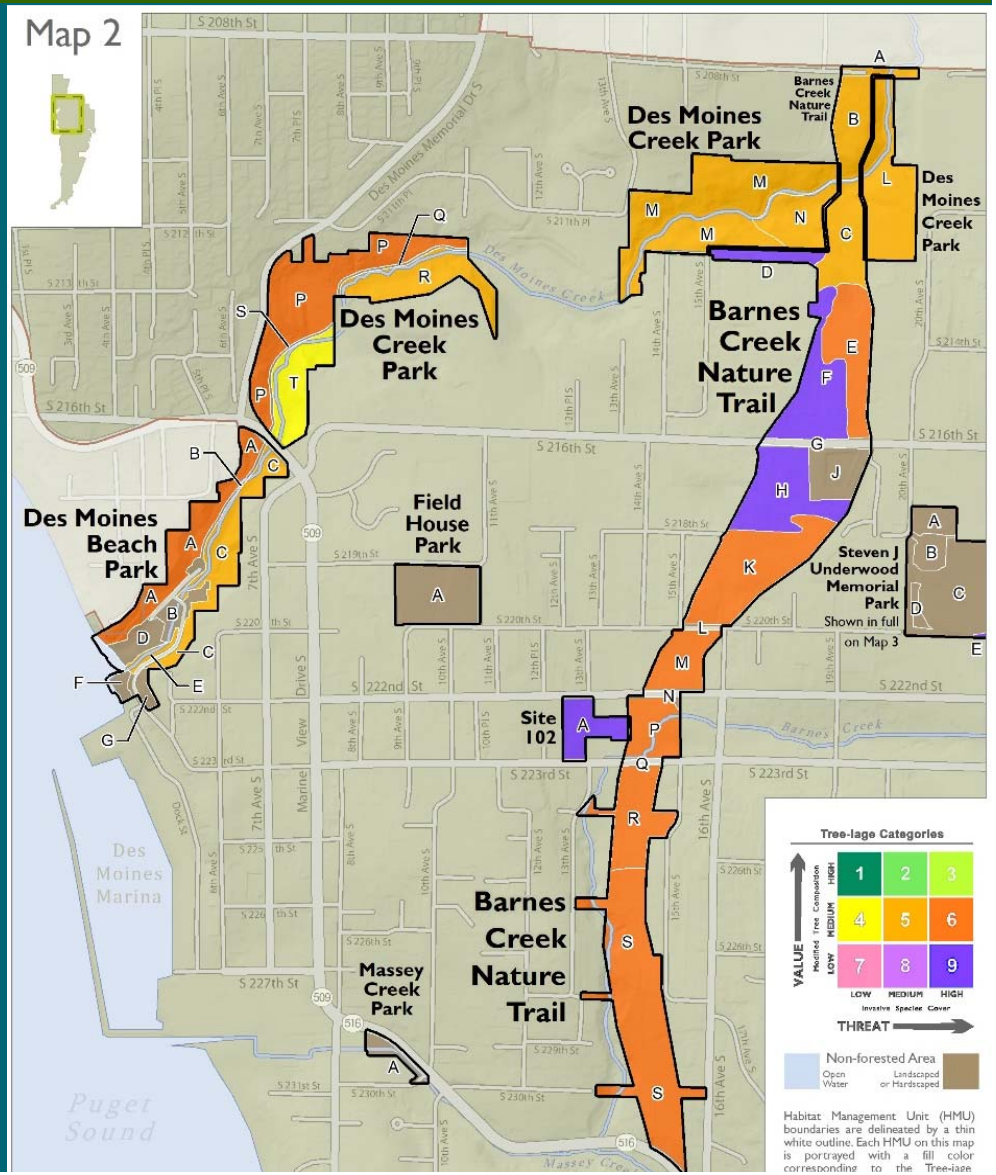
FORESTED PARKS HEALTH ASSESMENT

Triage Categories

TREE COMPOSITION

	LOW < 5% Invasive Cover	MEDIUM 5 - 50% Invasive Cover	HIGH > 50% Invasive Cover
HIGH > 25% Native Tree Canopy Cover > 50% Canopy Cover is Evergreen	1	2	3
MEDIUM > 25% Native Tree Canopy Cover, < 50% Canopy Cover is Evergreen	4	5	6
LOW < 25% Native Tree Canopy Cover	7	8	9

INVASIVE SPECIES COVER



IF WE DO NOTHING...

WE CAN REVERSE THE TREND

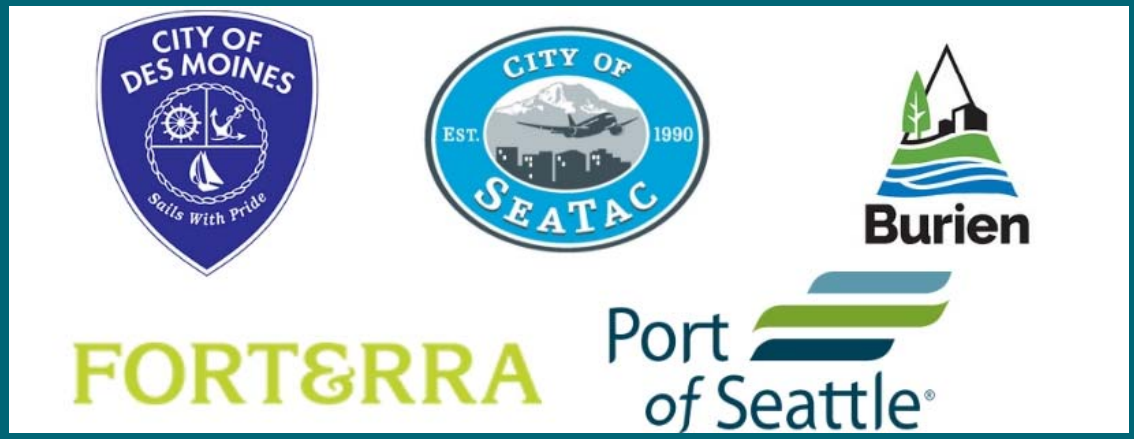
THE FOREST STEWARD PROGRAM 2019-2020
CURRENTLY 300+ VOL HOURS

COMMUNITY STEWARDSHIP
COMMUNITY WIDE

NEXT STEPS: RECOMENDATIONS

- Consider each City department's role in caring for the urban forest and create a document outlining roles and responsibilities.
- Complete an inventory of publicly owned trees.
- Strengthen information on, and documentation of, street trees by creating an inventory and monitoring and maintenance protocols for those trees.
- Strengthen the policies around trees on private property in order to preserve almost half of current canopy cover.
- Create an approved plant list for future city plantings, especially street trees. Understand the maintenance requirements and costs associated with the trees on that list and plan accordingly.
- Increase staff capacity to meet the needs of a growing City and Green Des Moines Partnership in order to retain, and potentially expand, the benefits Des Moines currently receives from its urban forest.

THANK YOU FOR SUPPORTING OUR FORESTS!

alakehart@forterra.org

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