i-Tree Canopy v7.1
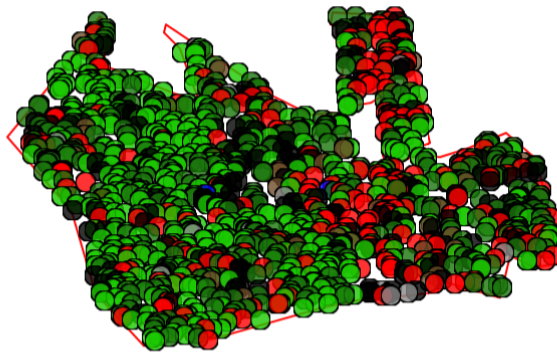
Cover Assessment and Tree Benefits Report

Estimated using random sampling statistics on 6/2/2021

Land Cover

Legend:
- Grass/Herbaceous
- Impervious Buildings
- Impervious Other
- Impervious Road
- Soil/Bare Ground
- Tree/Shrub
- Water

X-axis (Cover Class): H, IB, IO, IR, S, T, W
Left Y-axis: % Covered
Right Y-axis: Area Covered (mi²)
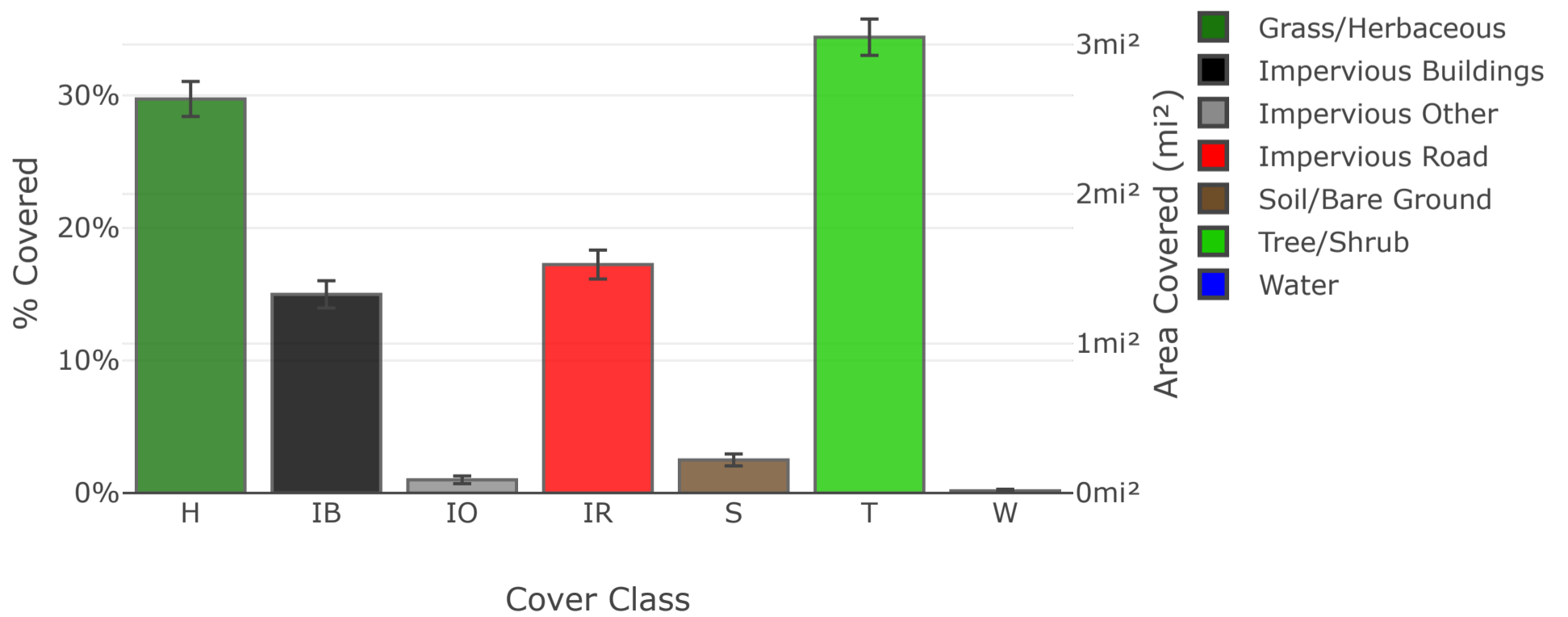
Abbr.	Cover Class	Description	Points	% Cover ± SE	Area (mi²) ± SE
H	Grass/Herbaceous		357	29.73 ± 1.32	2.63 ± 0.12
IB	Impervious Buildings		180	14.99 ± 1.03	1.33 ± 0.09
IO	Impervious Other		12	1.00 ± 0.29	0.09 ± 0.03
IR	Impervious Road		207	17.24 ± 1.09	1.53 ± 0.10
S	Soil/Bare Ground		30	2.50 ± 0.45	0.22 ± 0.04
T	Tree/Shrub		413	34.39 ± 1.37	3.05 ± 0.12
W	Water		2	0.17 ± 0.12	0.01 ± 0.01
Total			**1201**	**100.00**	**8.86**

Tree Benefit Estimates: Carbon (English units)

Description	Carbon (kT)	±SE	CO₂ Equiv. (kT)	±SE	Value (USD)	±SE
Sequestered annually in trees	2.66	±0.11	9.76	±0.39	$453,928	±18,093
Stored in trees (Note: this benefit is not an annual rate)	66.84	±2.66	245.08	±9.77	$11,399,831	±454,376

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Amount sequestered is based on 0.874 kT of Carbon, or 3.203 kT of CO₂, per mi²/yr and rounded. Amount stored is based on 21.940 kT of Carbon, or 80.446 kT of CO₂, per mi² and rounded. Value (USD) is based on $170,550.73/kT of Carbon, or $46,513.84/kT of CO₂ and rounded. (English units: kT = kilotons (1,000 tons), mi² = square miles)

Tree Benefit Estimates: Air Pollution (English units)

Abbr.	Description	Amount (T)	±SE	Value (USD)	±SE
CO	Carbon Monoxide removed annually	1.10	±0.04	$1,469	±59
NO2	Nitrogen Dioxide removed annually	6.08	±0.24	$2,659	±106
O3	Ozone removed annually	47.00	±1.87	$122,102	±4,867
SO2	Sulfur Dioxide removed annually	2.99	±0.12	$400	±16
PM2.5	Particulate Matter less than 2.5 microns removed annually	2.40	±0.10	$255,622	±10,189
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	13.34	±0.53	$83,621	±3,333
Total		**72.92**	**±2.91**	**$465,872**	**±18,569**

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Air Pollution Estimates are based on these values in T/mi²/yr @ $/T/yr and rounded:
CO 0.362 @ $1,333.50 | NO2 1.997 @ $436.94 | O3 15.428 @ $2,597.84 | SO2 0.982 @ $133.85 | PM2.5 0.788 @ $106,459.48 | PM10* 4.379 @ $6,268.44 (English units: T = tons (2,000 pounds), mi² = square miles)

Tree Benefit Estimates: Hydrological (English units)

Abbr.	Benefit	Amount (Kgal)	±SE	Value (USD)	±SE
AVRO	Avoided Runoff	16.15	±0.64	$144	±6
E	Evaporation	362.69	±14.46	N/A	N/A
I	Interception	365.05	±14.55	N/A	N/A
T	Transpiration	343.44	±13.69	N/A	N/A
PE	Potential Evaporation	2,332.52	±92.97	N/A	N/A
PET	Potential Evapotranspiration	1,923.72	±76.68	N/A	N/A

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Hydrological Estimates are based on these values in Kgal/mi²/yr @ $/Kgal/yr and rounded:
AVRO 5.301 @ $8.94 | E 119.049 @ N/A | I 119.823 @ N/A | T 112.729 @ N/A | PE 765.624 @ N/A | PET 631.442 @ N/A (English units: Kgal = thousands of gallons, mi² = square miles)

About i-Tree Canopy

The concept and prototype of this program were developed by David J. Nowak, Jeffery T. Walton, and Eric J. Greenfield (USDA Forest Service). The current version of this program was developed and adapted to i-Tree by David Ellingsworth, Mike Binkley, and Scott Maco (The Davey Tree Expert Company)

Limitations of i-Tree Canopy

The accuracy of the analysis depends upon the ability of the user to correctly classify each point into its correct class. As the number of points increase, the precision of the estimate will increase as the standard error of the estimate will decrease. If too few points are classified, the standard error will be too high to have any real certainty of the estimate.

Additional support provided by:

Use of this tool indicates acceptance of the EULA.