



CONSULTING GROUP

Tree Management Plan

For
Beech Grove Greenscape Commission

Located in
Beech Grove, IN

August 5, 2025

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EXECUTIVE SUMMARY

The *Beech Grove Tree Management Plan* was developed by SavATree Consulting Group in July 2025 following a city-wide tree inventory funded by the Indiana Department of Natural Resources. The inventory covered 1,247 trees and 59 planting sites across city-owned properties and rights-of-way. Data collected included species, size, condition, risk level, and maintenance needs. The report found the urban forest generally healthy, with a stable size distribution and good species diversity. However, maples are slightly overrepresented, exceeding recommended limits for genus and family diversity, which could increase vulnerability to pests or disease outbreaks.

Key issues identified include structural and health concerns from girdling roots and damaged surface roots, oak-specific pests and diseases, and improper mulching practices (“mulch volcanoes”). The report recommends removing dead or failing trees, correcting poor mulching, initiating pruning based on priority, avoiding further planting of high-risk species like ash and Bradford pear, and using the Indiana DNR’s preferred species list to guide future plantings. Priority planting locations were identified in areas with low tree equity. These actions aim to support a healthier, more resilient urban canopy in Beech Grove.

We created an iTree Eco Tree Benefit report using the data collected during the inventory. We found that on average the trees in Beech Grove sequester 8.66 tons of carbon per year and help the city avoid over 120,000 gallons of runoff annually. The structural value of Beech Grove’s public tree population is worth \$1,957,816.29.

WHY DID SAVATREE CREATE A TREE MANAGEMENT PLAN FOR BEECH GROVE?

The City of Beech Grove recently received funding from the Indiana DNR to perform a city-wide tree inventory and create a tree management plan. In November 2024, SavATree Consulting Group was asked to provide a proposal for an inventory and management plan for the City of Beech Grove. The Greenscape Commission wanted an independent assessment of the trees to determine their species, current condition, and best management recommendations.

The field data collection occurred in July 2025.

HOW DID SAVATREE CREATE A TREE MANAGEMENT PLAN?

SavATree deployed a Registered Consulting Arborist with mobile GIS and GPS technology (TreePlotter) to perform the assessments.

Trees included in the inventory were trees in the public right-of-way along streets and sidewalks, including landscape trees on city-owned properties including:

- Police Department
- EMS Station
- Senior Center
- Parks Department Facilities
 - Hornet Park
 - Don Challis Park
 - Hartman Park
 - Sarah T. Bolton Park
- Community Center
- City Hall

We collected the following fields of data:

- Tree ID
- Location (x,y coordinates; not survey grade)
- Address
- Species (common/scientific name)
- iTree Species Code
- DBH (diameter at 4.5')
- Land Use
- Site Type
- Condition (good, fair, poor, very poor, or dead)
- Observations
- Risk Rating (ANSI A300 Level 2)
- Management Recommendations (general tree care, plant health care, pruning objectives, etc.)
- Priority of Recommendations
- Sidewalk Damage (Y/N)
- Utility Conflict (Y/N)
- Field Notes
- Plantable Spaces (small, medium, large)

Trees in landscaped/improved areas and within the right-of-way received 360-degree, ground-based visual observations.

Trees in wooded stands and along trails received limited visual assessments from the woods edge to identify conditions which may impact persons or property. If a defect was observed

warranting further observation, then a 360-degree ground-based observation was performed on that tree and that tree was called out on the inventory.

We used a diameter tape to measure the diameter at a height 4.5' from the base of the trunk.

We utilized hand tools such as a sounding hammer when warranted.

We input the data into Excel and analyzed it using Pivot Charts and Tables. We have provided the Excel document separately.

WHAT DID SAVATREE FIND?

SavATree assessed 1,247 trees and 59 planting sites in Beech Grove. The complete tree assessment dataset has been provided as a separate Excel file. The online map of the inventory can be found at the following link:

<https://pg-cloud.com/savatree-consulting/>

Username: BG Greenscape Commission

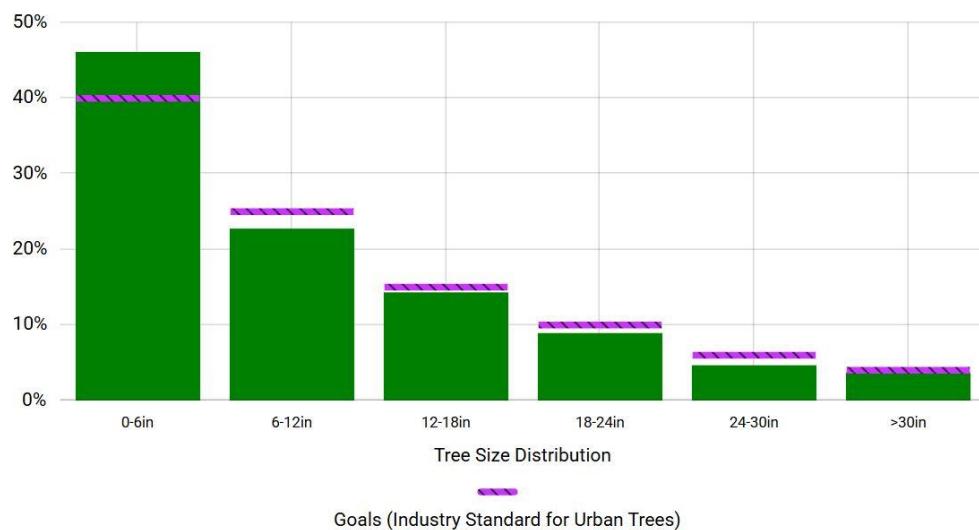
Password: Savatree123

The map can be filtered based on priority, objective, condition, and species using the funnel icon in the top left of the screen.

TREE DIAMETER DISTRIBUTION

Tree diameter distribution provides an indicator of population sustainability. A “reverse-J” curve (Figure 1) represents a desirable diameter distribution in tree populations as the majority of individuals should be in the smaller diameter classes. This provides for a sustainable canopy; as older and larger individuals die or fail, there is sufficient stock of younger individuals in the population to take their place.

The population in Beech Grove peaks at 58 inches in diameter. This distribution indicates a stable tree population for the future.



Richards, N. A. 1983. "Diversity and Stability in a Street Tree Population." *Urban Ecology* 7(2):159–171.

Richards, N.A. 1993. Reasonable guidelines for street tree diversity. *Journal of Arboriculture* 19:344–349.

Figure 1- Tree Diameter Distribution

TREE SPECIES COMPOSITION

Dr. Frank Santamour previously described a method for managing diversity in urban plantings; this is referred to as “the 10-20-30 formula” (Figure 2). The formula states that for maximum protection against pest outbreaks, the urban forest should contain no more than 10% of any single tree species, no more than 20% of any tree genus, and no more than 30% of any tree family. For example; a sugar maple is an individual species, all maples fall within the same genus, and a family is a grouping of multiple tree varieties. Maples are in the soapberry family which includes maples, horse chestnut, ackee, and lychee. Species diversity in Beech Grove is Good.

A total of 70 species were included in the inventory. Red maple, honeylocust, and silver maple each accounted for over 10% of the inventoried population but not by much. Red maple was the most common inventoried tree at 137 trees making up 11.01% of the population. There are 128 honeylocust in the inventoried population making up 10.29% of the population. There are 127 silver maples in the inventoried population making up 10.21% of the population.

Only the Acer genus (maple) accounted for over 20% of the population with 30.23%. Only the sapindaceae family (maples) accounted for over 30% of the population with 31.11%.

It is important to follow the “the 10-20-30 formula” to maintain biodiversity. Biodiversity helps mitigate pest activity and keeps multiple failures among the same species from impacting your landscape as severely. If one species, genus, or family makes up a large percentage of the total population a single insect or disease could spread more rapidly and effectively than in a diverse population.

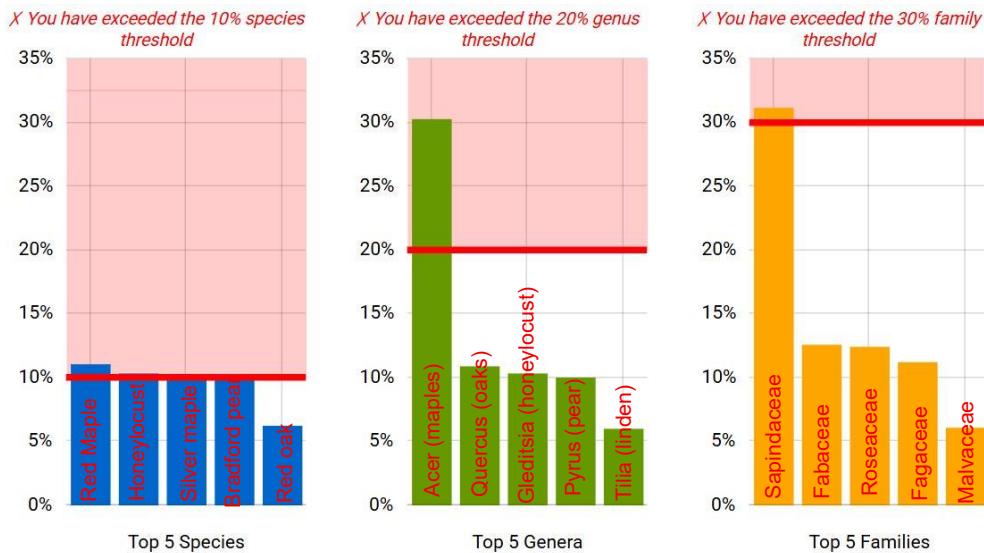


Figure 2- 10/20/30 Formula

Common Name	Count	Percent
Red maple	137	10.60%
Honeylocust	128	9.91%
Silver maple	127	9.83%
Callery pear 'Bradford'	124	9.60%
Northern red oak	77	5.96%
Littleleaf linden	74	5.73%
Tulip tree	45	3.48%
Norway spruce	44	3.41%
Sugar maple	42	3.25%
Norway maple 'Crimson King'	33	2.55%
Hybrid elm	32	2.48%
Pin oak	29	2.24%
Eastern redbud	26	2.01%
American sycamore	26	2.01%
Crabapple	21	1.63%
Sweetgum	20	1.55%
Eastern white pine	20	1.55%
Swamp white oak	20	1.55%
White ash	17	1.32%
Norway maple	16	1.24%

Figure 3- Top 20 Species Distribution

TREE CONDITION

We assigned condition ratings for each of the trees in the inventory (Figure 4). Tree condition considers health, structural integrity, and form. Trees were rated good, fair, poor, very poor, or dead.

Good – The vigor is normal for the tree species with minor twig dieback. Defects are minor and easily corrected. The canopy may have minor asymmetry which could be due to pruning for clearance.

Fair – The vigor is normal or reduced. There is an accumulation of dead branches. Defects are present in the canopy that may or may not be correctable. There may be an active disease infestation. The canopy has been reduced or is asymmetrical.

Poor – The tree is in decline and likely will not recover. Foliage quality and color is poor. Dead or missing branches comprise over 50 percent of the tree canopy. There may be serious structural deficiencies in the tree.

Very Poor – Very Poor- The tree has poor vigor. Appears to be dying and in the last stages of life. Little live foliage. Single or several structural defects are present. Visually unappealing. Provides little or no function in the landscape.

Dead – The tree is dead with no foliage and will not recover.

Overall, the trees are healthy and doing well with most of the population in good condition.

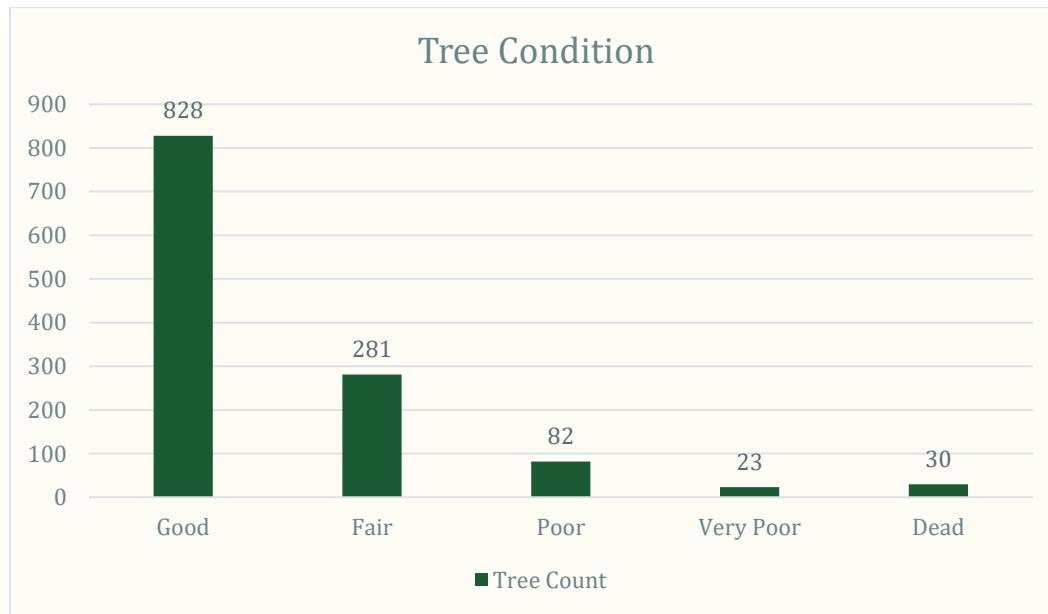


Figure 4- Tree Condition Distribution

TREE PEST ISSUES AND ABIOTIC ISSUES

Emerald Ash Borer (EAB)

Ash trees are typically killed by Emerald Ash Borer (EAB) before reaching maturity unless continuous preventative treatment is applied. EAB leads to crown dieback and a severe loss of structural integrity. The loss of structural integrity can rapidly increase the risk rating of these trees and should be acted upon proactively. Preventative treatment or removal are generally the only risk mitigation options for Ash trees within range of structures.

Girdling Roots and Damaged Surface Roots

Various tree species sometimes suffer from girdling roots. Girdling roots describe a condition where roots begin to wrap around the trunk of the tree, eventually restricting the growth of the trunk. This can cause structural issues and impact the health of the tree long-term. Typical factors that aid in the formation of girdling roots include mulch piled too high against the trunk, over compacted soil, or being grown in a container for too long when the tree was young. Prevention is the ideal solution. Girdling roots are typically visible as small roots circling the base of the tree trunk. For trees with established girdling roots a pneumatic excavation may be used to safely remove soil and allow an arborist to selectively prune the roots. Damaged surface roots are a common problem for community trees. The main cause is landscapes equipment running over the surface roots and cutting the top of the roots. This damage can lead to decay travelling throughout the root leading to a decrease in the roots' function such as structural stability and water and nutrient uptake. The best treatment is preventative by either applying 2-3 inches of mulch over the surface roots so lawn care equipment won't contact roots or limiting access to areas around the roots.

Oak Specific Issues

Red and white oaks are susceptible to wood borers. Borers dig under the bark of trees, damaging the wood and potentially killing the tree. Unhealthy trees are more susceptible to borers, so the best defense is to keep your oak tree watered, fed, and properly pruned. For trees that are already showing signs of stress, preventative borer treatment is recommended. Bacterial Leaf Scorch, Anthracnose, and Oak wilt are all diseases that may impact Oak trees. These diseases produce a similar symptom of leaves turning yellow or brown. Oak Wilt can have a huge impact on groups of Oak trees. Oak Wilt will be visible by an abrupt distinction of color in the leaves, green and brown. The symptoms generally appear in the spring and early summer starting in the top of the tree. By mid-summer, you will see extensive leaf drop. If any significant browning occurs, we recommend having an arborist assess the issue as soon as possible.

“Mulch Volcano”

Mulch volcanoes are when mulch is piled high against the base of a tree in a cone shape which can cause serious long-term damage. This excessive buildup traps moisture against the bark, leading to rot, fungal diseases, and pest infestations. It also encourages roots to grow upward into the mulch rather than outward into the soil, potentially girdling the tree and restricting nutrient flow. Over time, these conditions weaken the tree’s structure and health, increasing the risk of failure. Proper mulching involves a 2–4 inch layer spread evenly, kept a few inches away from the trunk.

MITIGATION AND PRIORITIES

We assigned a risk rating based on the likelihood of failure and impact and the consequences of failure (Figure 5). There are four risk ratings - extreme, high, moderate, and low. There are priorities associated with these in the International Society of Arborists Best Management Practices (BMP). Please note that not all risk can be removed without removing all trees or all potential targets.



Figure 5 – Risk Rating Distribution

Trees were assigned priority ratings based off of risk rating, interference with people or property, or poor condition of the tree (Figure 6). We used these data points to communicate the order we recommend you complete the recommended actions.

Immediate – ASAP.

High- As soon as practical.

Medium - when budget and schedule, allow focus on moderate risk.

Low - same as moderate, if needed.

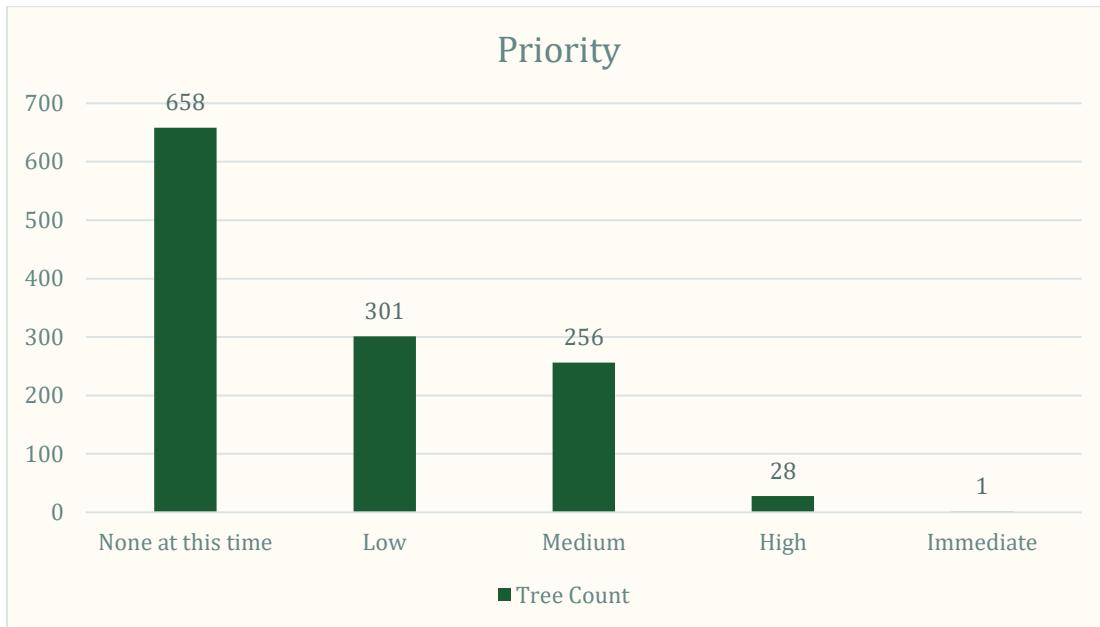


Figure 6 – Priority Distribution

TREE PLANTING

While plotting tree planting locations we took into consideration TreeEquityScore.org, MapIndy, the Beech Grove Tree and Flora Ordinance, and locations of nearby utilities. We focused on two areas that showed the lowest tree equity score. This included the Northwest corner of Beech Grove and the industrial area on the east side of Beech Grove. We plotted 59 sites that are conducive to future planting initiatives. Note that each plotted location may represent an area where multiple trees may be planted rather than just a single tree (S Arlington Avenue).

WHAT DOES SAVATREE RECOMMEND BASED ON OUR FINDINGS?

Based upon our observations, we recommend:

- Using this report and map to allocate resources to address the immediate priority tree and tree-of-heaven first and moving through the priorities as budget allows.
- Begin planting efforts using the Indiana DNR preferred tree species list.
- Discontinuing the planting of ash, Bradford pears, and maples where possible.
- Begin routine structure pruning on newly planted trees after establishment.

- Monitor newly planted spruce trees along Hornet Greenway for needlecast, cytospora canker, and spider mite infestation.
- Address the “mulch volcanos” on trees along Main Street, especially the oaks that are showing signs of nutrient deficiencies.
- Remove all dead and very poor condition trees as budget allows (See Excel spreadsheet).
- Perform clearance pruning or end weight reduction pruning on trees that have over extended limbs, starting with medium priority trees as budget allows (See Excel spreadsheet).
- Perform root collar excavations starting with on smaller trees with girdling roots. Root collar excavation can be utilized on older more mature trees but the girdling roots may not be fully correctable. Mulch within driplines of trees with 2-3 inches of mulch keeping mulch off base of tree.

Regards,

Evan Anderson



ASCA Registered Consulting Arborist #853
ISA Board Certified Master Arborist #MN-4841B
ISA Tree Risk Assessment Qualification

APPENDIX A – MAP SCENARIOS

To use a map scenario simply click the URL and login with the credentials listed earlier in the report.

- Immediate and High Priority Removals- <https://pg-cloud.com/savatree-consulting/?scenario=ImmediateandHighPriorityRemovals>
- Medium and Low Priority Removals- <https://pg-cloud.com/savatree-consulting/?scenario=MediumandLowPriorityRemovals>
- High Priority Pruning and/or Support Hardware install-<https://pg-cloud.com/savatree-consulting/?scenario=HighPriorityPruning>
- Medium and Low Priority Pruning (excluding young tree pruning)- <https://pg-cloud.com/savatree-consulting/?scenario=LowandMediumPriorityPruning>
- Young Tree Pruning- <https://pg-cloud.com/savatree-consulting/?scenario=YoungTreeTraining>
- Planting Locations- <https://pg-cloud.com/savatree-consulting/?scenario=BG-PlantingLocations>

APPENDIX B - ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The consultant shall not be required to give testimony or attend court or any other meeting, public or private, by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the original or subsequent proposal.
4. Loss or alteration of any part of this report invalidates the entire report.
5. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant.
6. Neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant particularly as to value conclusions, identity of the consultant, or any reference to any professional society or institute or to any initialed designation conferred upon the consultant as stated in his qualification.
7. This report and values expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
8. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
9. Unless expressed otherwise: (1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.

Benefits Summary of Trees by Species

Location: Beech Grove, Marion, Indiana, United States of America

Project: Beech Grove Inventory iTree Eco, Series: BG TI 2025, Year: 2025

Generated: 8/1/2025

Species	Trees Number	Carbon Storage (ton)	(\$)	Gross Carbon Sequestration (ton/yr)	(\$/yr)	Avoided Runoff (gal/yr)	(\$/yr)	Pollution Removal (ton/yr)	(\$/yr)	Replacement Value (\$)
White fir	1	0.00	1.69	0.00	0.14	0.97	0.01	0.00	0.00	33.30
Hedge maple	10	5.91	2,557.54	0.03	12.99	2,256.44	20.16	0.00	0.00	25,278.25
Amur maple	3	3.82	1,652.76	0.00	0.68	1,253.45	11.20	0.00	0.00	17,243.20
Boxelder	3	2.05	885.10	0.03	14.12	299.09	2.67	0.00	0.00	3,274.36
Japanese maple	5	0.04	16.68	0.00	1.73	34.79	0.31	0.00	0.00	446.28
Norway maple	49	26.39	11,418.69	0.81	352.55	6,947.00	62.08	0.00	0.00	177,512.98
Red maple	137	11.16	4,827.33	0.59	256.59	4,210.90	37.63	0.00	0.00	67,886.62
Silver maple	127	83.64	36,193.38	1.67	722.99	20,001.82	178.74	0.00	0.00	240,665.62
Sugar maple	42	30.46	13,180.23	0.43	185.40	8,994.39	80.37	0.00	0.00	172,683.50
Ohio buckeye	11	0.01	3.04	0.01	2.99	40.56	0.36	0.00	0.00	649.44
Tree of heaven	1	3.62	1,564.79	0.02	6.59	236.97	2.12	0.00	0.00	2,559.18
Serviceberry spp	1	0.01	5.11	0.00	0.64	6.58	0.06	0.00	0.00	106.36
Downy serviceberry	1	0.00	0.28	0.00	0.10	0.90	0.01	0.00	0.00	35.21
River birch	2	0.00	1.18	0.00	0.47	13.29	0.12	0.00	0.00	118.08
Pignut hickory	2	0.01	3.84	0.00	0.36	5.02	0.04	0.00	0.00	61.56
Pecan	10	0.01	2.17	0.00	1.32	36.76	0.33	0.00	0.00	442.80
Northern catalpa	2	1.28	554.56	0.04	18.34	698.07	6.24	0.00	0.00	4,079.56
Eastern redbud	26	2.21	957.40	0.04	16.18	259.37	2.32	0.00	0.00	7,707.42
Northern hackberry	7	1.57	681.09	0.02	7.38	2,424.46	21.67	0.00	0.00	43,675.05
Flowering dogwood	2	0.04	18.84	0.00	1.76	21.03	0.19	0.00	0.00	432.38
American beech	4	0.22	97.22	0.02	6.51	315.61	2.82	0.00	0.00	2,260.56
White ash	17	11.64	5,037.94	0.01	6.48	50.33	0.45	0.00	0.00	2,912.31
Green ash	3	0.79	341.16	0.01	5.98	219.21	1.96	0.00	0.00	4,532.93
Ginkgo	15	0.11	45.58	0.01	4.47	234.32	2.09	0.00	0.00	5,369.76
Honeylocust	128	11.47	4,964.33	0.56	240.99	4,365.82	39.01	0.00	0.00	67,860.42
Rose-of-sharon	1	0.01	4.85	0.00	0.77	12.53	0.11	0.00	0.00	106.36
Butternut	1	0.13	54.20	0.01	2.61	126.26	1.13	0.00	0.00	853.29

Benefits Summary of Trees by Species

Location: Beech Grove, Marion, Indiana, United States of America

Project: Beech Grove Inventory iTree Eco, Series: BG TI 2025, Year: 2025

Generated: 8/1/2025

Species	Trees Number	Carbon Storage (ton)	(\$)	Gross Carbon Sequestration (ton/yr)	(\$/yr)	Avoided Runoff (gal/yr)	(\$/yr)	Pollution Removal (ton/yr)	(\$/yr)	Replacement Value (\$)
Black walnut	5	6.78	2,932.70	0.10	44.09	865.78	7.74	0.00	0.00	23,709.00
Eastern red cedar	6	4.35	1,882.28	0.03	13.39	1,284.08	11.47	0.00	0.00	19,503.67
Sweetgum	20	3.54	1,533.33	0.13	54.95	2,439.86	21.80	0.00	0.00	45,460.53
Tulip tree	45	4.88	2,109.77	0.19	80.50	3,200.80	28.60	0.00	0.00	28,983.45
Apple spp	21	3.41	1,475.32	0.08	33.60	340.59	3.04	0.00	0.00	14,466.59
Osage orange	1	0.01	5.27	0.00	1.27	9.40	0.08	0.00	0.00	94.65
White mulberry	2	3.90	1,688.02	0.03	13.70	272.50	2.44	0.00	0.00	8,859.85
Black tupelo	16	0.31	136.12	0.04	16.36	249.83	2.23	0.00	0.00	5,702.67
Norway spruce	44	10.14	4,387.64	0.15	65.64	4,750.44	42.45	0.00	0.00	82,657.54
White spruce	1	0.12	51.39	0.00	1.94	107.43	0.96	0.00	0.00	1,142.17
Swiss mountain pine	1	0.00	1.09	0.00	0.12	4.01	0.04	0.00	0.00	34.44
Austrian pine	1	0.10	41.31	0.00	0.98	26.93	0.24	0.00	0.00	793.95
Blue spruce	1	0.04	17.56	0.00	1.12	25.34	0.23	0.00	0.00	619.43
Red pine	3	0.31	135.03	0.02	8.70	193.35	1.73	0.00	0.00	2,840.75
Eastern white pine	20	1.37	594.10	0.08	36.06	1,554.23	13.89	0.00	0.00	23,865.54
London planetree	5	0.01	6.14	0.00	1.22	35.87	0.32	0.00	0.00	180.07
American sycamore	26	30.56	13,224.75	0.32	137.69	15,896.40	142.05	0.00	0.00	110,122.50
Eastern cottonwood	5	25.63	11,091.95	0.21	89.08	1,428.67	12.77	0.00	0.00	40,261.41
Plum spp	1	0.34	145.87	0.02	7.98	167.72	1.50	0.00	0.00	1,155.93
American plum	1	0.06	26.97	0.01	3.00	34.04	0.30	0.00	0.00	413.08
Black cherry	3	0.92	397.71	0.02	8.63	136.68	1.22	0.00	0.00	1,767.57
Higan cherry	1	0.34	147.52	0.01	4.45	56.88	0.51	0.00	0.00	693.54
Common chokecherry	2	0.10	44.27	0.02	7.00	58.91	0.53	0.00	0.00	750.51
Callery pear	124	59.41	25,708.15	1.28	552.33	10,846.89	96.93	0.00	0.00	231,000.36
White oak	1	1.82	787.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Swamp white oak	20	0.30	131.76	0.05	21.95	180.91	1.62	0.00	0.00	2,854.11
Shingle oak	2	0.07	32.09	0.01	4.11	31.52	0.28	0.00	0.00	460.87



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Generated: 8/1/2025

Species	Trees Number	Carbon Storage (ton)	Carbon Storage (\$)	Gross Carbon Sequestration (ton/yr)	Gross Carbon Sequestration (\$/yr)	Avoided Runoff (gal/yr)	Avoided Runoff (\$/yr)	Pollution Removal (ton/yr)	Pollution Removal (\$/yr)	Replacement Value (\$)
Bur oak	1	0.02	7.33	0.00	0.48	20,12	0.18	0.00	0.00	275.52
Chinkapin oak	3	7.40	3,203.29	0.08	35.92	1,306.13	11.67	0.00	0.00	44,673.34
Pin oak	29	16.71	7,229.12	0.28	120.15	7,387.12	66.01	0.00	0.00	101,290.51
Northern red oak	77	15.25	6,601.02	0.33	144.56	3,037.49	27.14	0.00	0.00	96,706.08
Post oak	2	2.45	1,060.76	0.03	12.17	736.51	6.58	0.00	0.00	15,855.24
Black locust	2	3.73	1,615.03	0.05	20.69	353.53	3.16	0.00	0.00	3,321.08
Japanese tree lilac	3	0.15	64.26	0.01	5.77	49.75	0.44	0.00	0.00	963.25
Common lilac	7	0.25	107.72	0.01	6.26	43.32	0.39	0.00	0.00	920.08
Baldcypress	5	3.15	1,364.49	0.06	27.40	1,298.88	11.61	0.00	0.00	35,136.68
Northern white cedar	5	0.04	15.89	0.01	2.69	18.22	0.16	0.00	0.00	276.75
Littleleaf linden	74	15.86	6,863.32	0.41	179.36	7,376.31	65.91	0.00	0.00	124,863.84
American elm	2	3.38	1,460.76	0.06	24.18	840.79	7.51	0.00	0.00	5,710.36
Siberian elm	2	1.07	463.92	0.02	7.81	100.31	0.90	0.00	0.00	987.85
Elm spp	32	1.98	855.89	0.14	58.66	1,681.59	15.03	0.00	0.00	11,103.23
Japanese zelkova	11	1.37	591.94	0.04	18.93	1,707.93	15.26	0.00	0.00	18,551.48
Total	1,244	428.24	185,311.12	8.66	3,746.04	123,223.01	1,101.12	0.00	0.00	1,957,816.29



Benefits Summary of Trees by Species

Location: Beech Grove, Marion, Indiana, United States of America

Project: Beech Grove Inventory iTree Eco, Series: BG TI 2025, Year: 2025

Generated: 8/1/2025

Carbon storage and gross carbon sequestration value is calculated based on the price of \$432.73 per ton.

Due to limits of available models, i-Tree Eco will limit carbon storage to a maximum of 7,500 kg (16,534.7 lbs) and not estimate additional storage for any tree beyond a diameter of 254 cm (100 in). Whichever limit results in lower carbon storage is used.

Avoided runoff value is calculated by the price \$0.009/gal. The user-designated weather station reported 35.7 inches of total annual precipitation. Eco will always use the hourly measurements that have the greatest total rainfall or user-submitted rainfall if provided.

Pollution removal value is calculated based on the prices of \$0.00 per ton (CO), \$0.00 per ton (O3), \$0.00 per ton (NO2), \$0.00 per ton (SO2), \$0.00 per ton (PM2.5), \$0.00 per ton (PM10*).

Replacement value is the estimated local cost of having to replace a tree with a similar tree.

A value of zero may indicate that ancillary data (pollution, weather, energy, etc.) is not available for this location or that the reported amounts are too small to be shown.