WORCESTER CONSERVATION COMMISSION

God's Acre

Conservation Property Baseline Assessment

July 2024

DAVEY Resource Group

Table of Contents

Section One: Introduction

Property Information

Property Name: God's Acre

Address: Swan Ave, Worcester, MA 01603

MBL: 42-027-00014; 42-028-00008; 42-028-00009; 42-028-00010; 42-028-00011; 42-028-00012; 42-028-00013; 42-028-0008A; 56-010-00008; 56-012-00015

Date of Visit: 5/9/2024-5/10/2024

Visit conducted by: Moriah Day, CA; Elise LeBlanc, Lori Carlos

Property Background

God's Acre is part of a large wooded area located on Rattlesnake Hill and encompasses around 130 acres. The park has a long history in the city - it was first established in 1840 as a 10-acre parcel purchased by Solomon Parsons Jr., a member of a religious doomsday movement, who wished to create a "primitive temple" to God. He "deeded" the land to God in a document carved into the face of a boulder on the property, today known as "Deed Rock", which can be found alongside one of the trails on the property. The area offers several miles of hiking trails through rocky and hilly terrain in an area insulated from the sounds and sights of the heart of Worcester, less than 3 miles away.

God's Acre is situated at elevations that slope from west to east between about 950 feet to 650 feet above mean sea level (AMSL). There are two expansive wetlands (estimated at 4 and 5 acres each) that drain to intermittent streams that flow to the city's reservoir system. Regional GIS maps show that one intermittent stream flows from the property's NE corner and flows to Patch Pond and that another intermittent stream drains from wetlands near the property's SE corner and becomes a perennial stream before it drains to Williams Millpond. The aquatic resources, native forests and wildlife habitat contribute ecosystem benefits to regional air quality, water quality, and wildlife.

Statement of Purpose

The purpose of this baseline report is to provide useful information for park planning and management; identify areas of conservation value, areas impacted by non-native plants, encroachments from abutting properties, public accessibility, and regulated areas such as wetlands, intermittent and perennial rivers, certified vernal pools, and rare habitat. The observations and management recommendations provided in this report will aid the Worcester Conservation Commission in maintaining and improving their conservation properties, tracking changes in the properties over time, and securing funding to support necessary park management activities.

Equipment Used for Data Collection

- Dell Latitude 7220 Rugged Extreme Tablet (polygons and notes)
- Samsung Galaxy S9 SM-G960U phone (photos and notes)
- Apple Iphone 11 MHCA3LL/A phone (photos)

- Panasonic FZ-G1 Toughpad (polygons and notes)
- Notepad (notes)

Acknowledgements

This project was funded in part by the USDA Forest Service through the Massachusetts Department of Conservation and Recreation Urban and Community Forestry Program. All elements of the project were completed by Davey Resource Group, Inc. with support from the Worcester Conservation Commission. Both institutions are equal opportunity employers.

Section Two: Findings

Forest Structure and Health

Field Observations

Access to the parking area off of Swan Drive from which the red trail and Deed Rock can be accessed is very difficult both in terms of quality of the road, which is dirt and heavily eroded and potholed in places, and lack of marking to indicate where parking is allowed and where trailheads are.

Heading down the Red Trail, also called the Tetasset Ridge Trail, from the parking area off Swan Drive the overstory is mixed hardwood with red maple (*Acer rubrum*), oaks (*Quercus* spp.), white ash (*Fraxinus americana*), and American beech (*Fraxinus americana*) with scattered paper birch (*Betula papyrifera*). The ash and beech are dying from emerald ash borer (*Agrilus planipennis*, EAB) and beech leaf disease (caused by the nematode *Litylenchus crenatae mccannii*, BLD) which, along with oaks affected by spongy moth (*Lymantria dispar*) and drought, may be the reason for the areas of poor canopy health identified by the UTC assessment. The death of these trees are creating canopy gaps which may allow for regeneration recruitment to the canopy and/or provide opportunities for invasive species to take over. There is a good mixture of age and size among the trees in the overstory. The understory includes American hornbeam (*Ostrya virginiana*), striped maple (*Acer pennsylvanicum*), and witch hazel (*Hamamelis virginiana*). The regeneration in the area is mostly red maple, basswood (*Tilia americana*), and black birch (*Betula lenta*). The shrub layer is sparse and includes Japanese barberry, rhododendrons (*Rhododendron* spp.), and mountain laurel (*Kalmia latifolia*) which occasionally form dense thickets. Trillium (*Trillium erectum*) and Solomon's seal (*Polygonatum* and/or *Maianthemum* spp.) can be found in the herbaceous layer. The area is a dry upland.

Near the split between the Red Trail and the White Triangle Trail the canopy becomes more uniformly oak dominated, still mixed-age but tending now more toward mature and over-mature trees with occasional dead oaks leaving canopy gaps. The understory is red maple and hickory (*Carya* spp.) with minimal oak regeneration. The shrub layer includes witch hazel, rhododendron, mountain laurel, and viburnum (*Viburnum* spp.). The witch hazel is notably abundant and creates a low canopy under the main canopy. As you travel up the hill from the gully with the stone wall and stream, continuing to follow the Red Trail toward the northern boundary of the property and away from the intersection with the White Triangle Trail, the understory shifts to white pine (*Pinus strobus*) and black birch.

There is no evidence of property boundary markers at the northern edge where the Red/Blue Trail enters the property. There are markers when leaving the property to indicate you are entering the Tetasset Ridge GWLT property.

Heading up the trail from the Swan Avenue parking area toward the Red Ridge Trail, sugar maple (*Acer saccharum*) joins the other species noted along the Red Trail in the overstory and midstory. There is little herbaceous layer and the ground is very rocky. Closer to the ridge top shrubs like rhododendron and mountain laurel become dense again. Atop the ridge heading north, the forest becomes dominated by young to semi-mature sweet birch, gray birch (*Betula populifolia*), and paper birch (*Betula papyrifera*) with occasional mature red oak interspersed. Young white pine and semi-mature oaks become more common as the trail continues north along the ridge. At the apex of the ridge when the Red Ridge Trail begins to descend again the shrub layer is lowbush blueberry. Tree cover remains the same mixture of oaks and white pine in the young to semi-mature age category but reaches a maximum height of only around 20 feet, possibly due to harsher and windier conditions on the exposed ridge top.

Trails in this upland portion of God's Acre are somewhat difficult to parse - there are multiple spur and connecting trails that run off the property and which are not clearly marked or labeled. A map was necessary to remain well-oriented within the property.

As the Red Ridge Trail approaches the White Triangle Trail there is a large canopy gap, possibly from construction on the abutting property. Tree regeneration in the gap is dense and made up of eastern cottonwood (*Populus deltoides*), hickory (*Carya glabra*), and black locust (*Robinia pseudoacacia*). Both native and invasive plants in the shrub and herbaceous layer are also dense - grapevines, goldenrod, Japanese knotweed, young tree-of-heaven (*Ailanthus altissima*), Oriental bittersweet, garlic mustard, and multiflora rose create a dense jungle. Pignut hickory frames the clearing.

Continuing down the White Triangle Trail the species composition is similar to that experienced on the hike up the ridge but in reverse and with the inclusion now of hickory. The White Triangle Trail markings are worn and faded and difficult to see in places. Patches of poorer condition canopy along this trail appear to be related to spots where large trees fell during a blowdown event, probably within the past 5-10 years based on weathering of the damaged wood. The regeneration in these canopy gaps is mainly red maple and sassafras (*Sassafras albidum*) with grapevine, viburnums, and various ferns.

The entire property seems to sit on three terraced elevations - the ridge top (Red Ridge Trail), a mid-elevation where the parking lot on Swan Ave and the Red Trail are located, and a lower elevation at the foot of the ridge. At this lower elevation there is a band of poorer condition canopy, the cause of which is not clear. It seems possible that the area is wetter than other areas on the property which could contribute to trees which have been stressed by saturated soils. The dominant canopy is mature red oak with occasional over-mature bigtooth poplar (*Populus grandidentata*). Maples and birches fill the midstory and understory, with very young ash also present in the understory. The shrub and herbaceous layers are more varied here than elsewhere on the property.

Potential Impacts of Climate Change

Table 2 includes a summary of the USFS Climate Change Atlas information for tree species commonly found in God's Acre.

Table 2: Expected response of common God's Acre species to climate change.

Species		Model Reliability	Abundance	Habitat Area Change		Capability to Cope with Climate Change	
Common	Scientific			RCP 4.5	RCP 8.5	RCP 4.5	RCP 8.5
Red maple	Acer rubrum	High	Abundant	Small decrease	Small decrease	Good	Good
Black birch	Betula lenta	High	Common	No change	Small decrease	Poor	Poor
Paper birch	Betula papyrifera	High	Rare	Large decrease	Large decrease	Very poor	Very poor

Species		Model Reliability	Abundance	Habitat Area Change		Capability to Cope with Climate Change	
Common	Scientific			RCP 4.5	RCP 8.5	RCP 4.5	RCP 8.5
Pignut hickory	Carya glabra	Medium	Common	No change	Small increase	Fair	Good
Shagbark hickory	Carya ovata	Medium	Rare	Small decrease	No change	Very Poor	Poor
American beech	Fagus grandifolia	High	Common	Large increase	Large increase	Very good	Very good
White ash	Fraxinus americana	Medium	Common	Small increase	No change	Fair	Poor
Hophornbeam	Ostrya virginiana	Low	Rare	Small decrease	Small increase	Poor	Good
Eastern white pine	Pinus strobus	High	Abundant	Large decrease	Large decrease	Poor	Poor
Black cherry	Prunus serotina	Medium	Common	Large increase	Large increase	Good	Good
White oak	Quercus alba	Medium	Common	Small increase	Small increase	Very Good	Very Good
Northern red oak	Quercus rubra	Medium	Abundant	No change	Small decrease	Very Good	Good
Black oak	Quercus velutina	High	Abundant	Small increase	Small increase	Very Good	Very Good
American basswood	Tilia americana	Medium	Rare	Small decrease	Small decrease	Very poor	Very poor

Many of the common species in God's Acre are expected to have a fair or better capability to adapt to climate change through the end of the century. However, several of the understory and mid-canopy species like birches, white pine, and hophornbeam are predicted to do more poorly as temperatures warm. Oaks, which make up the majority of canopy trees in God's Acre, are generally expected to do well under both low and high emissions scenarios.

Key Results

- Canopy gaps are being created by the death of overstory beech, ash, and oaks due to a variety of invasive pests and diseases. Beech and ash are likely to be completely eliminated from the forest over the next decades due to emerald ash borer and beech leaf disease. While canopy gaps are valuable, as they help create an

uneven-aged forest structure and contribute to habitat diversity, they can also create opportunities for invasive species to establish and thrive.

- Although chestnut blight persists on the landscape, there is a small stand of regenerating American chestnut trees along the White Triangle Trail. These trees are likely to contract the blight eventually and die, but they may indicate that there is a live, somewhat healthy, and mature individual somewhere nearby.
- The size of God's Acre provides a large, contiguous habitat for diverse flora and fauna.
- Poor condition canopy in the northwestern portion of the property appears to be linked to a blowdown event that removed overstory trees within the past 5-10 years. Regeneration appears abundant and sufficient to refill the canopy gaps over time.
- The band of poor condition canopy running from north to south through the middle of the property may be related to saturated soils where water pools at the foot of the ridge, but the exact cause is unclear from this assessment.
- Future forest health monitoring should focus on tracking the decline of ash and beech and scanning for new and emerging pest, disease, and invasive species threats to the forest. Pests and disease of oak, in particular, should be noted since oak is such a key element of the forest overstory in God's Acre.

UTC Results

Canopy Cover

Table 7. Canopy cover

	Number of Parcels	Total Property Acres	Acres of Canopy Cover	% Canopy Cover
God's Acre	10	132.53	131.78	99.43

Canopy Health

Table 8. Canopy Health

	Very Good		Good		Fair		Poor		Dead/Dying		Not Classified	
	Acres	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**
God's Acre	7.87	0.06	57.09	0.43	58.77	0.44	7.66	0.06	0.26	<0.01	0.07	<0.01

Overall, canopy health in God's Acre is fair or better. The overstory is mixed hardwood with red maple, oaks, ash, and beech with scattered paper birch. The ash and beech are dying from emerald ash borer (ash) and beech leaf disease (beech) which, along with oaks affected by spongey moth and drought, may be the reason for small patches of poor canopy health identified by the UTC assessment. The death of these trees are creating canopy gaps which may allow for regeneration recruitment to the canopy and/or provide opportunities for invasive species to take over.

The larger patch of poor condition canopy in the northwest of the property is likely linked to a blowdown event which removed overstory vegetation some 5-10 years ago. The cause of the band of poor condition canopy through the middle of the property is less clear but may be related to saturated soils where water pools at the base of the ridge.

Benefits

Table 9. Benefits

Air Pollution Removal (Annual)		Avoided Stormwater Runoff (Annual)		Carbon Sequestration (Annual)		Carbon Storage (Lifetime)	
Pounds	$	Gallons	$	Tons	$	Tons	$
9,479.04	$2,145.19	177,561.41	$1,586.66	149.29	$25,460.71	4,516.63	$770,315.11

Please note that the trees at God's Acre provide many additional benefits not calculated here. Only benefits for which there are well-supported algorithms were estimated for this project.

Section Three: Management Recommendations

Recommendations in Priority Order

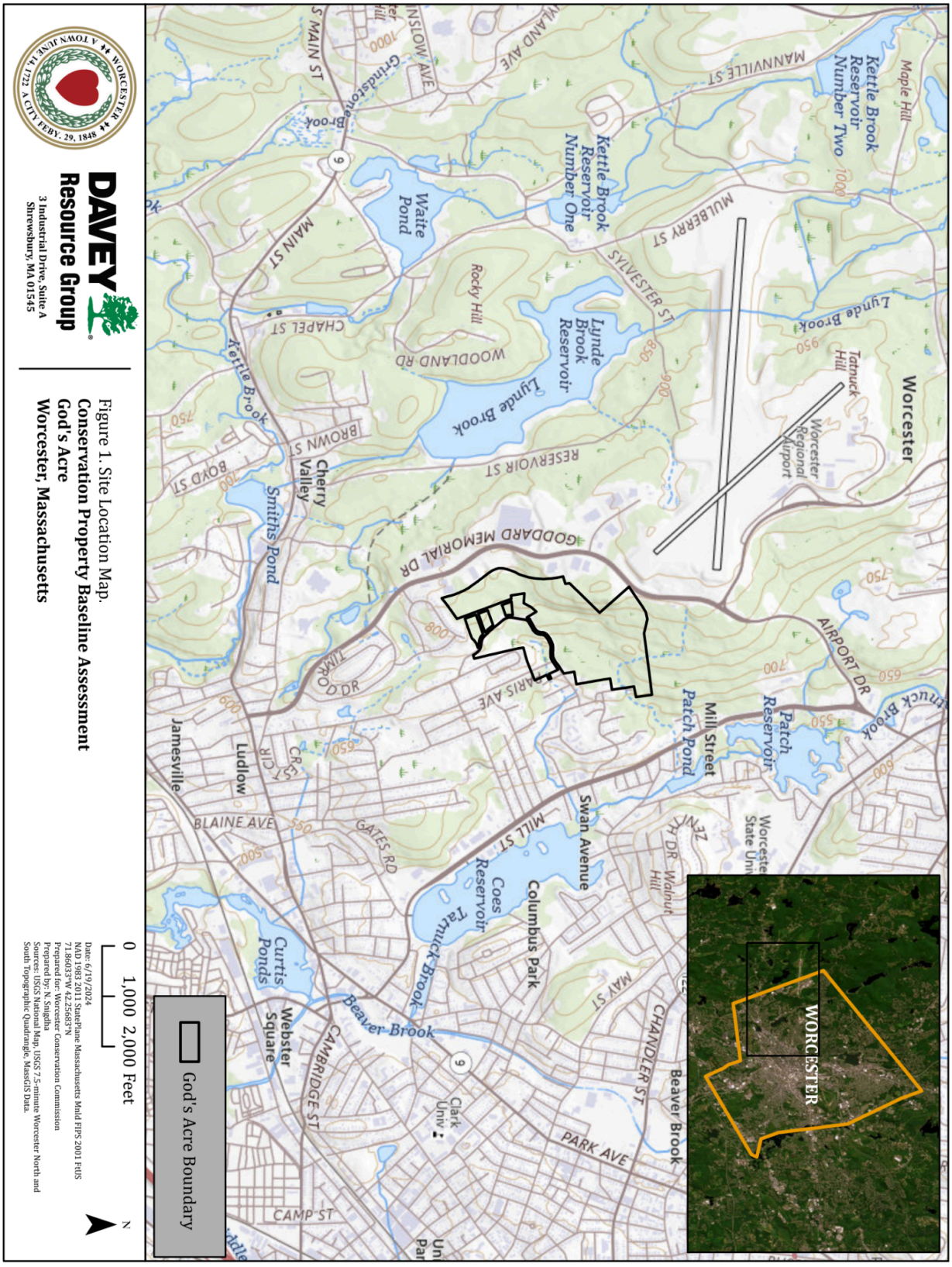
1. Manage or eliminate invasive species infestations where they have been identified within the property.
    a. Many different invasive species were identified, including multiflora rose, Japanese knotweed, Oriental bittersweet, and Japanese barberry.
    b. Many different patches of invasive species were found including around old foundations, waterways, and boundaries with other properties.
    c. None of these infestations were well-established, indicating that effective control or elimination of the invasive species is likely to be possible if sufficient resources are deployed.
    d. Along boundaries with other properties collaboration with private landowners may be required to manage invasive species adjacent to the God's Acre property and prevent reinfestation.
    e. Management of invasive species will need to be ongoing on an annual basis.
2. Pursue options to mitigate current encroachment and prevent further encroachment along Swan Avenue.
    a. Remove yard waste and other dumped materials to discourage further dumping.
    b. If possible, work with abutters to clear the dumping areas and educate residents about appropriate methods for disposing of waste.
    c. Post clear boundary signage along property boundaries to mark where the conservation property begins. Observations at the time of the property assessment did not reveal any clear boundary markers.
    d. Post signage which specifically prohibits dumping and fires at key locations where dumping and fires appear to be an issue.
    e. Monitor areas where dumping is common annually and remove any new refuse to discourage further dumping.
3. Monitor forest stands on a regular basis, ideally annually.
    a. Consider whether regeneration is occurring to replace canopy trees as they fall.
    b. Look for new or worsening invasive infestations.
    c. Look for signs and symptoms of tree pests or diseases. Focus particularly on pests and diseases of oaks, as they form the primary component of much of the forest in the area.
    d. Management of EAB and BLD is challenging and minimally effective on large areas like God's Acre. Instead, monitor to determine if regeneration is growing to fill canopy gaps left by these species.
4. Improve public awareness of God's Acre.
    a. Although God's Acre is one of the largest conserved properties in Worcester, it is not well known and is underutilized.
    b. Work with the Greater Worcester Land Trust to increase public awareness of God's Acre.
        i. Offer stewardship walks or volunteer service days to remove refuse or invasive species.
    c. Improve access to the property as described in recommendation 3.
    d. Work with abutters including the Greater Worcester Land Trust and Worcester State University to clearly mark parking areas and trails to God's Acre on their properties.
    e. Install boundary markers along trails to indicate when people are entering the property.
5. Consider evaluating aquatic habitat along the Red Trail to determine if it meets the criteria to be classified as a certified vernal pool.
    a. Conduct necessary field work and assessments to prove whether or not it qualifies for certification.

6. Continue to protect the on-site streams that are headwater tributaries to the Patch and Coes Reservoirs.
7. Improve access to God's Acre via Swan Avenue.
    a. Fill potholes and eroded areas of the road.
    b. Repair culvert pipe near 200 Swan Avenue to improve drainage, reroute steam under the road, and reduce further erosion.
    c. Add drainage culverts or other drainage infrastructure to reduce road erosion during rainstorms.
    d. Grade road and/or fill new potholes and erosion several times annually to keep the road in drivable condition.
    e. Add signage at either end of Swan Avenue to indicate access to God's Acre and warn drivers of challenging road conditions.
    f. Add signage along Swan Avenue to indicate locations where vehicles may be parked for access to God's Acre.

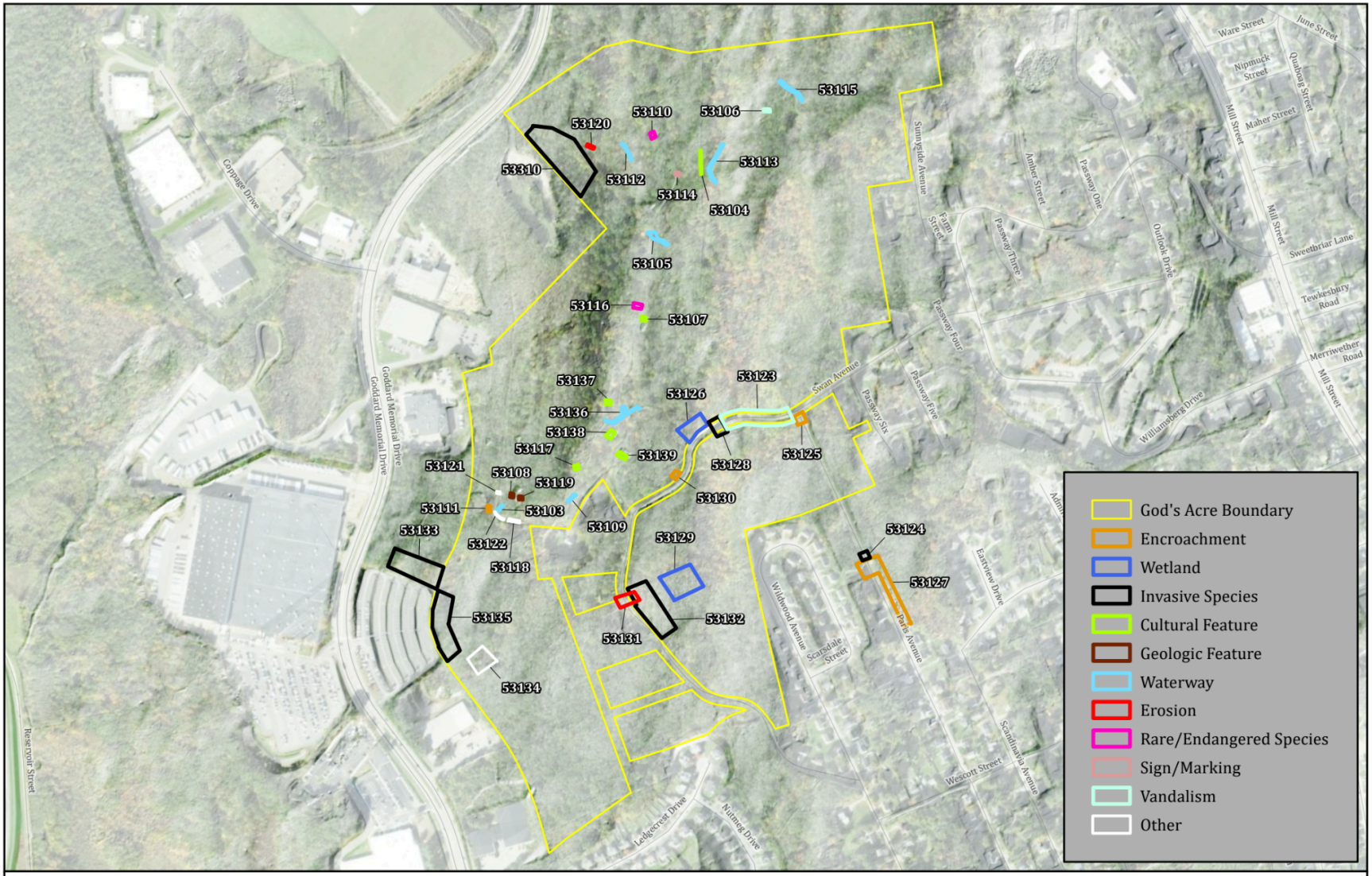
References:

Kinzel, Atlas. “God’s Acre Remains Mostly Untouched.” *Worcester Telegram & Gazette*, 7 Feb. 2019, https://www.telegram.com/story/news/local/worcester/2019/02/07/gods-acre-remains-mostly-untouched-corner-of-worcester/6052289007/. Accessed 26 June 2024.

APPENDIX A: MAPS



Map 1: *Site location map.*



DAVEY Resource Group
3 Industrial Drive, Suite A
Shrewsbury, MA 01545

Figure 2. Existing Resources Summary Map.
Conservation Property Baseline Assessment
God's Acre
Worcester, Massachusetts

0 500 1,000 Feet

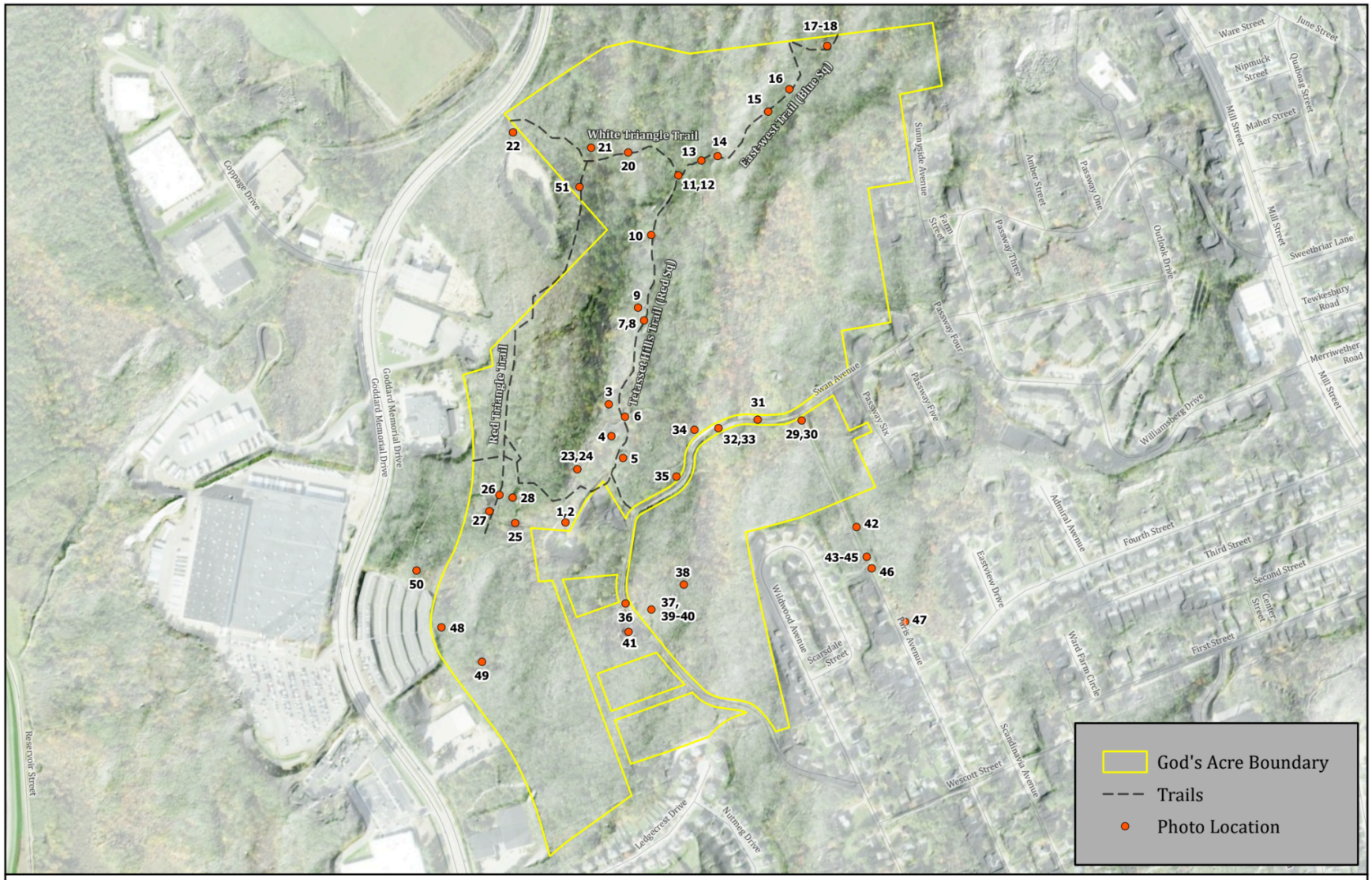
N

Date: 7/17/2024
NAD 1983 2011 StatePlane Massachusetts Mnld FIPS 2001 FtUS
71.86033°W 42.25683°N
Prepared for: Worcester Conservation Commission
Prepared by: N. Snigdha
Sources: NAIP Imagery, MassGIS Data, DRG Site Visits 5/9/2024, 5/10/2024, 6/11/2024, and 6/28/2024.

***Map 2:** Existing resources summary map.*

Map 3: *Existing trails summary map.*

Map 4: *Existing tree health rank summary map.*

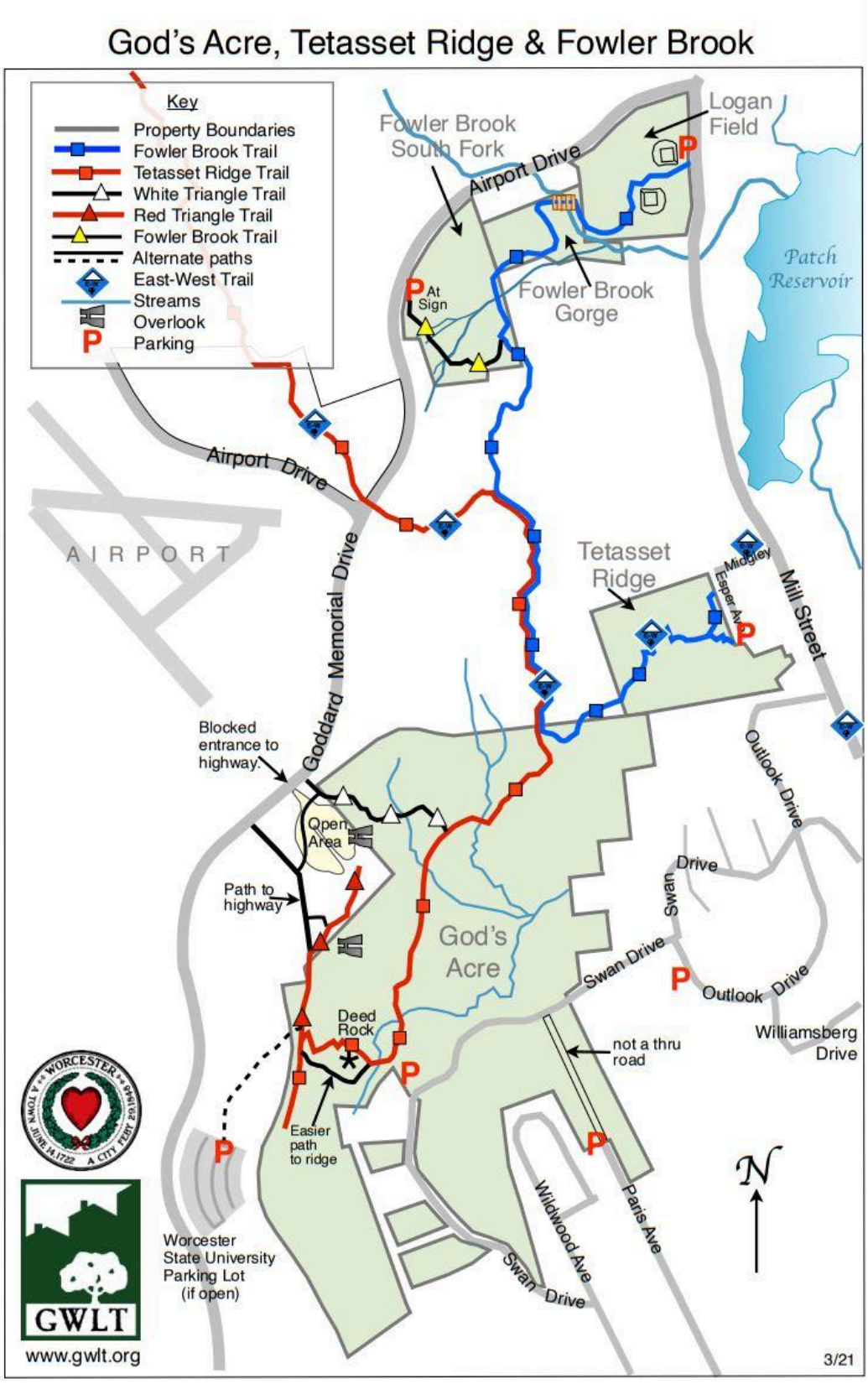


DAVEY Resource Group
3 Industrial Drive, Suite A
Shrewsbury, MA 01545

Figure 5. Representative Photo Locations Summary Map.
Conservation Property Baseline Assessment
God's Acre
Worcester, Massachusetts

Date: 7/17/2024
NAD 1983 2011 StatePlane Massachusetts Mnld FIPS 2001 FtUS
71.86033°W 42.25683°N
Prepared for: Worcester Conservation Commission
Prepared by: N. Snigdha
Sources: NAIP Imagery, MassGIS Data, DRG Site Visits 5/9/2024, 5/10/2024, 6/11/2024, and 6/28/2024.

Map 5: *Representative photo locations summary map.*



Map 6: *Trail map for the greater God's Acre, Tetasset Ridge, & Fowler Brook open space area created by the Greater Worcester Land Trust.*

APPENDIX B: FINDINGS BY PHOTO & POLYGON

Table 5. Summary of field observations by photo and/or polygon ID.

Photo ID	Polygon ID	Type	Comments
1	No Polygon	Disease/Pest	Beech leaf disease. Trees are showing signs throughout the entire property. Photo from near the parking area off of Swan Avenue.
2	No Polygon	Sign/Marking	Trail map at Swan Drive parking area.
3	53139	Cultural Feature	Foundation along the trail. Some sparse Japanese barberry (*Berberis thunbergii*) is sprouting in the area.
4	53183	Cultural Feature	Foundation along the trail. Materials such as broken glass, metal, and other solid household trash have been dumped here. Invasive plants including Oriental bittersweet (*Celastrus orbiculatus*), burning bush (*Euonymus alatus*), non-native honeysuckle (*Lonicera* spp.), and Japanese barberry are growing in and around the foundation.
5	No Polygon	Invasive Species	Japanese barberry growing near the foundations along the Red Trail.
6	53163	Waterway	Artificial pond along path created by damming a small and potentially seasonal stream. Invasive plants such as Japanese barberry dominate the vegetation, potentially out-competing native plants.
7	53137	Cultural Feature	Cement footings may indicate another old structure.
8	53107	Cultural Feature	Building foundation.
9	53116	Rare Habitat	Possible vernal pool or other ephemeral aquatic habitat.
10	53105	Waterway	Intemittent stream flowing down the hill. Stream continues both above and below the delineated polygon.
11, 12	53114	Sign/Marking	(Photo 11) Trail marker at intersection of red trail and white triangle trail, looking northeast along red trail. (Photo 12) Same location as Photo 11 but looking northwest along white triangle trail.
13	53104	Cultural Feature	Stone wall crossing the path. Wall continues both north and south of the delineated polygon area.
14	53113	Waterway	Stream crossing the path. Stream continues both north and south of the delineated polygon area.

Photo ID	Polygon ID	Type	Comments
15	53106	Vandalism	Graffiti on rocks at top of small rise.
16	53115	Waterway	Stream crossing the path. Stream continues both northwest and southeast of the delineated polygon area.
17	No polygon	Sign/Marking	East / West Trail marker near the property boundary. There are no markers indicating the crossing into/out of the property.
18	No polygon	Sign/Marking	QR code at East / West trailer marker
19	No polygon	Sign/Marking	Link from QR code
No Photo	53110	Rare/Endangered Species	American chestnut saplings sprouting from old stumps. They appear to have sprouted and died back due to blight multiple times.
20	53112	Waterway	Stream with halved trees as a bridge. Bridge planks are rotten on the trail crossing.
21	53120	Erosion	Erosion control fence leaning, but still managing erosion of the steep slope..
22	No Polygon	Invasive Species	Japanese knotweed (*Reynoutria japonica*) located in adjacent property at 162 Goddard Memorial Drive. Not in the conservation area, but touching the border. Photo is view from adjacent property looking over knotweed and into conservation property.
23-24	53117	Cultural Feature	(Photo 23) Sign marking a spur trail to Deed Rock. (Photo 24) Deed Rock, commissioned by Solomon Parsons in 1840 “deeding” the property to God.
No Photo	53109	Waterway	Seasonal (intermittent) stream, dry at the time of the assessment.
No Photo	53118	Other	Faint, unmarked trail or possible runoff channel between Worcester State University (WSU) satellite resident parking lot and home at 194 Swan Avenue.
25	53122	Other	Faint, unmarked trail or possible runoff channel between Worcester State University (WSU) satellite resident parking lot and home at 194 Swan Avenue.
No Photo	53103	Waterway	Small, possibly seasonal stream running underneath the trail.
26	53121	Other	Multiple large trees have fallen over the trail.

Photo ID	Polygon ID	Type	Comments
27	53111	Encroachment	Metal drums, possibly once containing liquids, dumped at the end of the trail between 194 Swan Avenue and the WSU parking lot.
No Photo	53199	Geologic Feature	Large crater in woods, cause unknown.
28	53108	Geologic Feature	Large crater in woods, cause unknown.
29, 30	53125	Encroachment	(Photo 29) Gate between Swan drive and Paris Ave. This end of Paris Ave is not a thru road. (Photo 30) Signs of a campfire or burn pile. Roofing shingles dumped by gate from photo 29. Entrance to the trail portion of Paris Road at this end is overgrown and unmaintained.
31	53123	Vandalism	Burned trees along Swan Avenue. There were several trees burned in this way spaced out along the road.
32-33	53128	Invasive Species	(Photo 32) Invasive species including Japanese knotweed and Oriental bittersweet at dirt pull-off along Swan Avenue. (Photo 33) Household garbage including glass, plastic, fabric, and ceramics dumped at dirt pull-off along Swan Avenue.
34	53126	Wetland	Wetland area with running stream off the northern side of Swan drive.
35	53130	Encroachment	Unmarked trail into the woods and a burn pile.
36	53131	Erosion	Culvert pipe underneath Swan Avenue has broken, resulting in the collapse of the road above the pipe. A stream now flows over Swan Avenue.
37, 39-40	53132	Invasive Species	(Photo 37) Pile of dumped cement blocks. (Photo 39) Invasive plants including Oriental bittersweet, Japanese barberry, multiflora rose (*Rosa multiflora*), and Japanese knotweed. Other introduced garden plants such as Pachysandra (*Pachysandra* spp.) and daylily (*Hemerocallis* spp.) are present as well. (Photo 40) Dirt pull-off from Swan Avenue with evidence of abutter dumping of yard waste.
38	53129	Wetland	Wetland area off Swan drive formed by stream from Photo 36.
41	No Polygon	Other	Remnants of a foundation off the property.

Photo ID	Polygon ID	Type	Comments
42, 44-45	53124	Invasive Species	(Photo 42) Japanese knotweed along the path. (Photo 44) Fallen tree blocking the path off the end of Paris Road. (Photo 45) Path created to circumvent the fallen tree.
43, 46-47	53127	Invasive Species	(Photo 43) Entrance to path at the end of Paris road. The road is blocked by a cement barricade but a foot path continues through to Swan drive. (Photo 46) Japanese knotweed grows from the entrance to the Paris Road footpath down the trail about 20 feet. (Photo 47) Evidence of a campfire or dumping of ashes in addition to roofing materials and yard waste dumped by the cement barrier.
48	53135	Invasive Species	Invasive plants along the west/east boundary between the WSU parking lot at 140 Goddard Memorial Drive and the God's Acre property including Japanese knotweed and multiflora rose.
49	53134	Other	Unmarked footpath that appears to end at a dense wall of fallen trees and shrubs.
50	53133	Invasive Species	Area with large canopy gaps due to both standing and fallen dead oak and ash trees. Invasive species, including multiflora rose, are growing in the openings.
51	53310	Invasive Species	Large canopy gap possibly related to construction on the abutting property at 162 Goddard Memorial Drive. Multiflora rose, Japanese knotweed, Oriental bittersweet, tree-of-heaven, and garlic mustard are abundant, but generally limited to the canopy opening and not expanding into the wooded surroundings.

Photo 1
Polygon ID: none
Type: Disease/Pest
Comments: Beech leaf disease. Trees are showing signs throughout the entire property. Photo from near the parking area off of Swan Avenue.

Photo 2
Polygon ID: none
Type: Sign/Marking
Comments: Trail map at Swan Drive parking area.

Photo 3
Polygon ID: 53139
Type: Cultural Feature
Comments: Foundation along the trail. Some sparse Japanese barberry (*Berberis thunbergii*) is sprouting in the area.

Photo 4
Polygon ID: 53183
Type: Cultural Feature
Comments: Foundation along the trail. Materials such as broken glass, metal, and other solid household trash have been dumped here. Invasive plants including Oriental bittersweet (*Celastrus orbiculatus*), burning bush (*Euonymus alatus*), non-native honeysuckle (*Lonicera* spp.), and Japanese barberry are growing in and around the foundation.

Photo 5
Polygon ID: none
Type: Invasive Species
Comments: Japanese barberry growing near the foundations along the Red Trail.

Photo 6
Polygon ID: 53163
Type: Waterway
Comments: Artificial pond along path created by damming a small and potentially seasonal stream. Invasive plants such as Japanese barberry dominate the vegetation, potentially out-competing native plants.

Photo 7
Polygon ID: 53137
Type: Cultural Feature
Comments: Cement footings may indicate another old structure.

Photo 8
Polygon ID: 53107
Type: Cultural Feature
Comments: Building foundation.

Photo 9
Polygon ID: 53116
Type: Rare Habitat
Comments: Possible vernal pool or other ephemeral aquatic habitat.

Photo 10
Polygon ID: 53105
Type: Waterway
Comments: Intemittent stream flowing down the hill. Stream continues both above and below the delineated polygon.

Photo 11
Polygon ID: 53114
Type: Sign/Marking
Comments: Trail marker at intersection of red trail and white triangle trail, looking northeast along red trail.

Photo 12
Polygon ID: 53114
Type: Sign/Marking
Comments: Same location as Photo 11 but looking northwest along white triangle trail.

Photo 13
Polygon ID: 53104
Type: Cultural Feature
Comments: Stone wall crossing the path. Wall continues both north and south of the delineated polygon area.

Photo 14
Polygon ID: 53113
Type: Waterway
Comments: Stream crossing the path. Stream continues both north and south of the delineated polygon area.

Photo 15
Polygon ID: 53106
Type: Vandalism
Comments: Graffiti on rocks at top of small rise.

Photo 16
Polygon ID: 53115
Type: Waterway
Comments: Stream crossing the path. Stream continues both northwest and southeast of the delineated polygon area.

Photo 17
Polygon ID: No Polygon
Type: Sign/Marking
Comments: East / West Trail marker near the property boundary. There are no markers indicating the crossing into/out of the property.

Photo 18
Polygon ID: No Polygon
Type: Sign/Marking
Comments: QR code at East / West trailer marker.

Worcester's East-West Trail:

TETASSET RIDGE, GOD'S ACRE & EAST-WEST TRAIL JUNCTION

REPORT TRAIL CONDITIONS

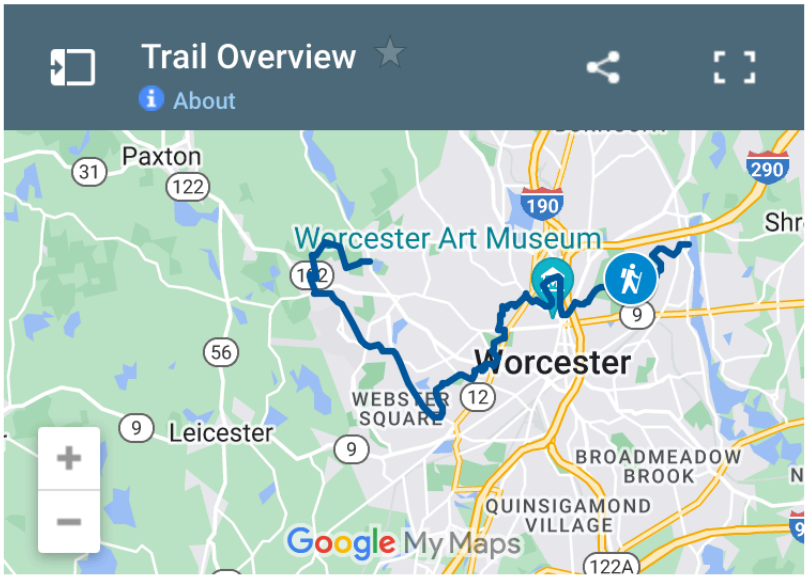


Photo 19
Polygon ID: No Polygon
Type: Sign/Marking
Comments: Link from QR code.

Photo 20
Polygon ID: 53112
Type: Waterway
Comments: Stream with halved trees as a bridge. Bridge planks are rotten on the trail crossing.

Photo 21
Polygon ID: 53120
Type: Erosion
Comments: Erosion control fence leaning, but still managing erosion of the steep slope.

Photo 22
Polygon ID: No Polygon
Type: Invasive Species
Comments: Japanese knotweed (*Reynoutria japonica*) located in adjacent property at 162 Goddard Memorial Drive. Not in the conservation area, but touching the border. Photo is view from adjacent property looking over knotweed and into conservation property.

Photo 23
Polygon ID: 53117
Type: Cultural Feature
Comments: Sign marking a spur trail to Deed Rock.

Photo 24
Polygon ID: 53117
Type: Cultural Feature
Comments: Deed Rock, commissioned by Solomon Parsons in 1840 “deeding” the property to God.

Photo 25
Polygon ID: 53122
Type: Other
Comments: Faint, unmarked trail or possible runoff channel between Worcester State University (WSU) satellite resident parking lot and home at 194 Swan Avenue.

Photo 26
Polygon ID: 53121
Type: Other
Comments: Multiple large trees have fallen over the trail.

Photo 27
Polygon ID: 53111
Type: Encroachment
Comments: Metal drums, possibly once containing liquids, dumped at the end of the trail between 194 Swan Avenue and the WSU parking lot.

Photo 28
Polygon ID: 53108
Type: Geologic Feature
Comments: Large crater in woods, cause unknown.

Photo 29
Polygon ID: 53125
Type: Encroachment
Comments: Gate between Swan drive and Paris Ave. This end of Paris Ave is not a thru road.

Photo 30
Polygon ID: 53125
Type: Encroachment
Comments: Signs of a campfire or burn pile. Roofing shingles dumped by gate from photo 29. Entrance to the trail portion of Paris Road at this end is overgrown and unmaintained.

Photo 31
Polygon ID: 53123
Type: Vandalism
Comments: Burned trees along Swan Avenue. There were several trees burned in this way spaced out along the road.

Photo 32
Polygon ID: 53128
Type: Invasive Species
Comments: Invasive species including Japanese knotweed and Oriental bittersweet at dirt pull-off along Swan Avenue.

Photo 33
Polygon ID: 53128
Type: Invasive Species
Comments: Household garbage including glass, plastic, fabric, and ceramics dumped at dirt pull-off along Swan Avenue.

Photo 34
Polygon ID: 53126
Type: Wetland
Comments: Wetland area with running stream off the northern side of Swan drive.

Photo 35
Polygon ID: 53130
Type: Encroachment
Comments: Unmarked trail into the woods and a burn pile.

Photo 36
Polygon ID: 53131
Type: Erosion
Comments: Culvert pipe underneath Swan Avenue has broken, resulting in the collapse of the road above the pipe. A stream now flows over Swan Avenue.

Photo 37
Polygon ID: 53132
Type: Invasive Species
Comments: Pile of dumped cement blocks.

Photo 38
Polygon ID: 53129
Type: Wetland
Comments: Wetland area off Swan drive formed by stream from Photo 36.

Photo 39
Polygon ID: 53132
Type: Invasive Species
Comments: Invasive plants including Oriental bittersweet, Japanese barberry, multiflora rose (*Rosa multiflora*), and Japanese knotweed. Other introduced garden plants such as Pachysandra (*Pachysandra* spp.) and daylily (*Hemerocallis* spp.) are present as well.

Photo 40
Polygon ID: 53132
Type: Invasive Species
Comments: Dirt pull-off from Swan Avenue with evidence of abutter dumping of yard waste.

Photo 41
Polygon ID: No Polygon
Type: Other
Comments: Remnants of a foundation off the property.

Photo 42
Polygon ID: 53124
Type: Invasive Species
Comments: Japanese knotweed along the path.

Photo 43
Polygon ID: 53127
Type: Invasive Species
Comments: Entrance to path at the end of Paris road. The road is blocked by a cement barricade but a foot path continues through to Swan drive.

Photo 44
Polygon ID: 53124
Type: Invasive Species
Comments: Fallen tree blocking the path off the end of Paris Road.

Photo 45
Polygon ID: 53124
Type: Invasive Species
Comments: Path created to circumvent the fallen tree.

Photo 46
Polygon ID: 53127
Type: Invasive Species
Comments: Japanese knotweed grows from the entrance to the Paris Road footpath down the trail about 20 feet.

Photo 47
Polygon ID: 53127
Type: Invasive Species
Comments: Evidence of a campfire or dumping of ashes in addition to roofing materials and yard waste dumped by the cement barrier.

Photo 48
Polygon ID: 53135
Type: Invasive Species
Comments: Invasive plants along the west/east boundary between the WSU parking lot at 140 Goddard Memorial Drive and the God's Acre property including Japanese knotweed and multiflora rose.

Photo 49
Polygon ID: 53134
Type: Other
Comments: Unmarked footpath that appears to end at a dense wall of fallen trees and shrubs.

Photo 50
Polygon ID: 53133
Type: Invasive Species
Comments: Area with large canopy gaps due to both standing and fallen dead oak and ash trees. Invasive species, including multiflora rose, are growing in the openings.

Photo 51
Polygon ID: 53310
Type: Invasive Species
Comments: Large canopy gap possibly related to construction on the abutting property at 162 Goddard Memorial Drive. Multiflora rose, Japanese knotweed, Oriental bittersweet, tree-of-heaven, and garlic mustard are abundant, but generally limited to the canopy opening and not expanding into the wooded surroundings.