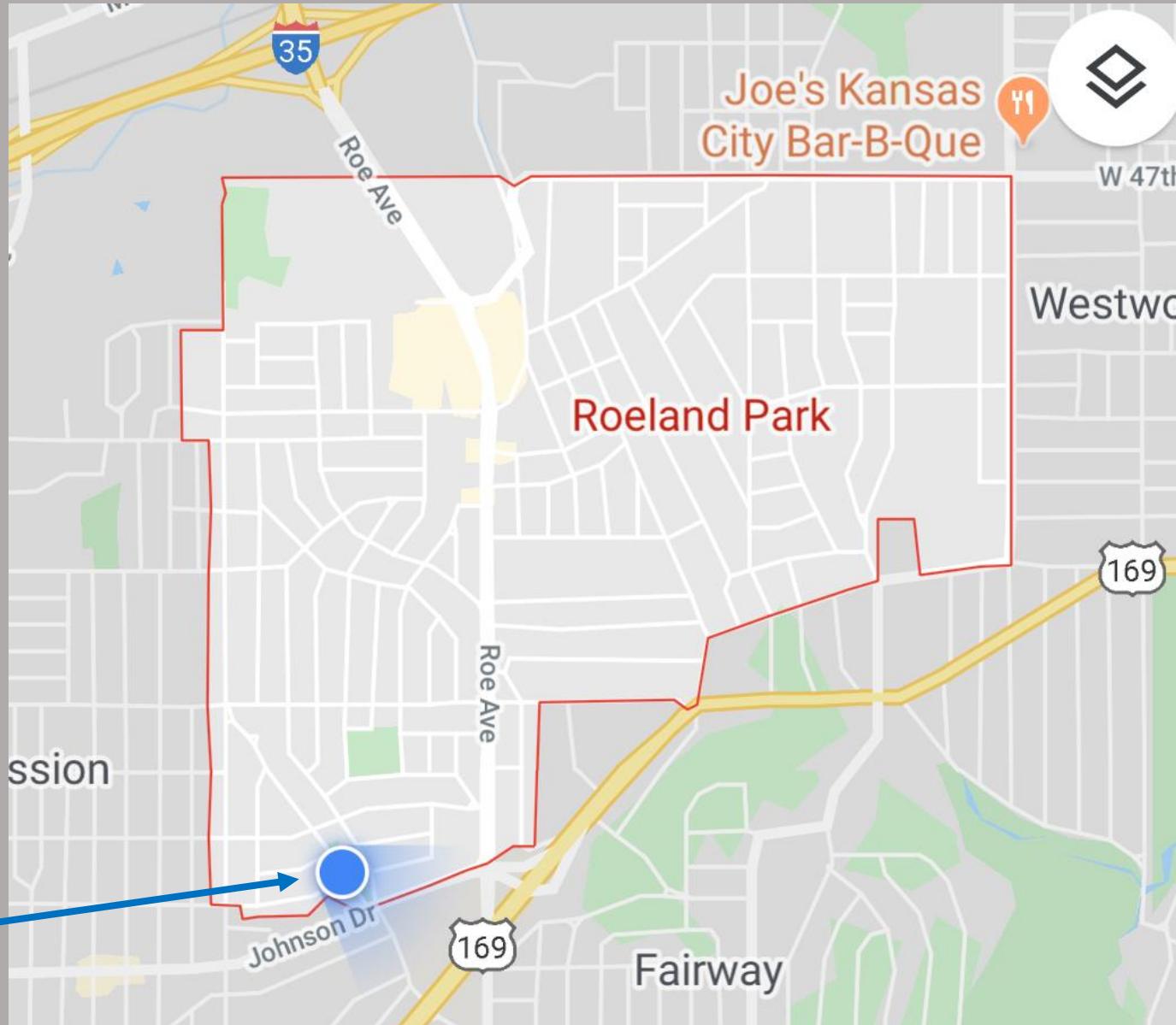
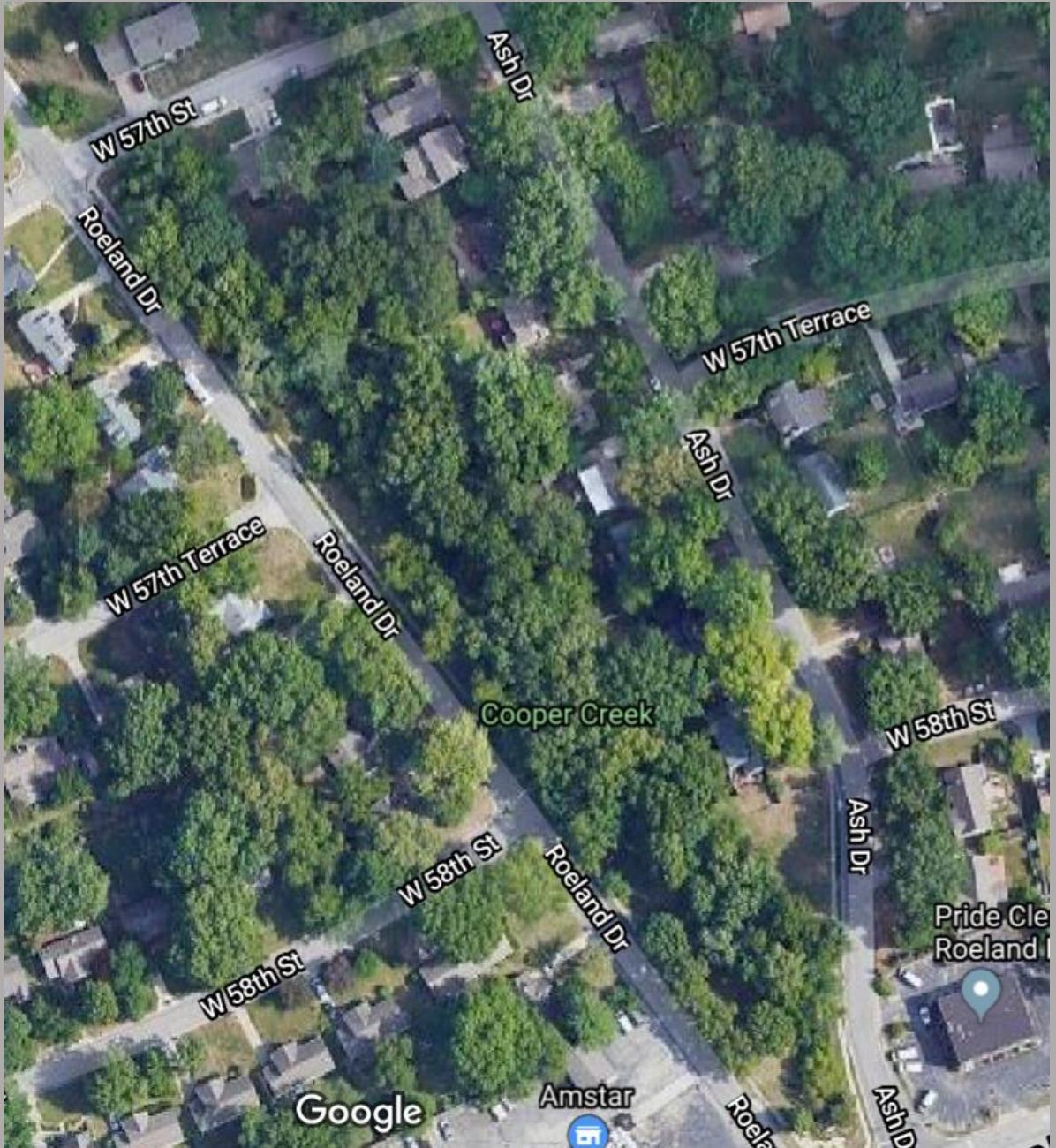


Cooper Creek in Roeland Park, KS



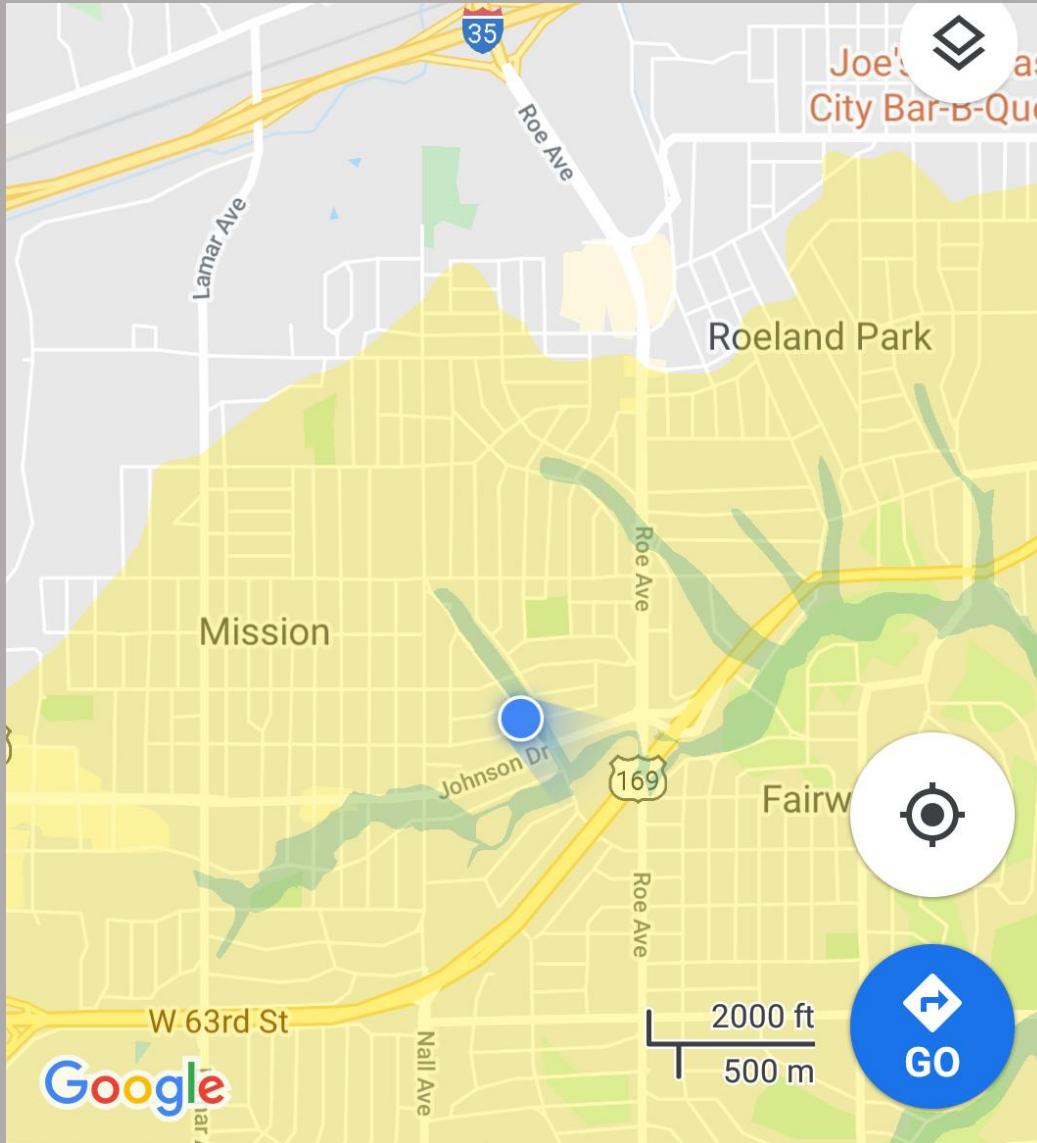


Cooper Creek:

- located at the entrance to Roeland Park from Johnson Drive
- ~ 900 feet long and ~130 feet wide
- bounded by Roeland Dr., Ash Dr., Johnson Dr., and W 57th St
- abutted by ten backyards



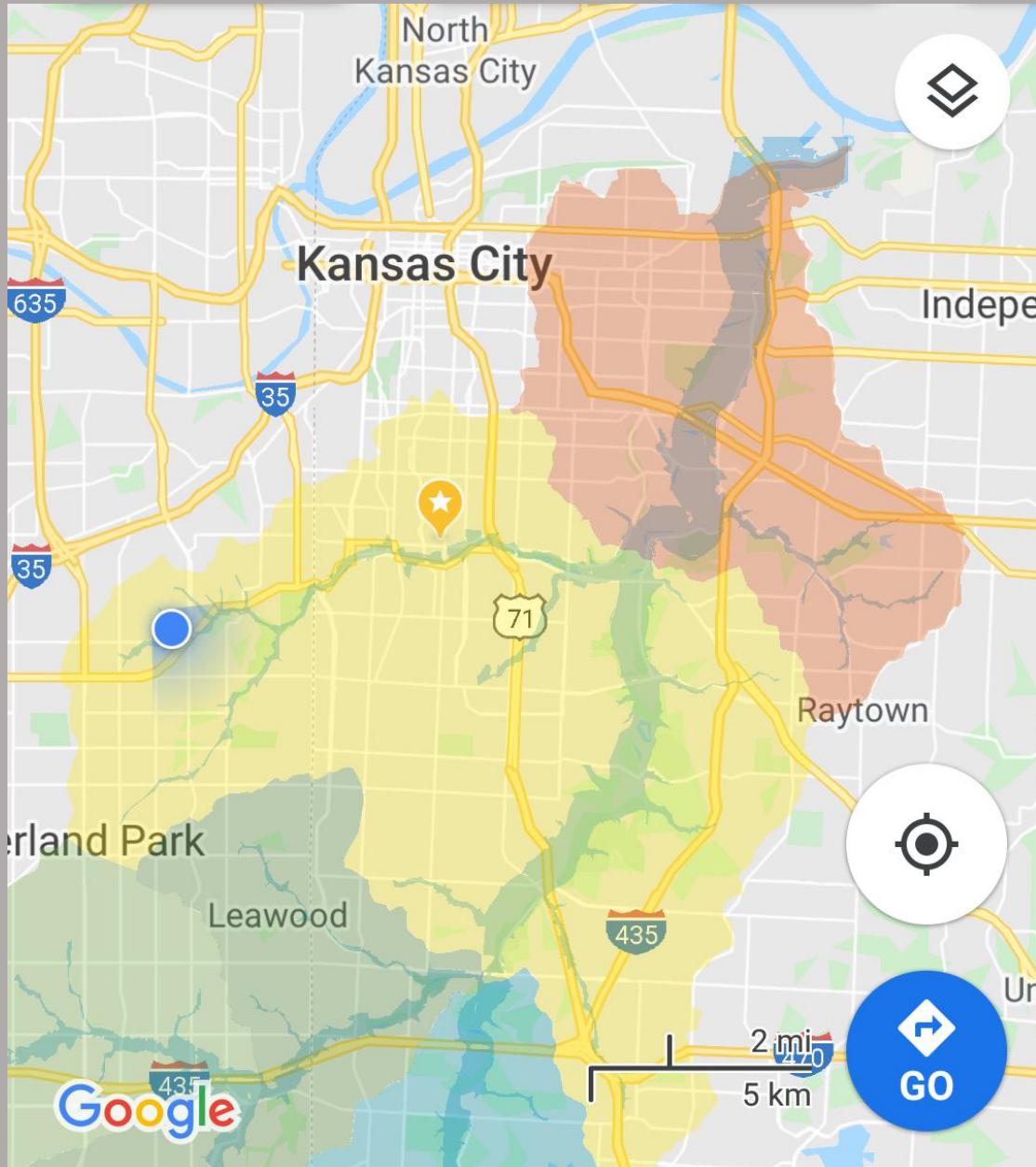
Cooper Creek from a Watershed Perspective



The yellow delineates the watershed Cooper Creek is part of; the dendritic blue is the floodplain.

The Cooper Creek Watershed

- What is uphill of and feeding into Cooper Creek?
- Stormwater runoff from a large number of acres flows into Cooper Creek.
- Stormwater runoff comes from streets, sidewalks, houses, and lawns in both Roeland Park and Mission.
- Much of the stormwater is accelerated through pipes before feeding into Cooper Creek.



The red, yellow, and blue areas are the HUC 12 Watersheds that make up the Blue River Watershed.

Cooper Creek in Larger Watersheds

- What is downhill of and being fed by Cooper Creek?
- Cooper Creek flows into Rock Creek, which flows into Brush Creek, which flows into the Blue River, which flows into the Missouri River, which flows into the Mississippi River, which flows into the Gulf of Mexico and the Atlantic Ocean.

Invasive Plant Species



What Is an Invasive Plant?

- Invasive plant species are *non-native plant species* that aggressively take over the territory of native plants, killing or harming the native plant and animal community in the process.
- Non-native plant species are those growing in a location where they would not have been found, absent human introduction.



Invasive Plant Species at Cooper Creek Park

- **Wintercreeper:** ~ 90% of understory, climbing up the trunks of the majority of trees
- **Bush Honeysuckle:** ~ 5% of the understory
- **Callery Pear (Bradford Pear):** six trees planted
- **Rose of Sharon:** < 1% of understory
- **Tree of Heaven:** found one tree
- **English Ivy:** found in one tree
- **Garlic Mustard:** < 1% of understory, mowed area



Wintercreeper



Wintercreeper climbing a Hackberry tree. Every leaf and most branches in this picture are Wintercreeper leaves and branches.

Wintercreeper Aerial Vines

- Wintercreeper vines climb trees, fences, and anything else that its aerial rootlets can cling to.
- The vines can grow up to 70 feet in height.
- As they grow up trees and other plants, the vines strangle and kill the tree or plant they are climbing.
- Wintercreeper produces seeds only after its vines have risen off the ground.



Black Walnut in darkness below the Wintercreeper groundcover vines

Wintercreeper Groundcover

- Wintercreeper groundcover is more than 12 inches thick at Cooper Creek, preventing native seeds from germinating.
- It spreads by growing in vines along the ground. Vines produce rootlets, which can develop into new plants.
- Wintercreeper groundcover depletes the soil of nutrients.



The Spread of Wintercreeper

- Wintercreeper starts from a seed that has been deposited on the ground.
- It grows rapidly, even under harsh conditions.
- It can tolerate full sun to heavy shade and dry to very moist soil.
- It grows along the ground as vines.
- Once the vines reach a tree, they start growing up the tree.
- Wintercreeper flowers after it has climbed, and then produces seeds.



The Spread of Wintercreeper

- Water is one way Wintercreeper seeds are distributed, depositing seeds downstream.
- Birds are another way the seeds are distributed, and they can take the seeds any direction before depositing them.
- The Wintercreeper vines in Cooper Creek Park are producing hundreds of thousands of seeds each year.

Removing Wintercreeper from Cooper Creek



First Step

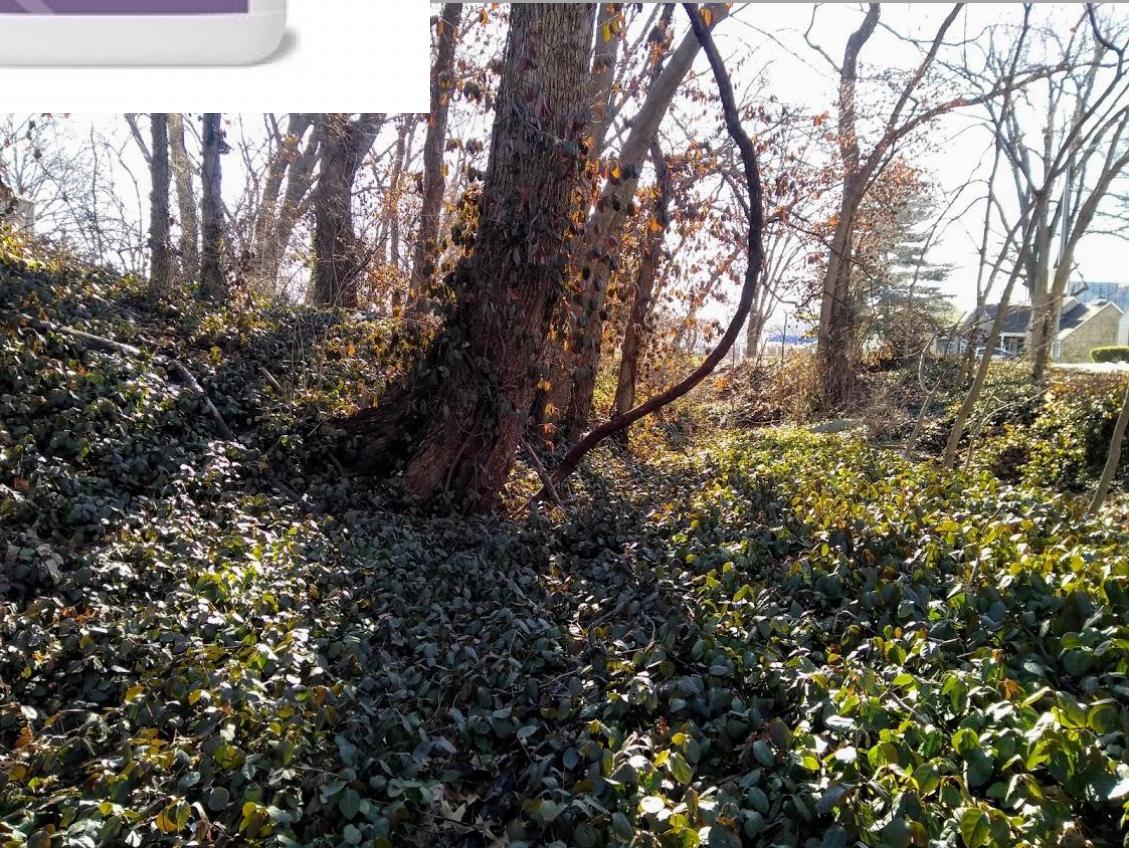
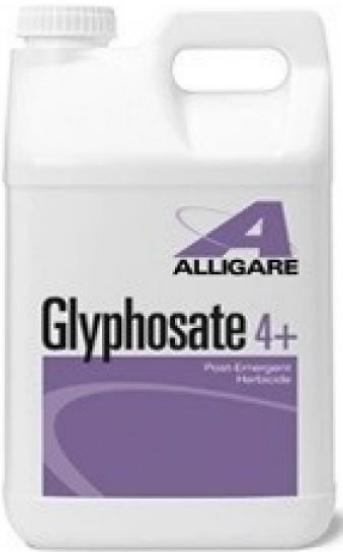
- Cut 12 inch section out of every climbing vine.
- Stump treat every cut vine, applying Tordon RTU to cambium layer.
- This could be accomplished with a volunteer day.

Before and after images of treatment to Wintercreeper vines at Shirling Sanctuary in KCMO

Second Step



- Kill Wintercreeper groundcover.
- Glyphosate foliar spray is the recommended herbicide, applied by a professional company.
- Two professional companies have submitted bids for Wintercreeper removal: Habitat Architects and DJM Ecological Services.
- Propose to put removal costs into the city's budget for 2021.



Herbicide Usage at Cooper Creek

- Herbicide is necessary when Wintercreeper infestations get over a certain size.
- The infestation at Cooper Creek is beyond that size.
- The companies are not aware of an organic herbicide that kills Wintercreeper.
- It takes 12 to 18 months after the first application of glyphosate for results to be shown.

Protecting The Creek



- Habitat Architects said to protect the creek, they would use a spray that is approved by the EPA for use around water.
- EPA-approved sprays do not have surfactants in them.
- Surfactants reduce the surface tension and viscosity of the herbicide, making them spread out when they hit the water.
- Rodeo would be used rather than Roundup.

Protecting The Native Plants

- The contractors would treat the Wintercreeper with herbicide when it is actively metabolizing, but when the native plants are dormant.
- This means the Wintercreeper would take the herbicide into their system and the native plants would not.
- So, the native plants that are present at Cooper Creek would not be harmed.



Beautyberry competing with the Wintercreeper