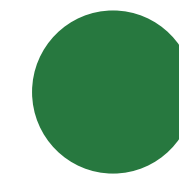


UTAH DEPARTMENT OF AGRICULTURE & FOOD

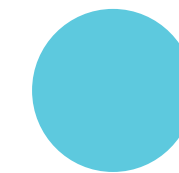
DIVISION OF PLANT INDUSTRY – INVASIVE INSECT AND QUARANTINE PROGRAM

Japanese beetle

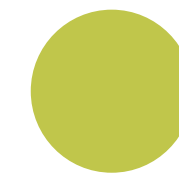
Popillia japonica (Newman)



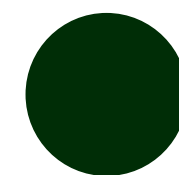
Invasive species



Description



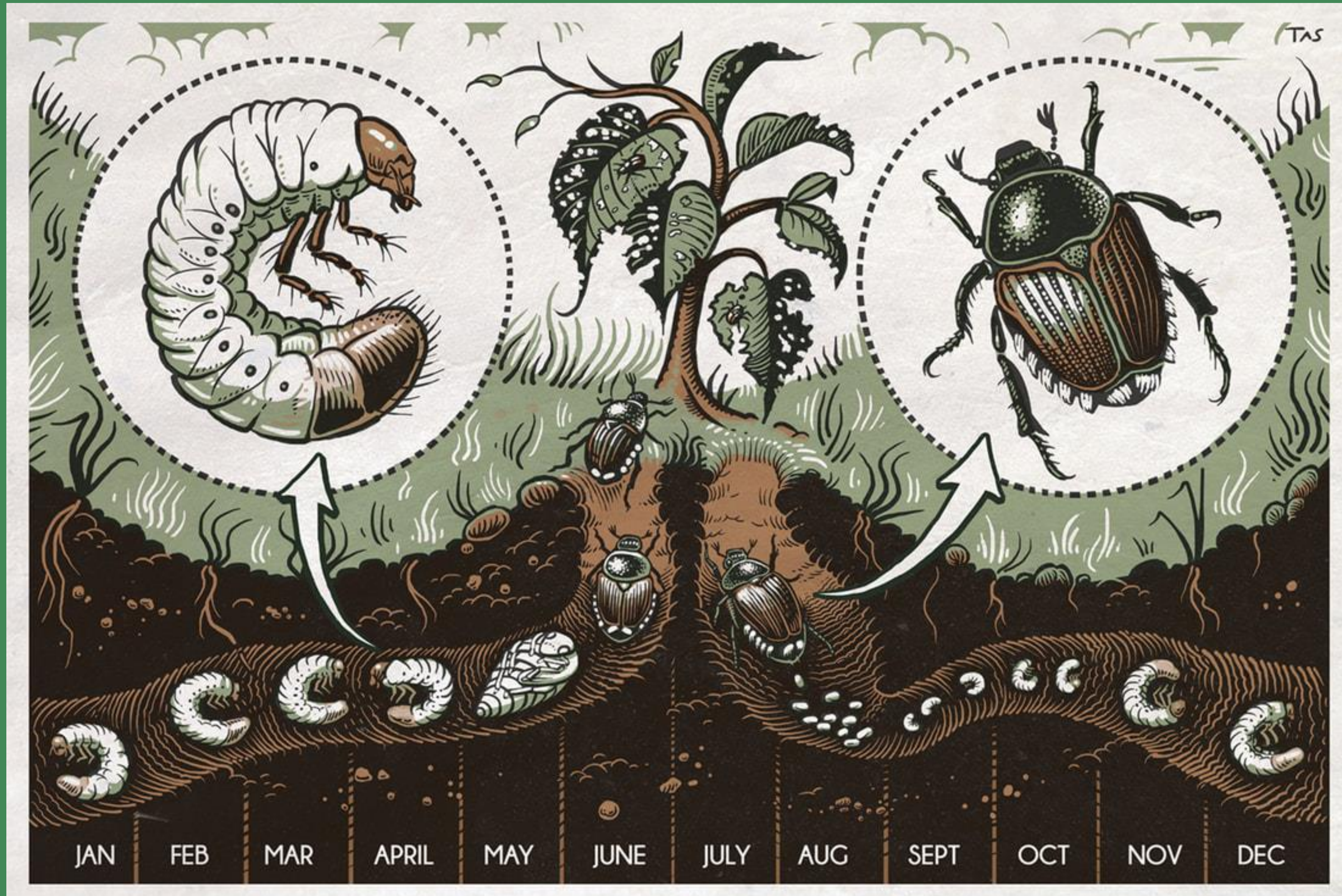
Damage



Economic importance



L
I
F
E



C
Y
C
L
E

Host material



300+ host plants

Herbaceous Plants

- Hollyhock
- Dahlia
- Clematis
- Turf
- Rose
- Grape
- Sweet corn

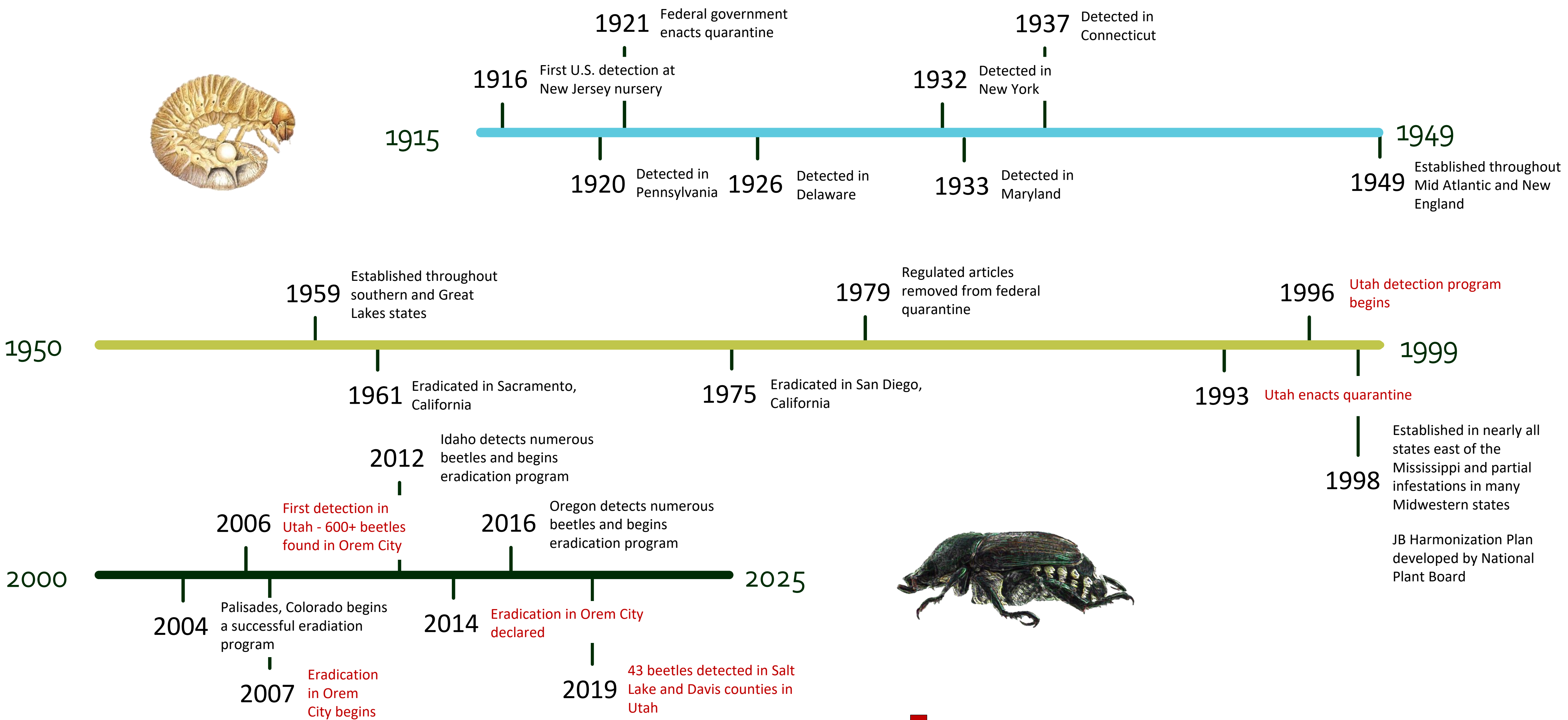
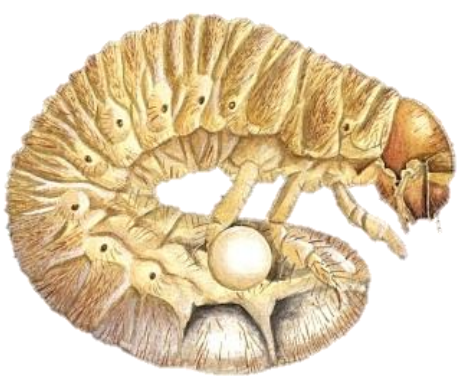
Alcea rosea
Dahlia spp.
Clematis spp.
Various species
Rosa spp.
Vitis spp.
Zea mays

Woody Plants

- Japanese maple
- Norway maple
- Apple, crabapple
- Virginia creeper
- Plum, apricot, cherry, peach
- Willow

Acer palmatum
Acer platanoides
Malus, spp.
Parthenocissus quinquefolia
Prunus spp.
Salix spp.

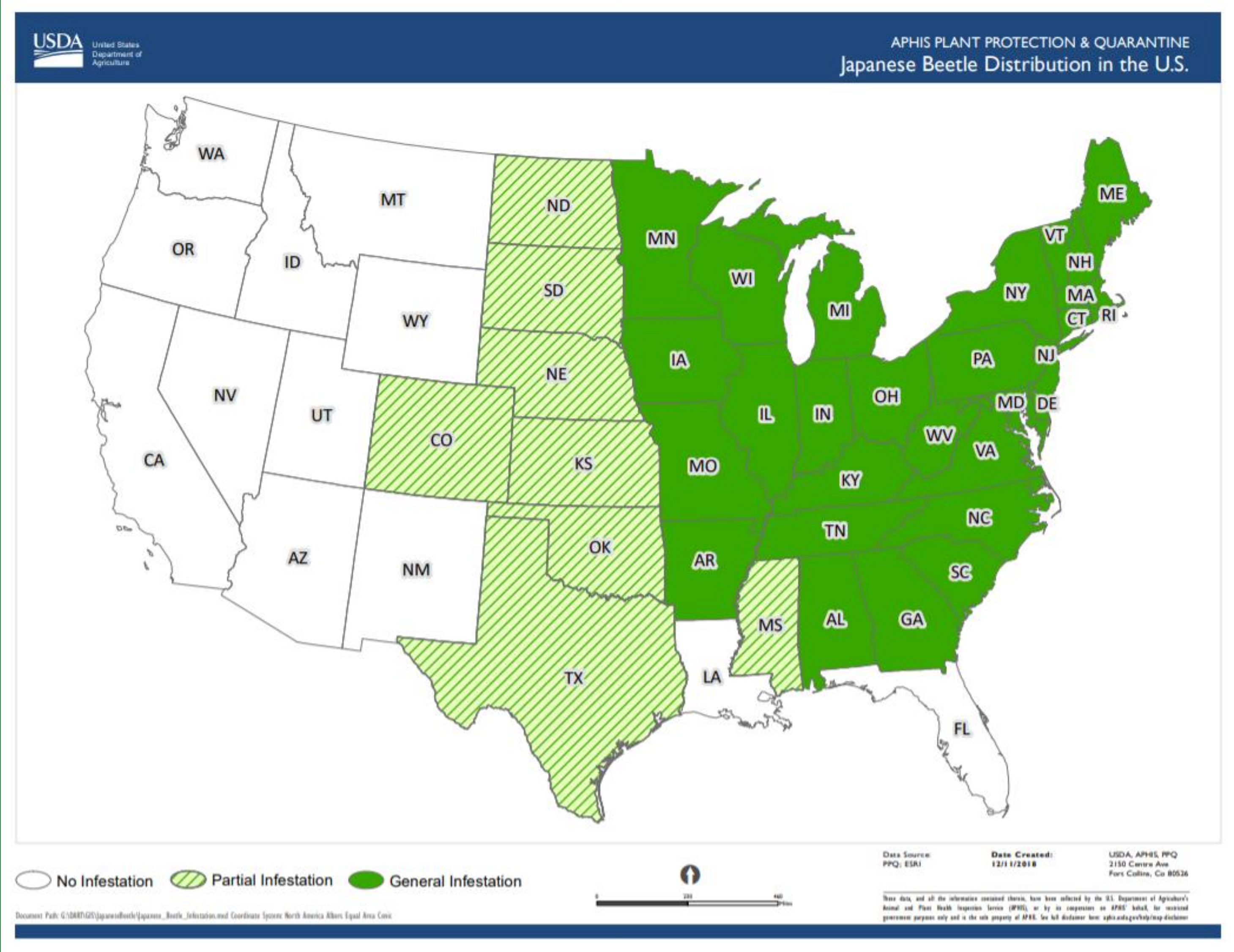
Japanese beetle timeline in U.S.



UTAH HISTORY HIGHLIGHTED IN RED

1) Art Cushman, USDA Systematics Laboratory 2) Emily Engasser, Hawaiian Scarab ID, USDA APHIS PPQ

Current Distribution

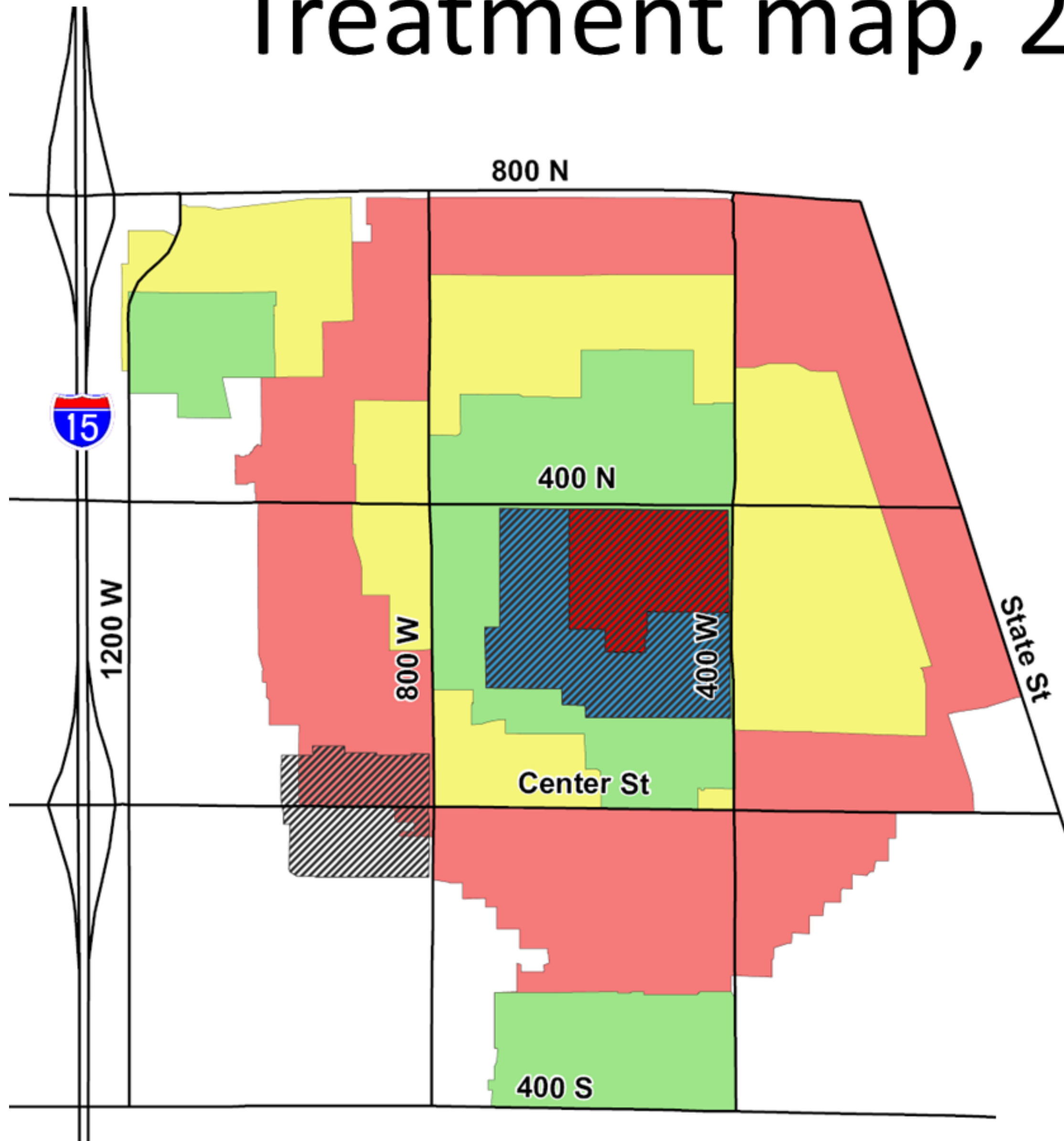


Orem City Eradication

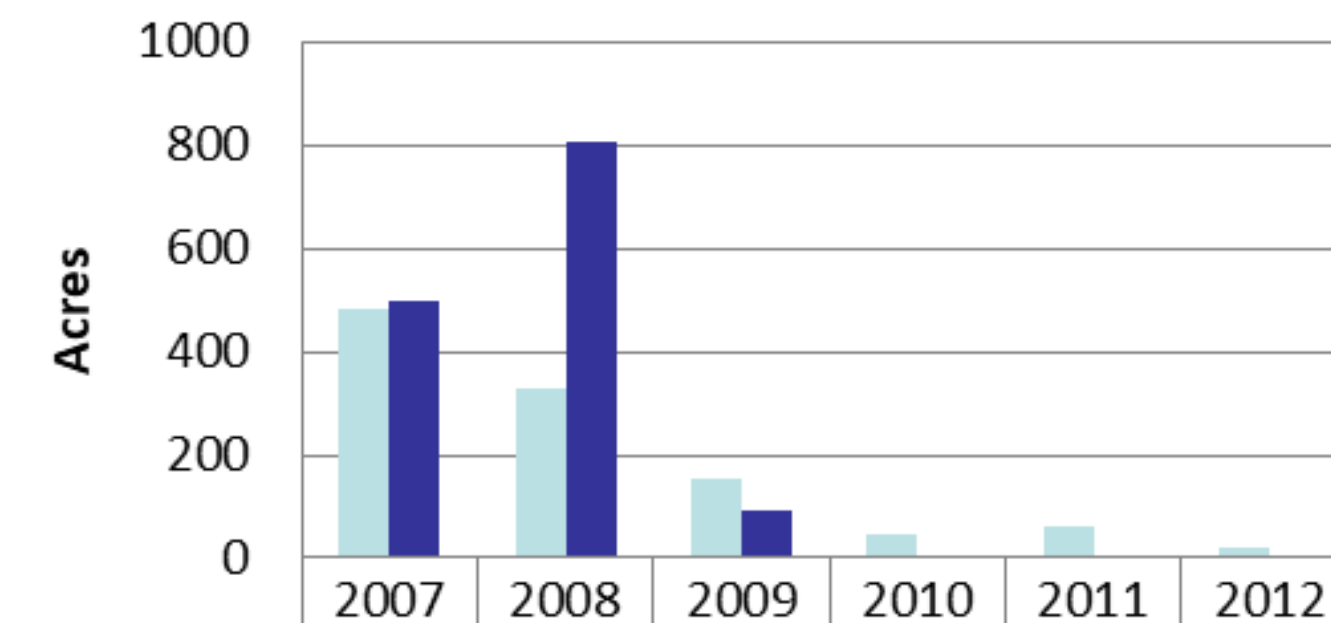
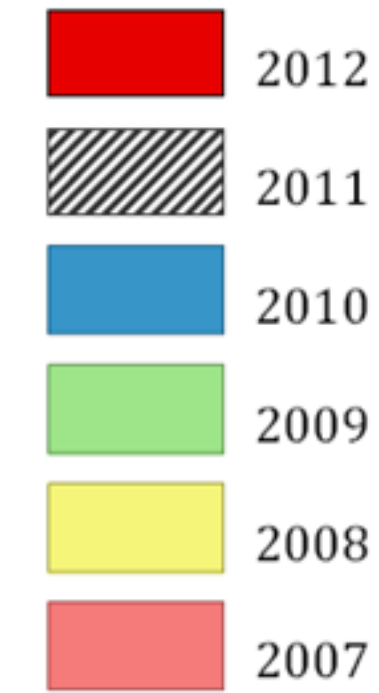


Mario Ruiz, Daily Herald

Treatment map, 2007-2012

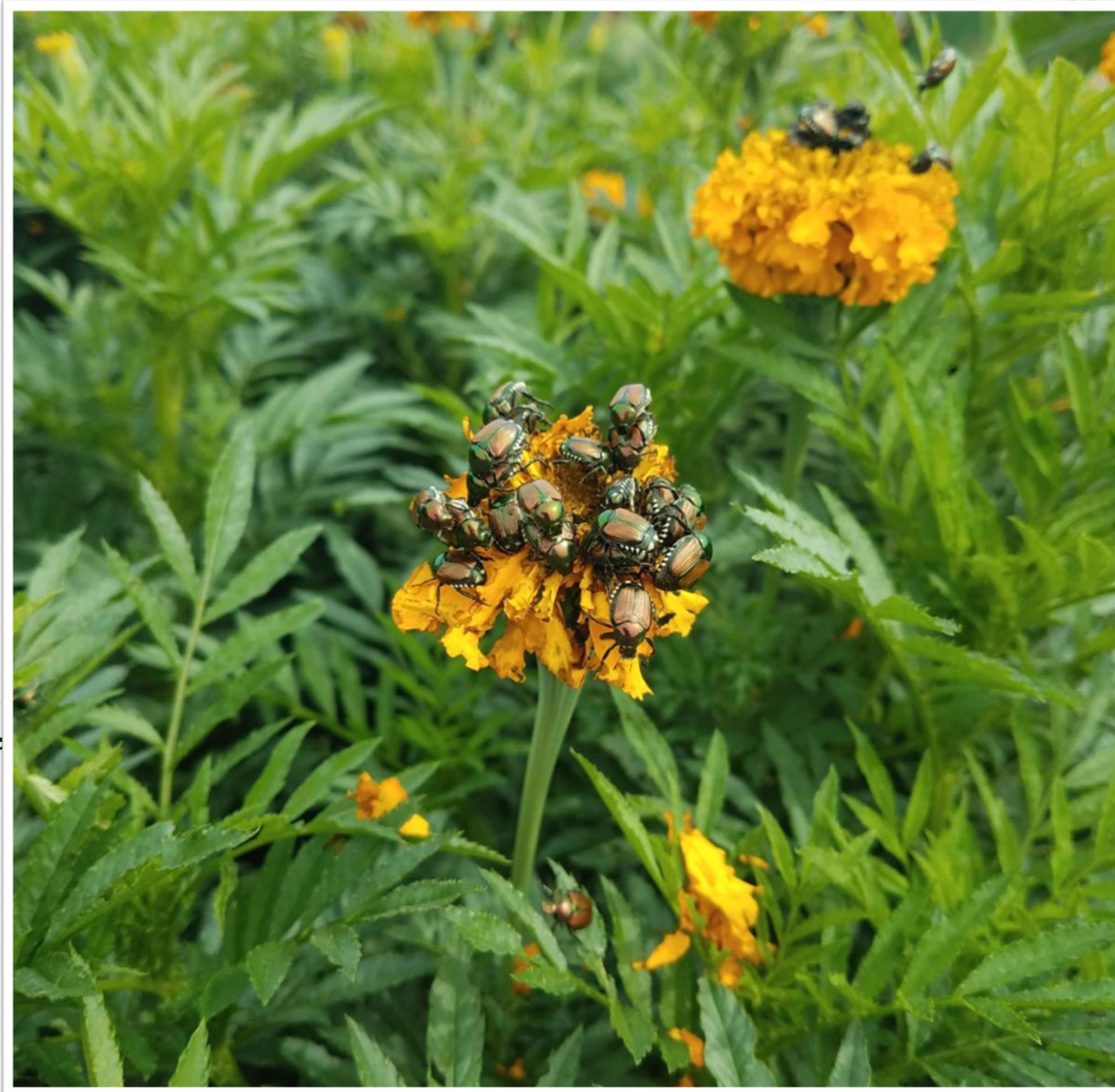


Treatment area
by year



	2007	2008	2009	2010	2011	2012
Ground Treatment	480	326	154	46	63	20
Foliar Treatment	500	808	92	0	0	0

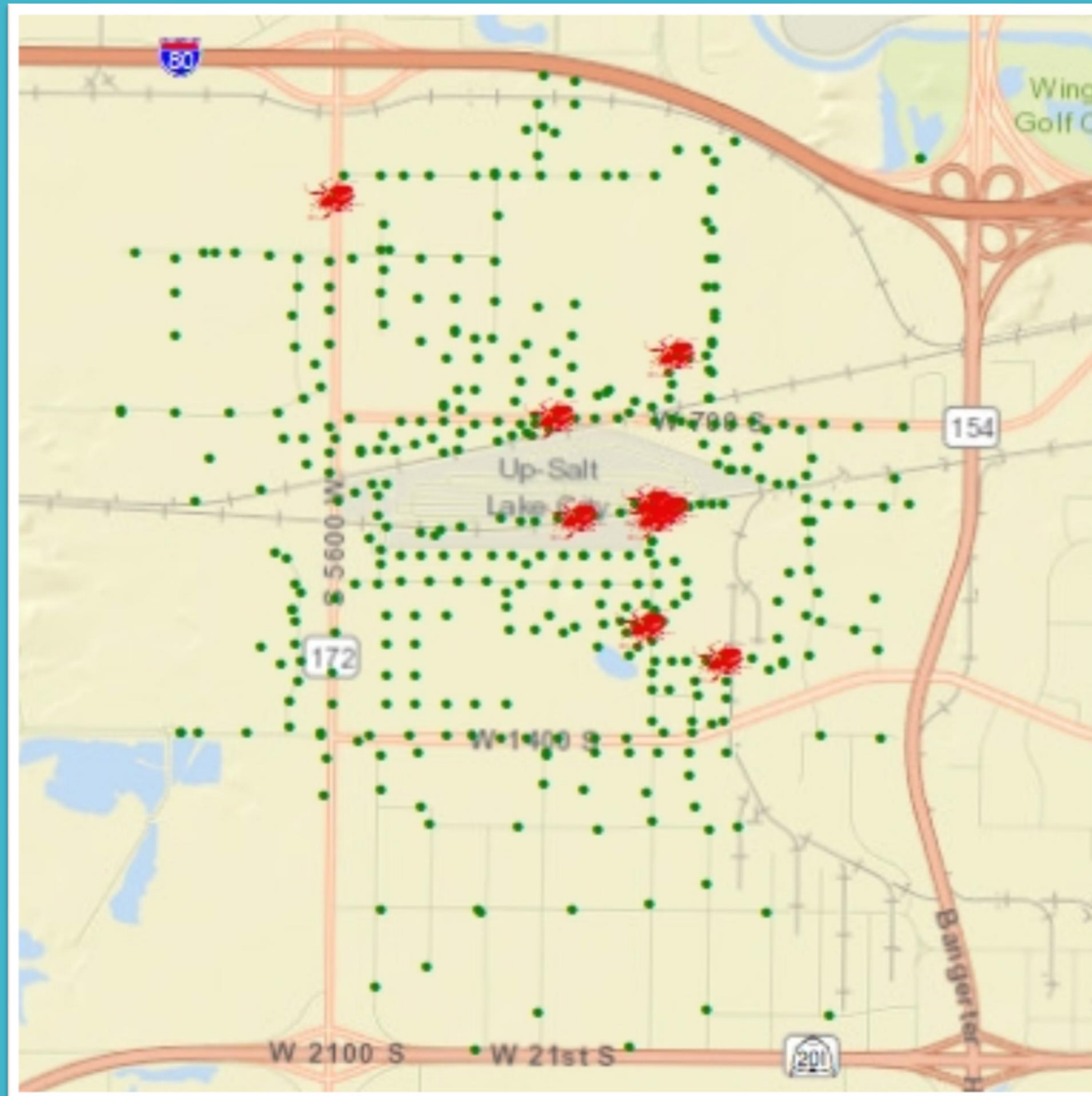
2019 Reiman Gardens - Iowa



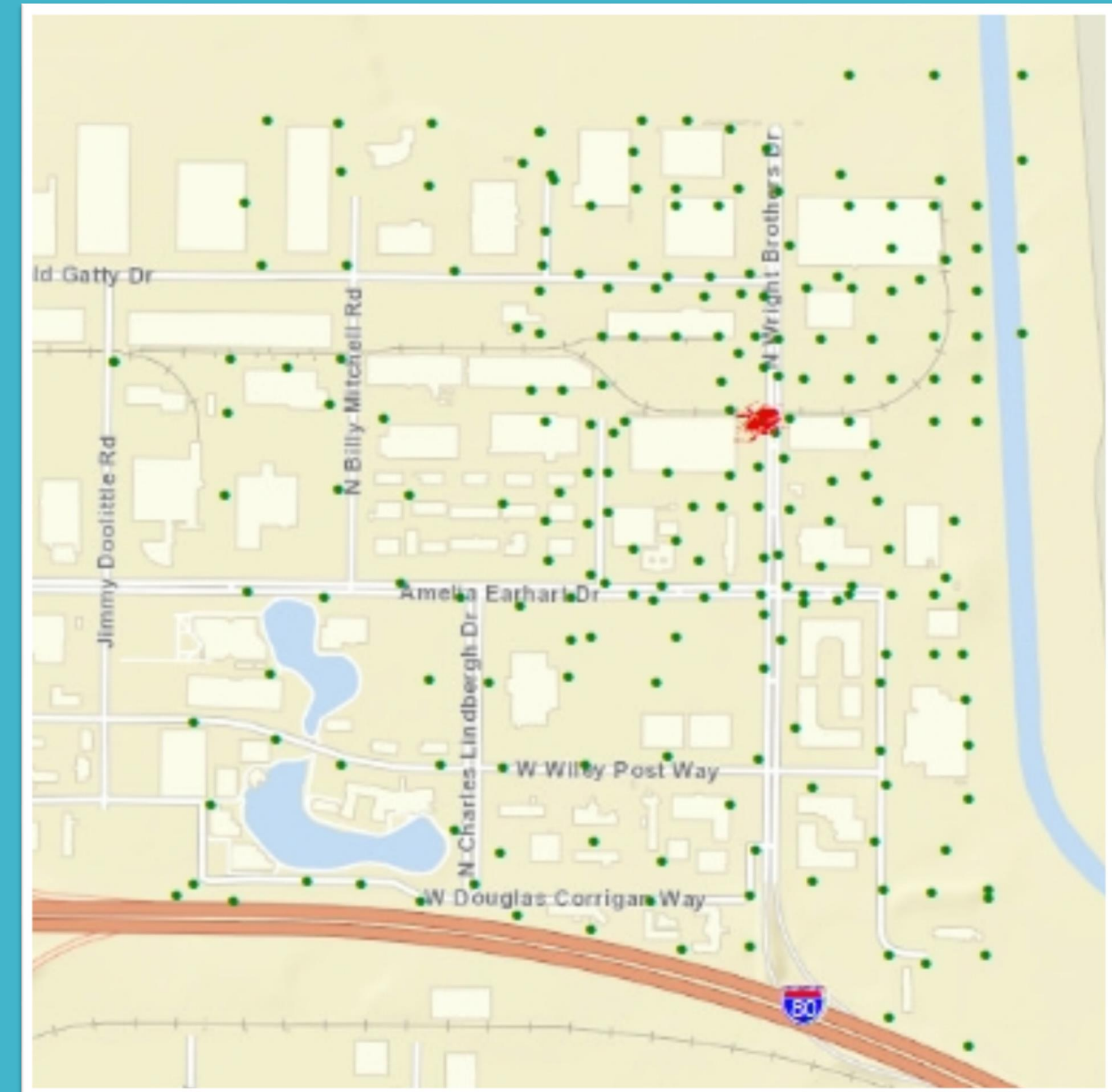
Sarah Schulthies, Utah Department of Agriculture and Food

2019 Salt Lake County Detections

Salt Lake City – Industrial District

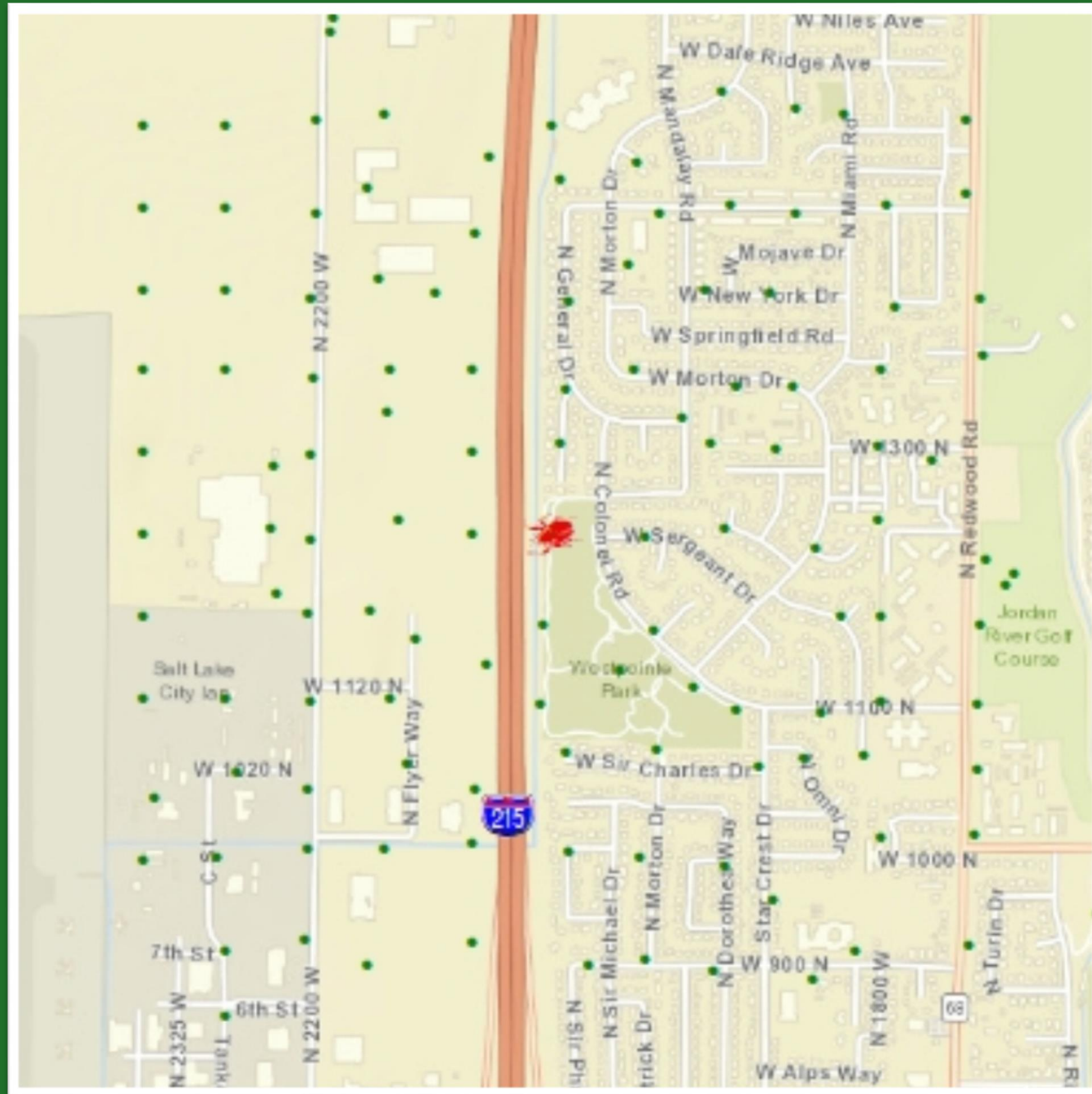


Salt Lake City – The International Center

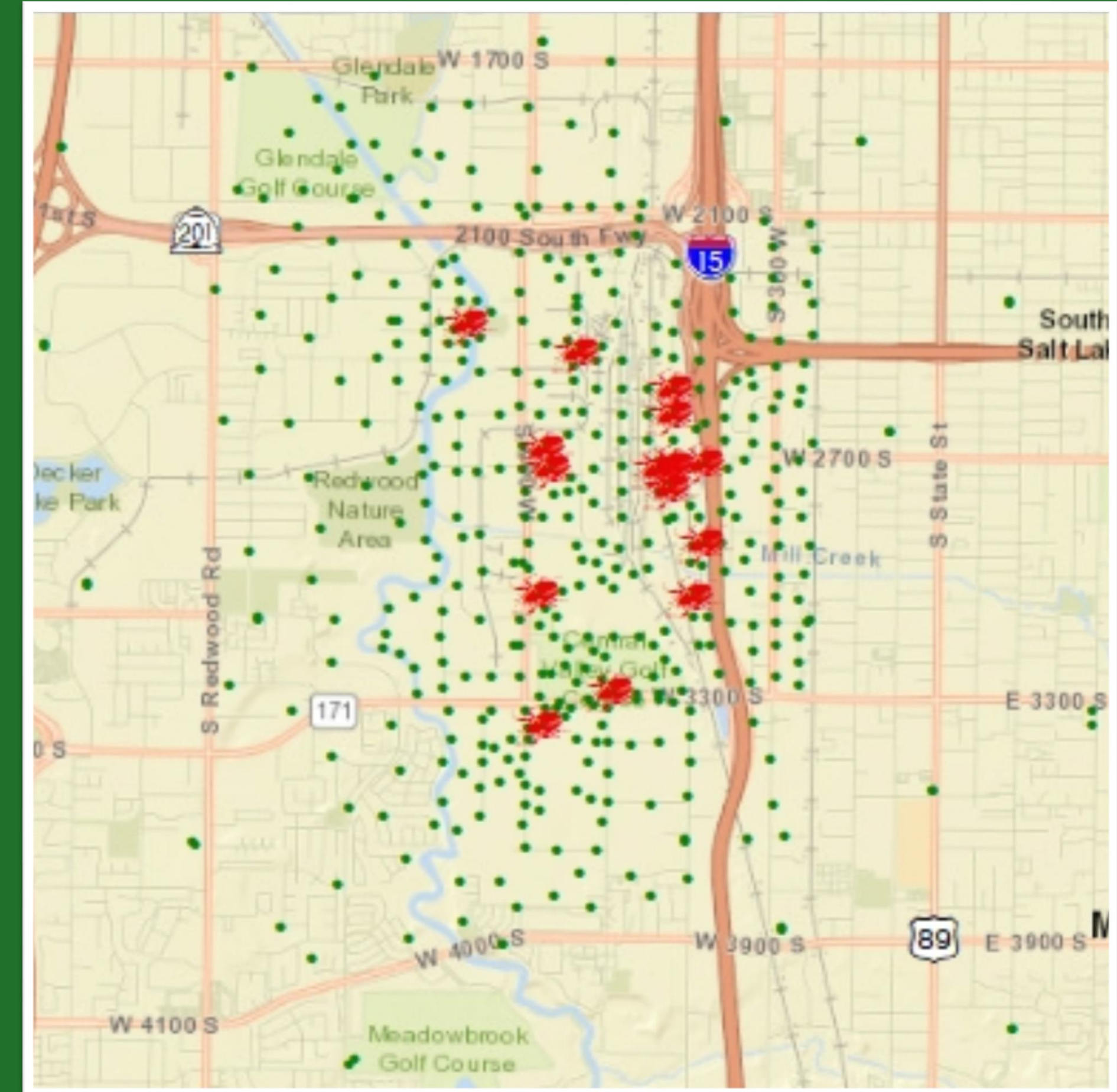


2019 Salt Lake County Detections

Salt Lake City – Rose Park

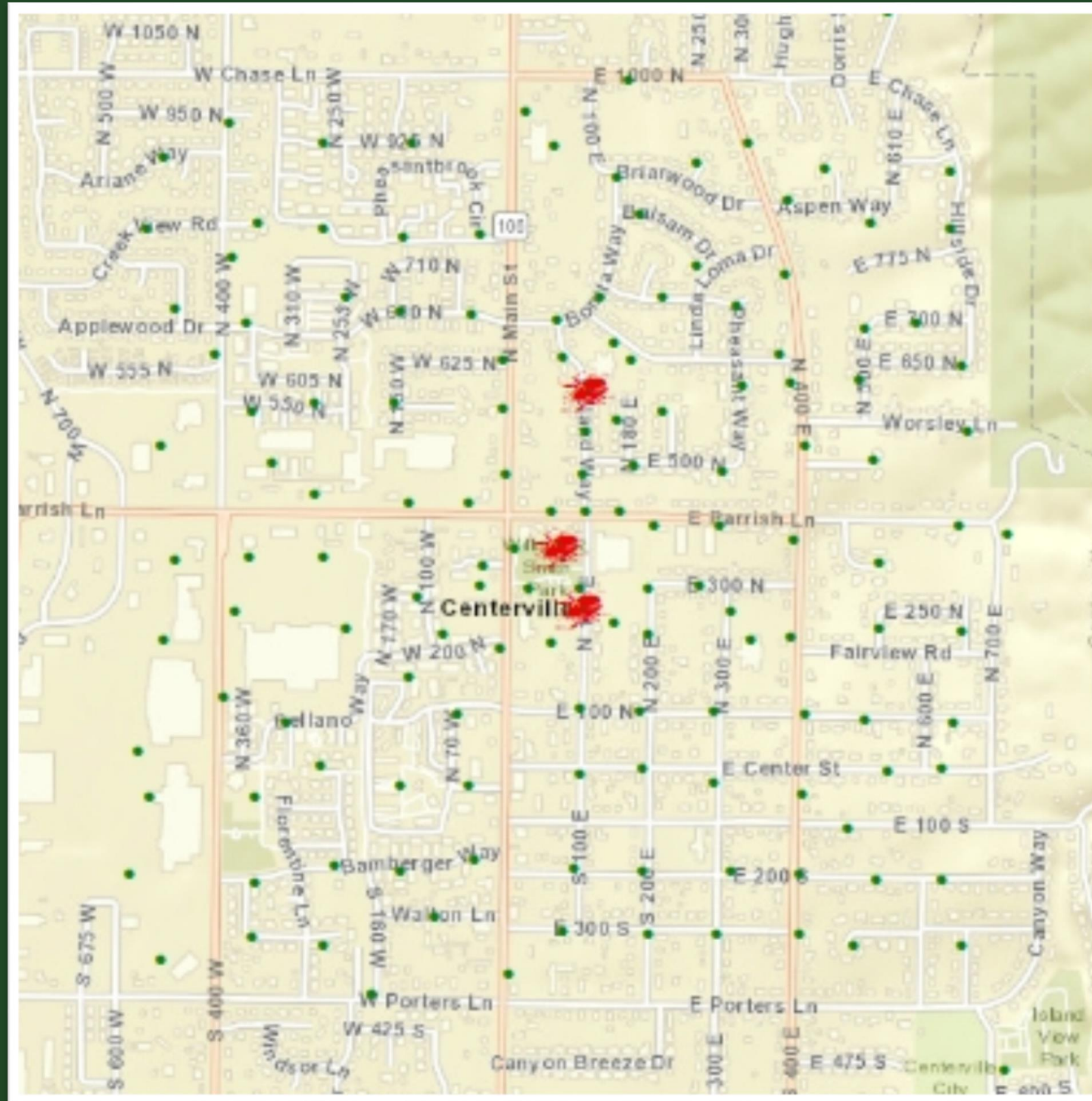


South Salt Lake City – Industrial District

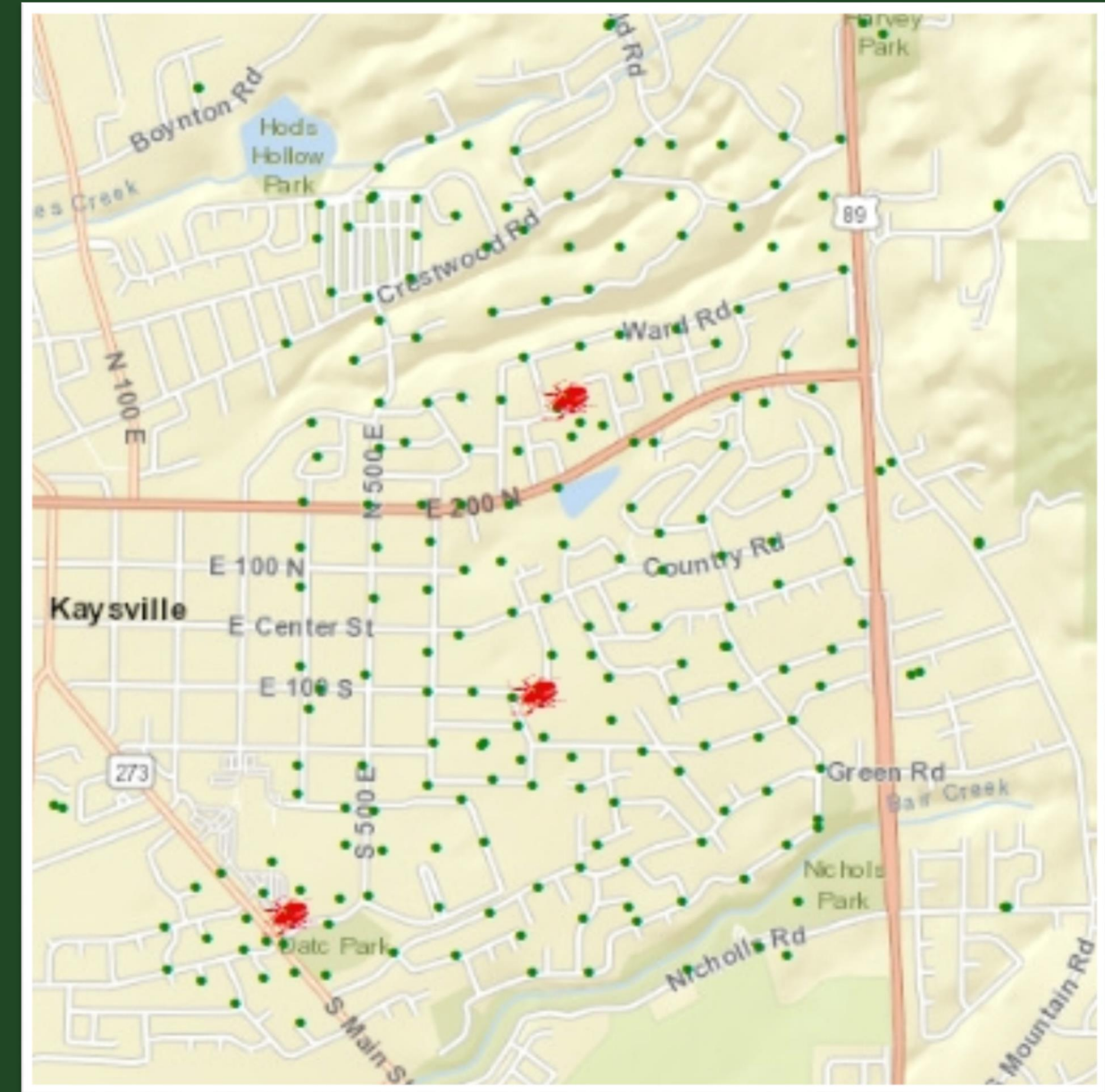


2019 Davis County Detections

Centerville



Kaysville



2020 Eradication SLC International Center

5 Female
1 Male

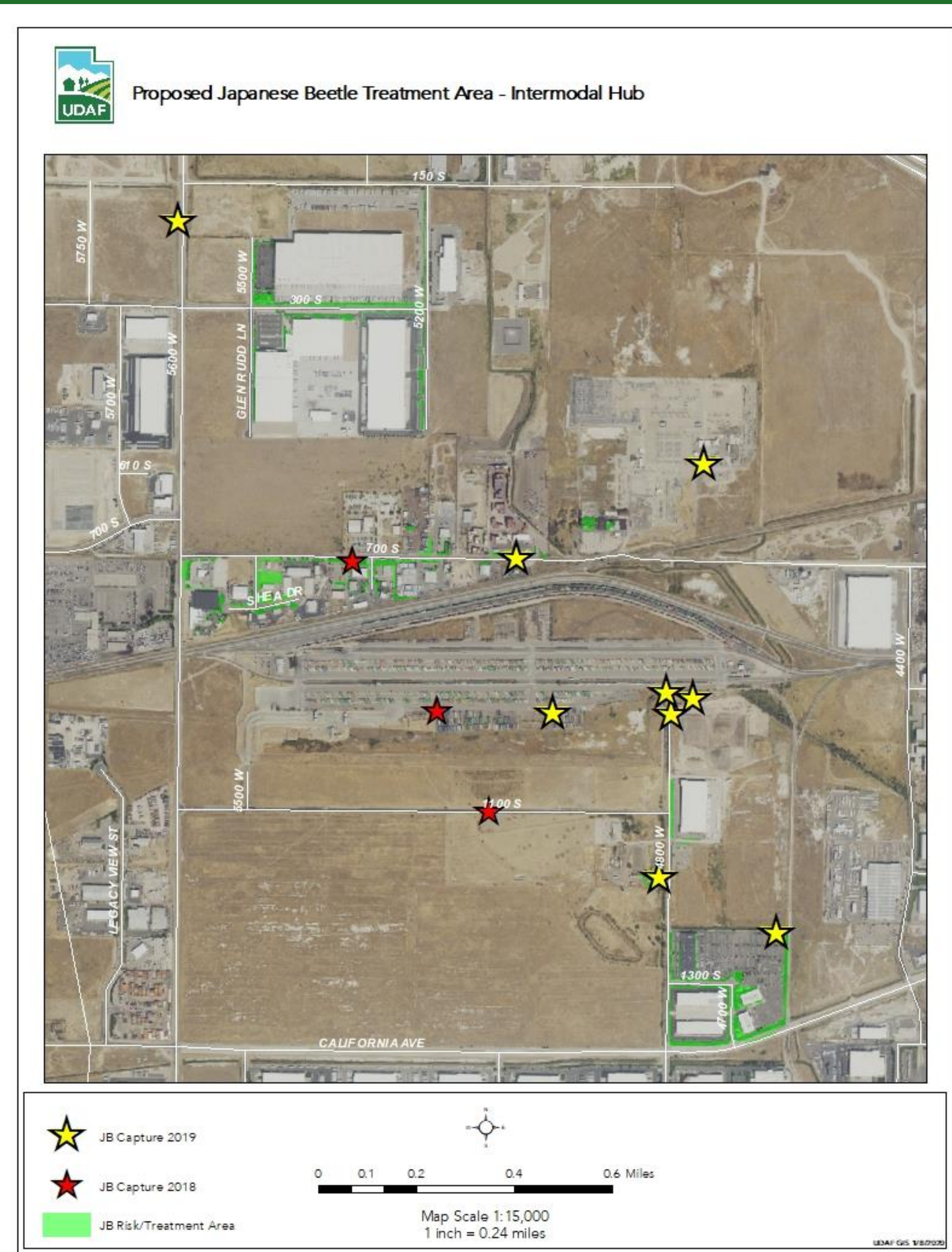
14 Treatable Acres



2020 Eradication SLC Industrial District

7 Female
3 Male

19 Treatable Acres



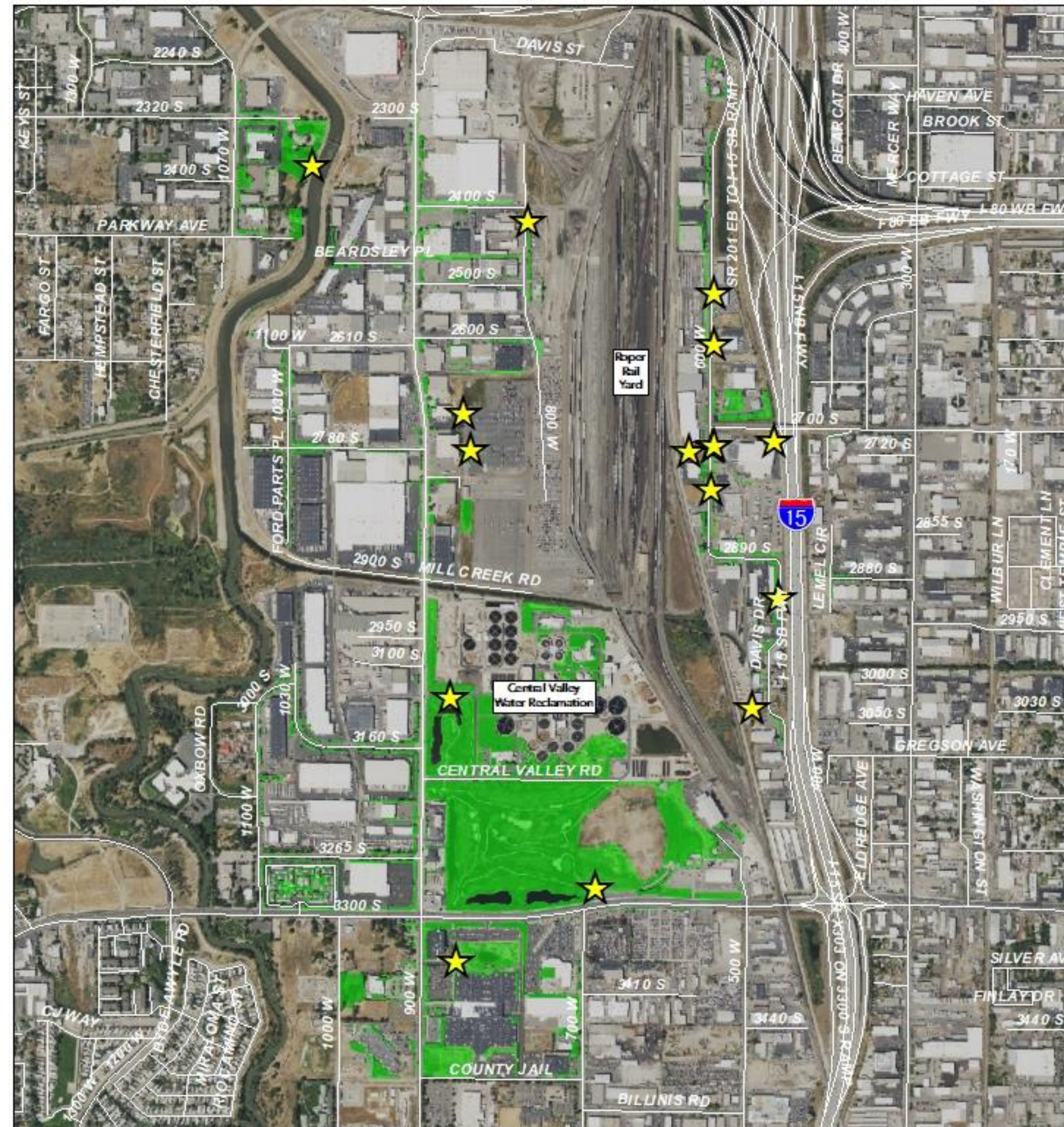
2020 Eradication SSLC Industrial District

18 Female
1 Male

131 Treatable Acres



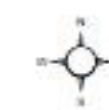
Proposed Japanese Beetle Treatment Area - Roper Yard/Central Valley Water Reclamation



JB Capture 2019



JB Risk/Treatment Area



0 0.1 0.2 0.4 0.6 Miles

Map Scale 1:16,500
1 inch = 0.26 miles

UDAF GIS 1/8/2020

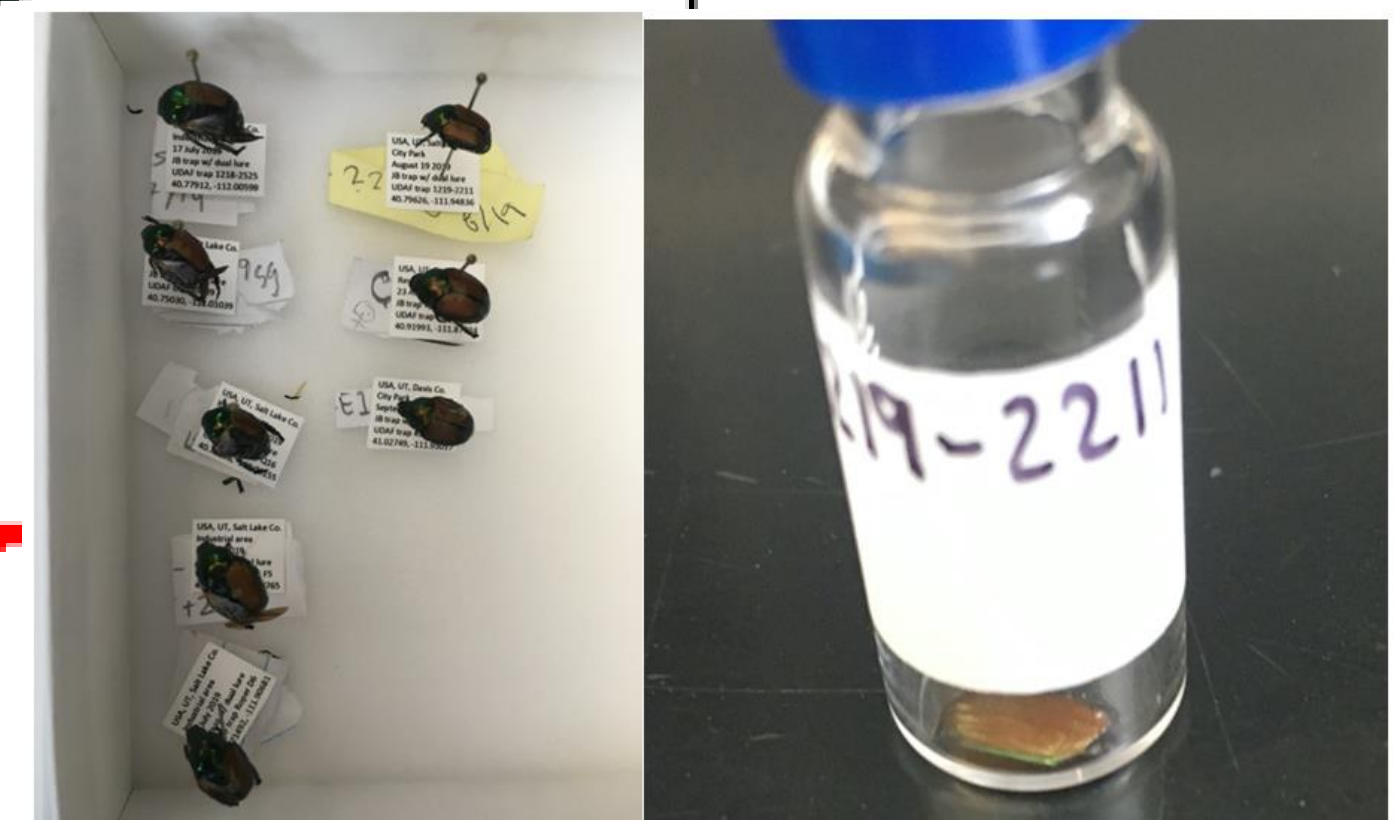
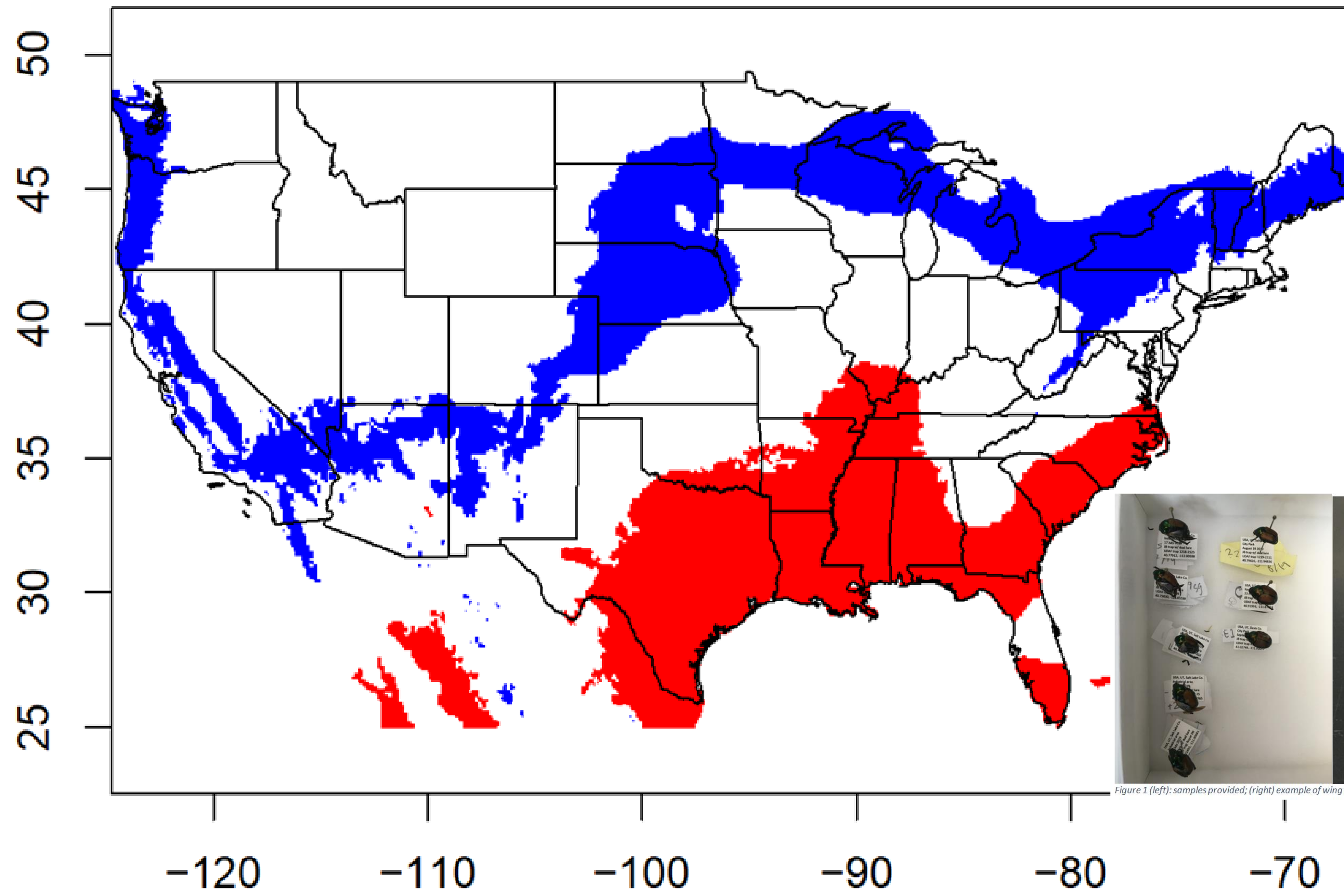


Figure 1 (left): samples provided; (right) example of wing cover excised from specimen

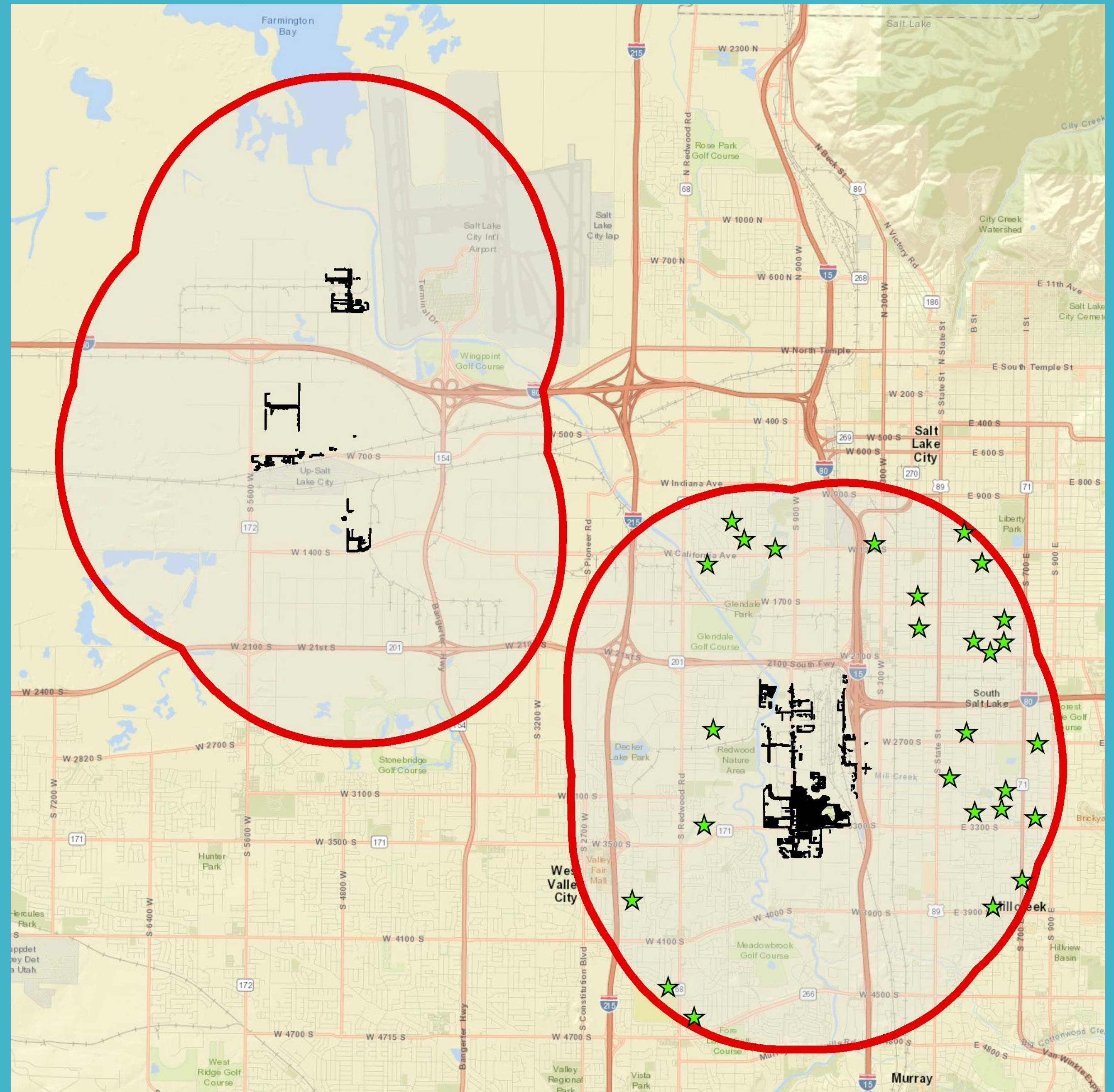
Figure 3. Isoscape of predicted precipitation from beetle d2H data; blue is from beetle data in the range (-123, -106); red is from the range (-80, -60). Model taken from Hungate et al. (ibid.) using mean annual global precipitation isotope data from OIPC database 3.2. Howa Analysis & Consulting, LLC 2020 Sample Comparison Report

2020 Eradication Pollinator Protection

Black: Treatment Areas

Red: 2 Mile Buffer


Stars: Beehive Locations




2020 Eradication Pollinator Protection

- ❖ Imidacloprid is highly toxic to bees (>20ppb)
- ❖ Both Imidacloprid and Acelepryn are highly toxic to aquatic invertebrates and other aquatic organisms

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.



Look for the bee hazard icon in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators. Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:
<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

2020 Eradication Pollinator Protection

Looked at mortality &
tested for residues in:

- ❖ Honey
- ❖ Pollen
- ❖ Bees

Imidacloprid Residue Analysis of Honeybee Materials in 2007 Orem City Japanese beetle Eradication Utah Department of Agriculture & Food

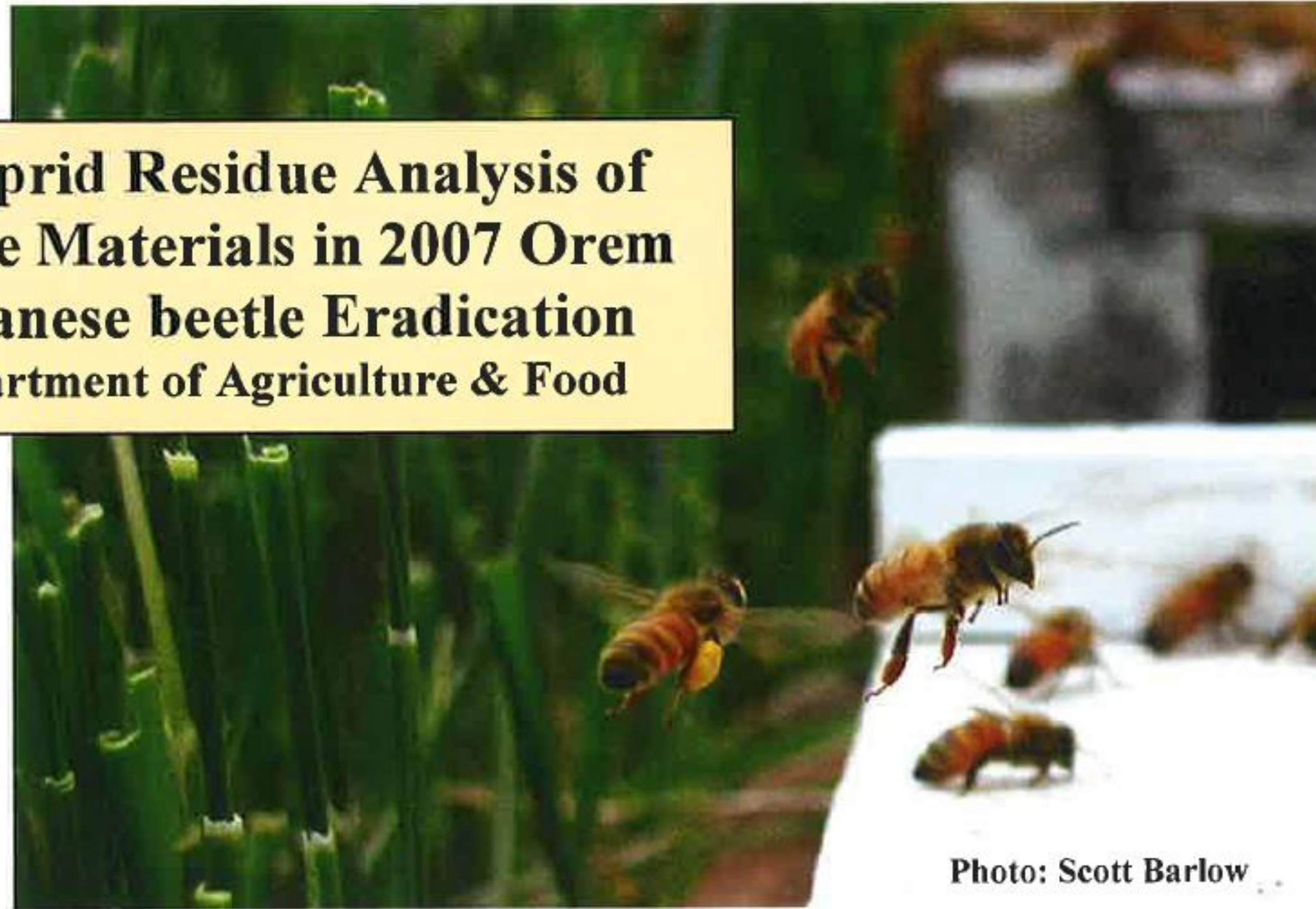


Photo: Scott Barlow

Introduction

The Japanese beetle, *Popillia japonica*, was introduced in the USA almost 100 years ago. Since then, it has become an economically damaging pest and continues to spread with nursery stock and turf. Even under the best of circumstances with diligent inspections and border surveillance, these materials are moved extensively and present a constant risk. The Japanese beetle feeds on over 300 plant species, many of which are in Utah. It also tolerates our climate and could readily establish here, to the detriment of a \$124

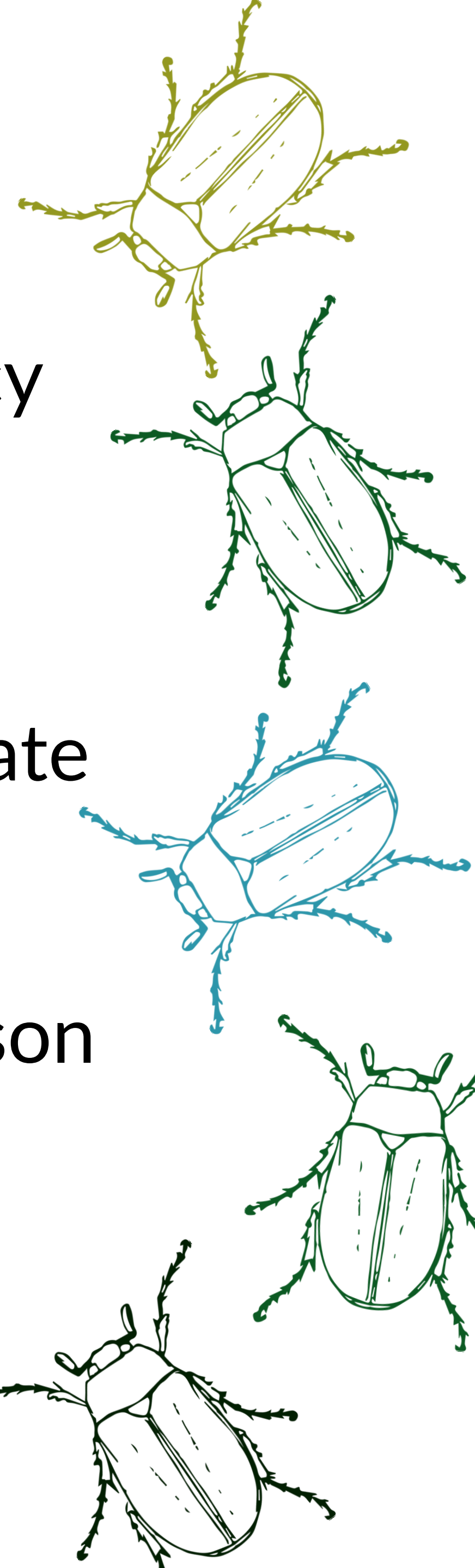
2020 Eradication Program

Commissioner to declare Insect Infestation Emergency

Treatment April 2020 (Weather Dependent)

Additional efforts working with stakeholders in moderate risk areas (Rose Park, Kaysville and Centerville)

Additional treatments may be required later in the season and in subsequent years.



Contact Information

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State Entomologist
801-538-7184 – kwatson@utah.gov

THANK YOU



References – Japanese Beetle 2020 PPT VI.0

Burfitt, C.E. (2015). How we stopped the Japanese Beetle. Utah Department of Agriculture and Food. <https://ag.utah.gov/home/blog/518-how-we-stopped-the-japanese-beetle.html> [accessed 8 December 2018]
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Potter, D.A and D.W. Held (2002). Biology and Management of the Japanese Beetle, Annual Review of Entomology. Vol. 47
USDA APHIS (2000). Managing the Japanese Beetle. A Homeowner's Handbook. US Dept. Agric. <http://www.pueblo.gsa.gov/cictext/housing/japanese-beetle/jbeetle.htm> [accessed 13 December 2018]
Howa Analysis & Consulting, LLC 2020 Sample Comparison Report