

Salt Lake City Mosquito Abatement District

Neil Vickers, PhD

Salt Lake City Council Work Session
13 July 2021





Alex Altherr Grace Anderson Sean Anderson Ella Burnham Bryan Chase MJ Chevesich Zach Downard Ariana Fairbanks Kayla Godfrey Drue Hansen



Todd Haskew Kai Herron River Herron Jim Hickman Nick Hill Allyson Jelitto Hanna Packard Aubrey Passey Mason Seelos Elise Stockham



Annie Summerhays Seth Summerhays Jack Temme Mark Tingey Kate Vanoverbeck Joanna Wang Thomas Widmer Jonah Willis Kirsten Wilson Forrest Young



\$3.8 million dollar budget

10 full time staff, ~30 seasonal staff

Davis County Line



Salt Lake City Mosquito Abatement District Service Area



Jordan River

Davis County Line ~ 2600 N.

Tooele County Line

700 N.

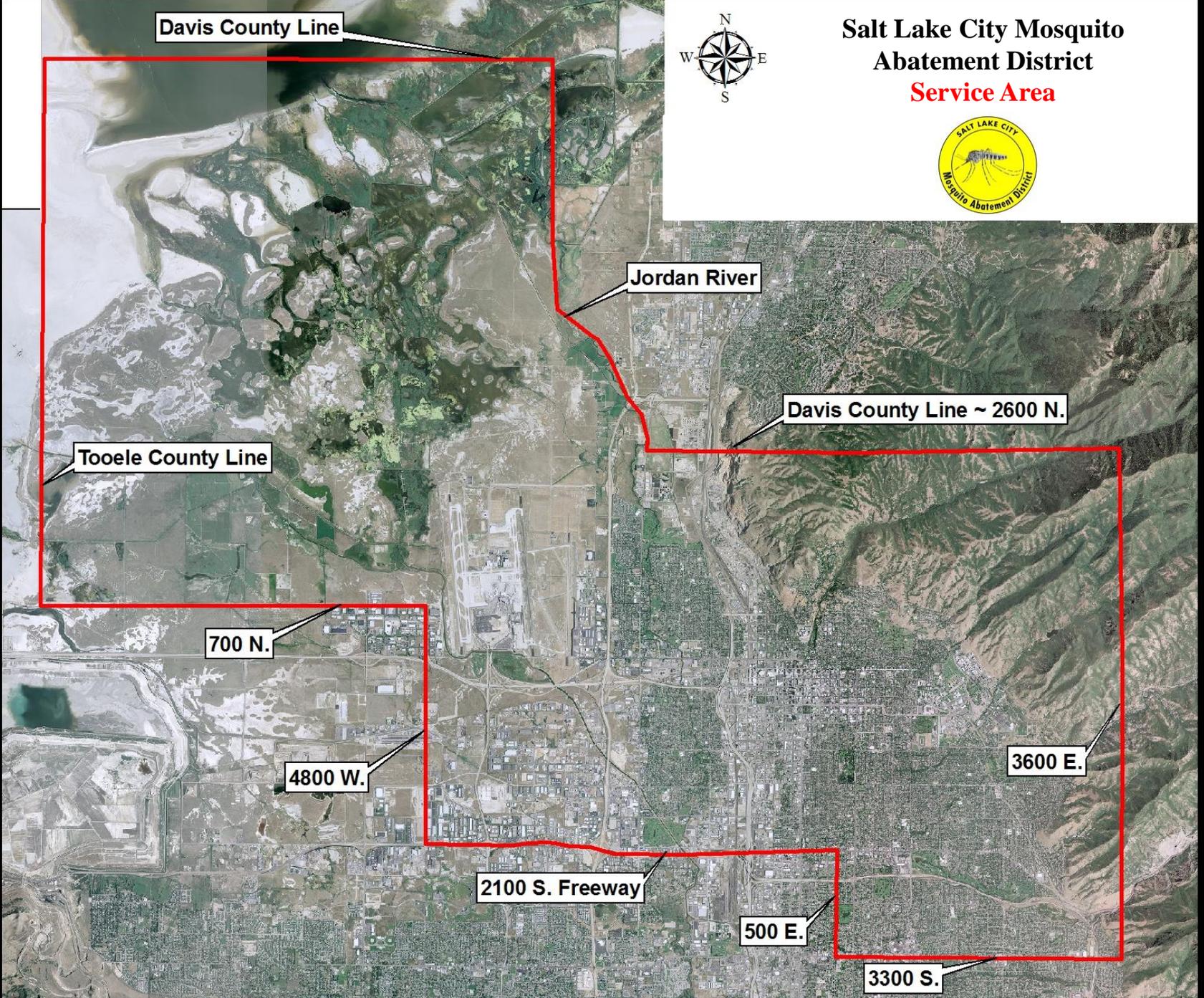
4800 W.

3600 E.

2100 S. Freeway

500 E.

3300 S.



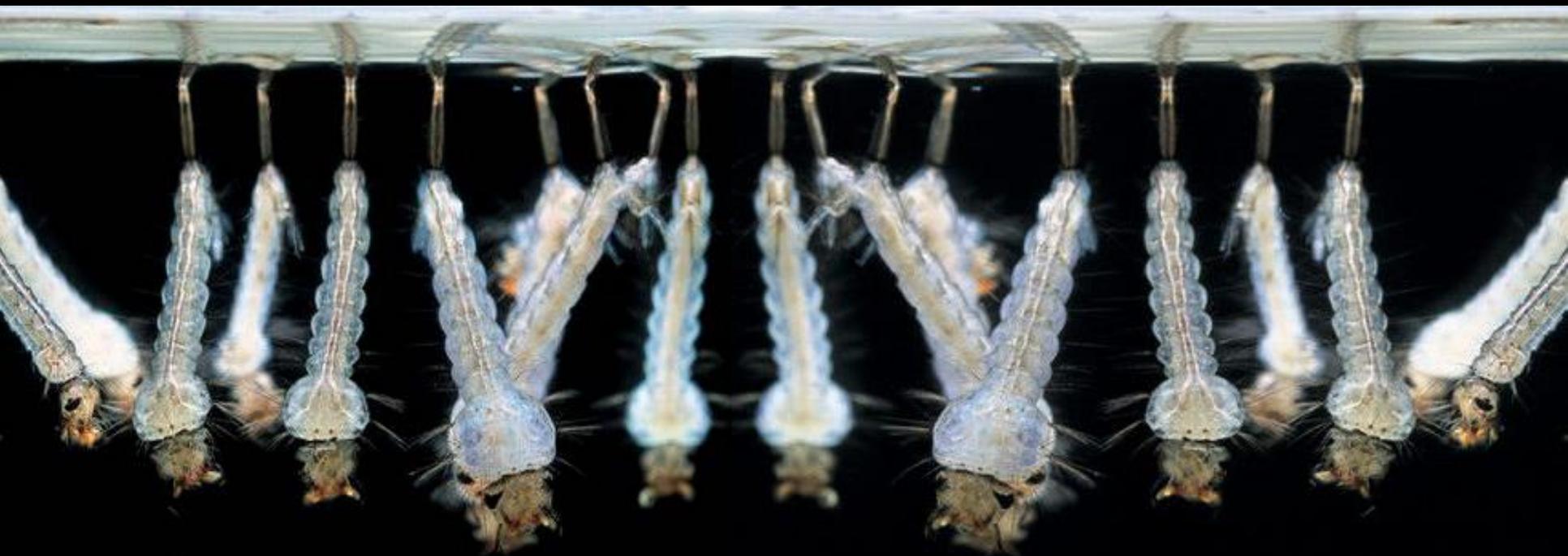
Integrated Mosquito Management (IMM)

Comprehensive preventive/control strategy

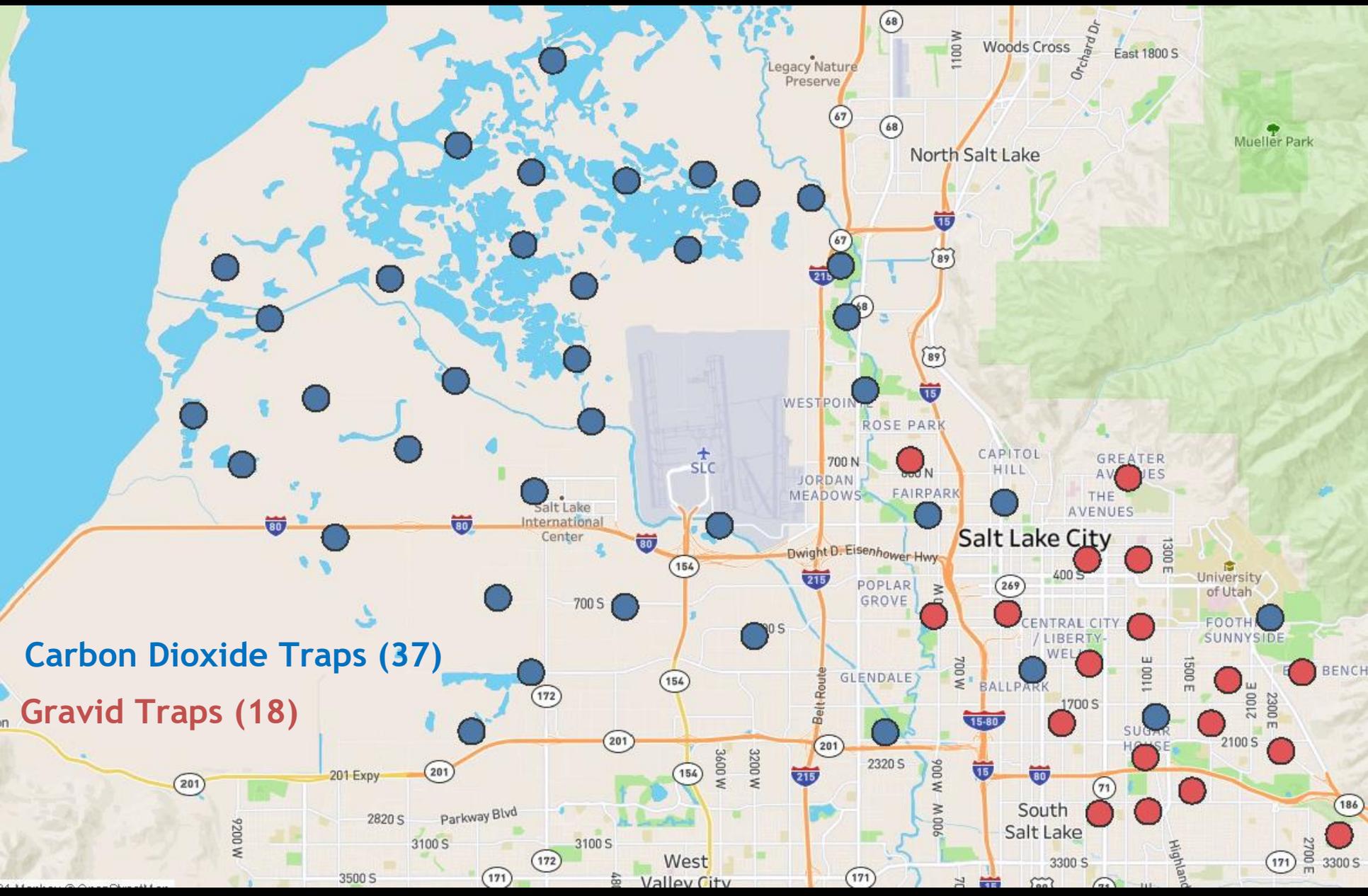
Knowledge based (bio/ecology of pests)

Surveillance (SCIENCE) driven

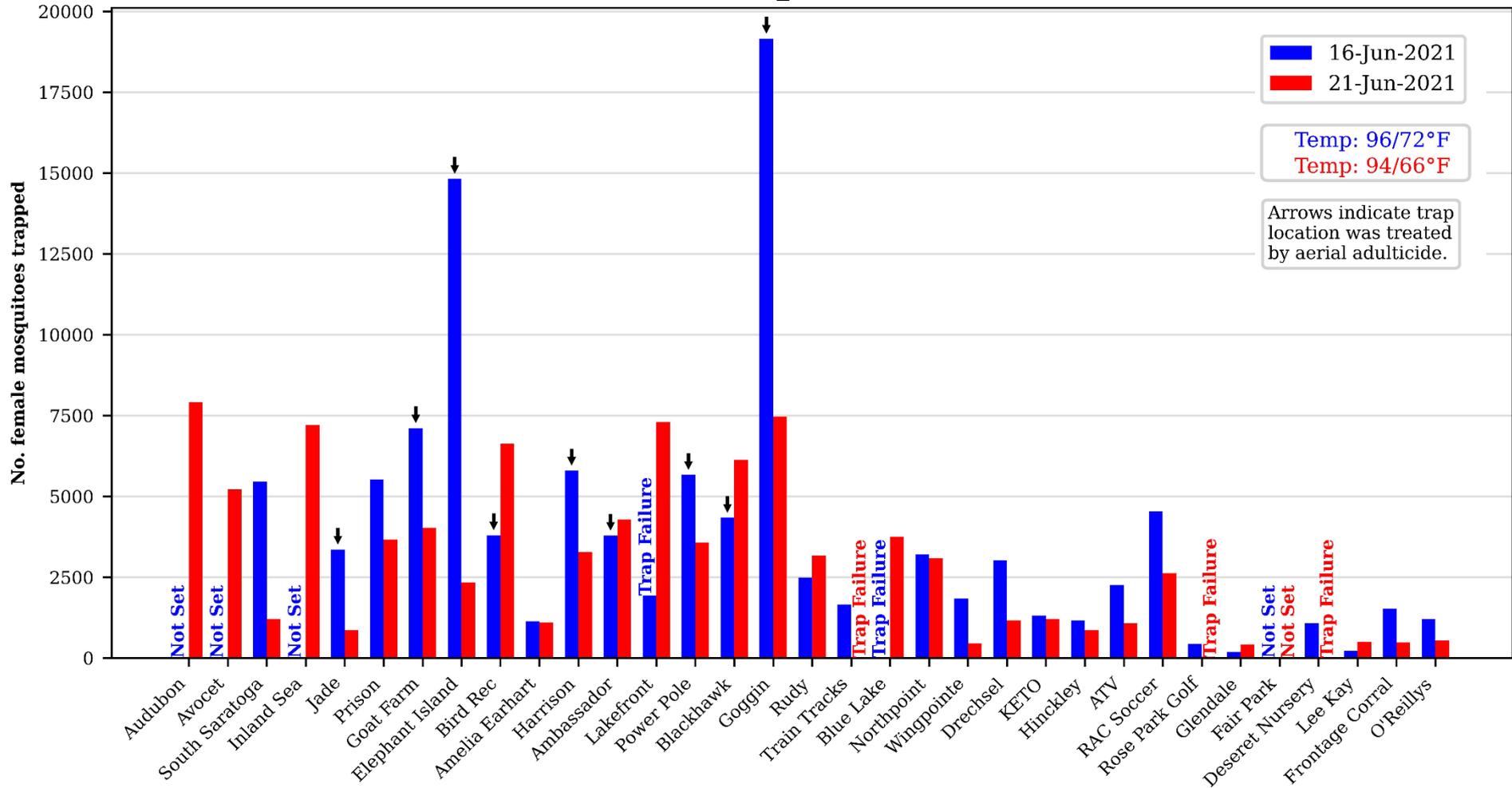
Resource (\$) & environmentally dictated



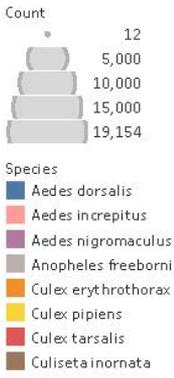
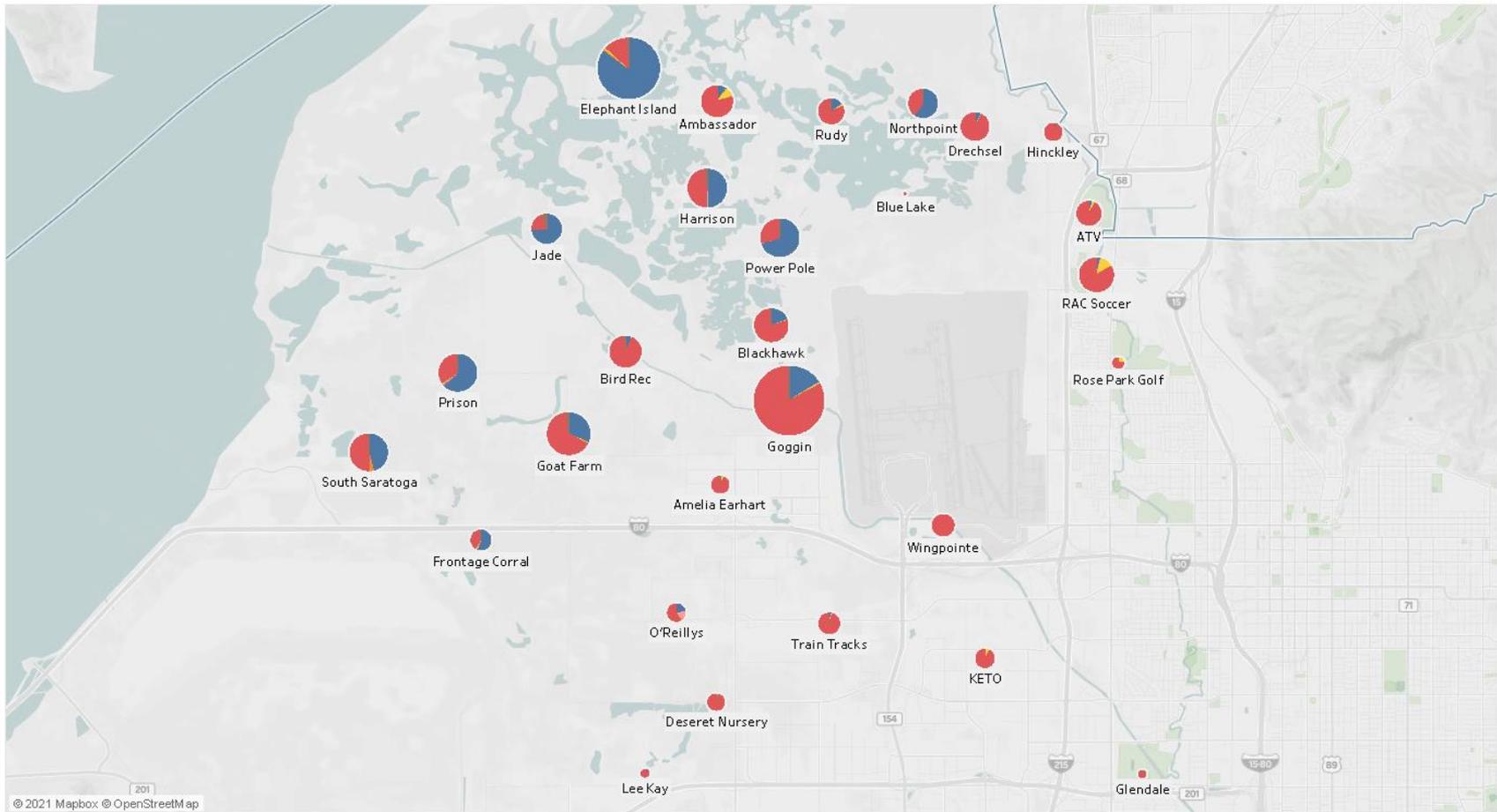
Adult Mosquito Surveillance



CO2 Trap Locations



Species Abundance by CO2 Trap
16 June 2021

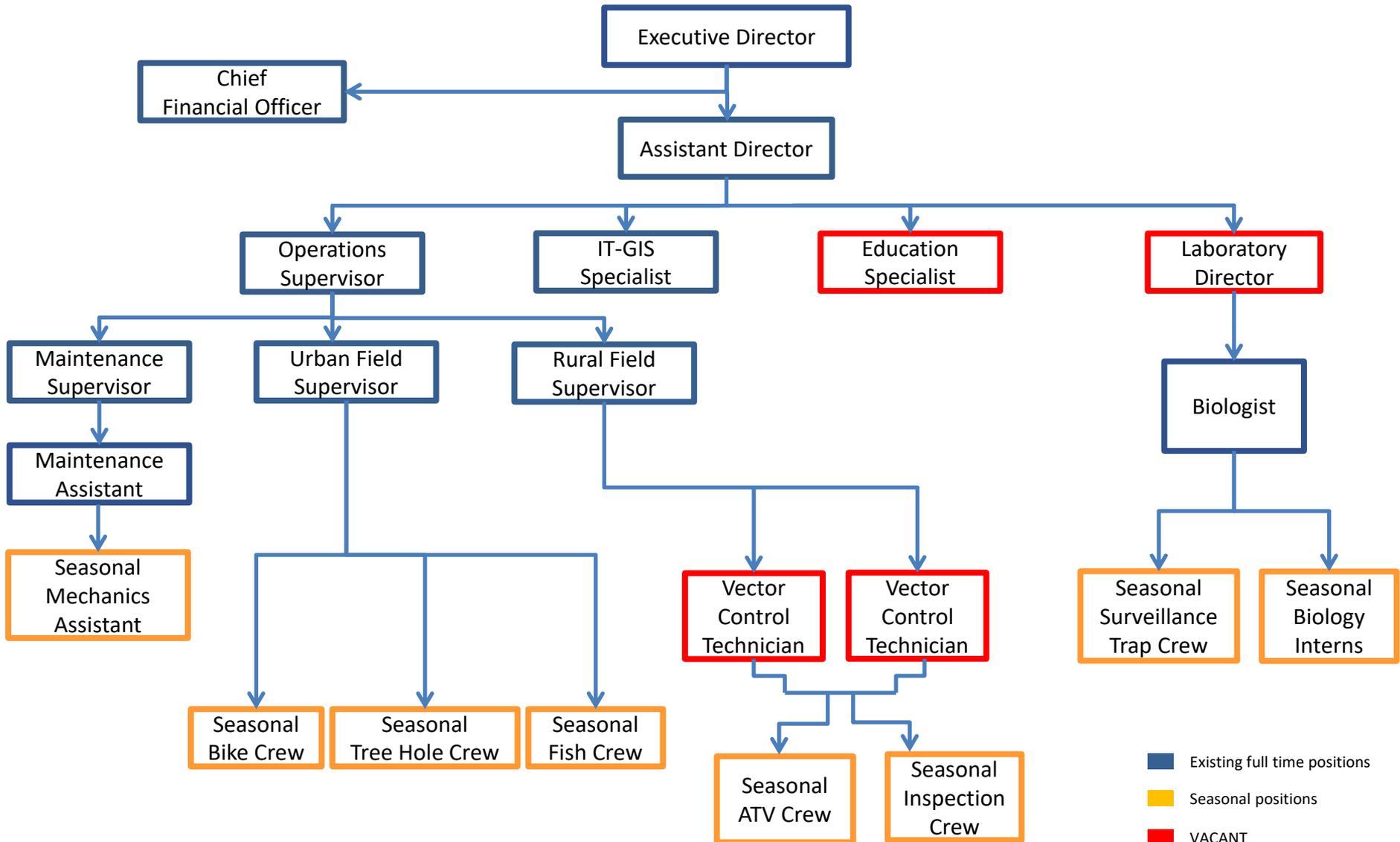


Tax Increase Justification

1. Personnel Growth
2. Environmental Accountability and Research
3. Precision Aerial Control
4. Certified Tax Rate and Inflation



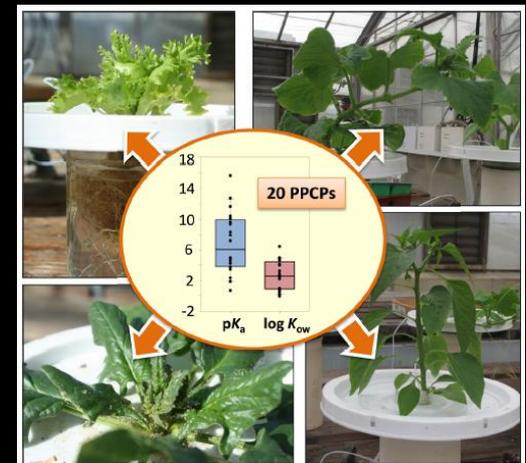
1 - Personnel: Table of Organization



2 - Environmental Accountability & Research



Dr. Daniel Mendoza (Univ Utah)
Atmospheric Modeling



Dr. Jay Gan (UCR)
Environmental Monitoring



Audubon Gillmor
Sanctuary
Midge Monitoring

Various Projects

TIKI Torch Studies



Non-target Studies

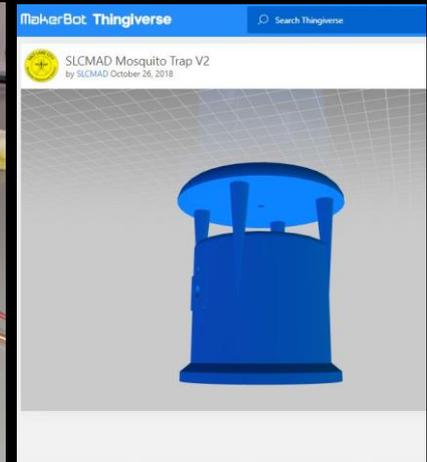


Malaria Control



THE UNIVERSITY OF UTAH
**MECHANICAL
ENGINEERING**

3D Printers and Traps



Various Projects Continued

Spartan Mosquito Eradicator



Sugar Alcohols



Automated Traps



Mosquito Dispersal Studies



Unmanned Aerial Systems





Aedes aegypti
(Yellow Fever Mosquito)

Vector Control, Pest Management, Resistance,

High Resistance to *Bacillus sphaericus* to Other Common Pesticides in *Culex* (Culicidae) from Salt Lake City, UT



OPEN Infrared light sensors permit rapid recording of wingbeat frequency and bioacoustic species identification of mosquitoes

Vector Control, Pest Management, Resistance, Repellents

Journal of Medical Entomology, XX(X), 2020, 1–6

doi: 10.1093/jme/tjaa214

Research

OXFORD

Trap Comparison for Mosquito (Diptera: Culicidae)

No Evidence That Salt Water Ingestion Kills Adult Mosquitoes (Diptera: Culicidae)

Donald A. Yee,^{1,7} Catherine Dean,¹ Cameron Webb,^{2,3,8} Jennifer A. Henke,⁴ Gabriela Perezchica-Harvey,⁴ Gregory S. White,⁵ Ary Faraji,^{5,9} Joshua D. Macaluso,⁶ and Rebecca Christofferson⁶

Special Collection: Two Decades of Mosquitoes in the United States

Journal of Economic Entomology, XX(XX), 2021, 1–14

doi: 10.1093/jee/toab107

Research



ENTOMOLOGICAL SOCIETY OF AMERICA
SHARING INSECT SCIENCE GLOBALLY

OXFORD

West Nile Virus Mosquitoes

Ilia Rochlin,^{1,5,9} Ary Faraji,² Krystal L. ...

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Subject Editor: William Reisen

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Biological and Microbial Control

Toys or Tools? Utilization of Unmanned Aerial Systems in Mosquito and Vector Control Programs

Ary Faraji,^{1,9,10} Eric Haas-Stapleton,^{2,10} Brad Sorensen,¹ Marty Scholl,³ Gary Goodman,³ Joel Buettner,⁴ Scott Schon,⁴ Nicholas Lefkowitz,⁵ Colin Lewis,⁵ Bradley Fritz,⁶ Clint Hoffman,⁷ and Greg Williams^{8,10}

3 - Precision Aerial Control



4 - Certified Tax Rates

	2017	2018	2019	2020	2021
Tax Rate	0.00016	0.000141	0.000133	0.000122	0.000115
Budget	\$3,027,463	\$3,363,270	\$3,621,250	\$3,684,128	\$3,736,002
% Increase from Previous Year	2.60%	3.10%	1.4%*	1.60%	1.40%
CPI	3.20%	5.10%	3.10%	2.90%	2.5%**
Annual Cost per \$100k Home Value	\$7.20	\$6.35	\$7.32	\$5.49	\$5.18

* Annexations w/ SSLVMAD/Magna MAD

** as of March 2021

Projected Annual Property Taxes

75% Tax Increase

	Current Rate (0.000115)	~Proposed Rate (0.00020)	Price Increase
\$437,200 House	\$22.63 year (\$1.89 month)	\$39.35 year (\$3.28 month)	\$16.72
\$1,000,000 Business	\$115.00 year (\$9.58 month)	\$200.00 year (\$16.67 month)	\$85.00

Average home value in SLC \$437,200 (25 May 2021)