

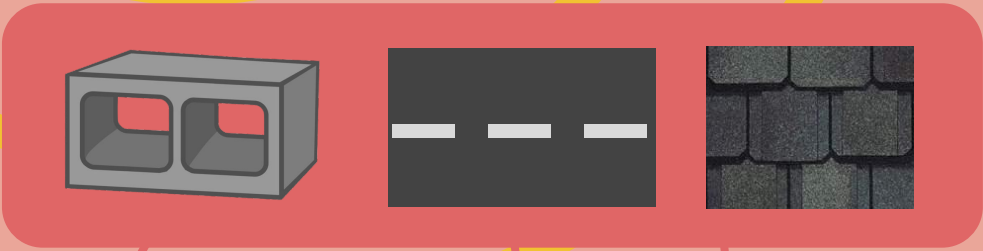
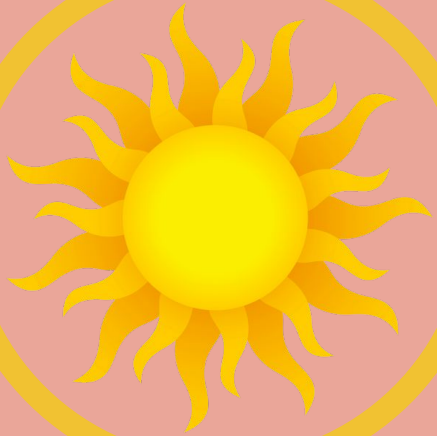
Scientific and Historical Perspectives on Heat in South Framingham and What We Can Do To Help



Molly Hauri, Miles Wennik, Keira Madden, and Kaylin Palmer

URBAN HEAT ISLANDS

TRAP HEAT IN THE DAY AND RELEASE IT AT NIGHT.



RISKS OF UHI

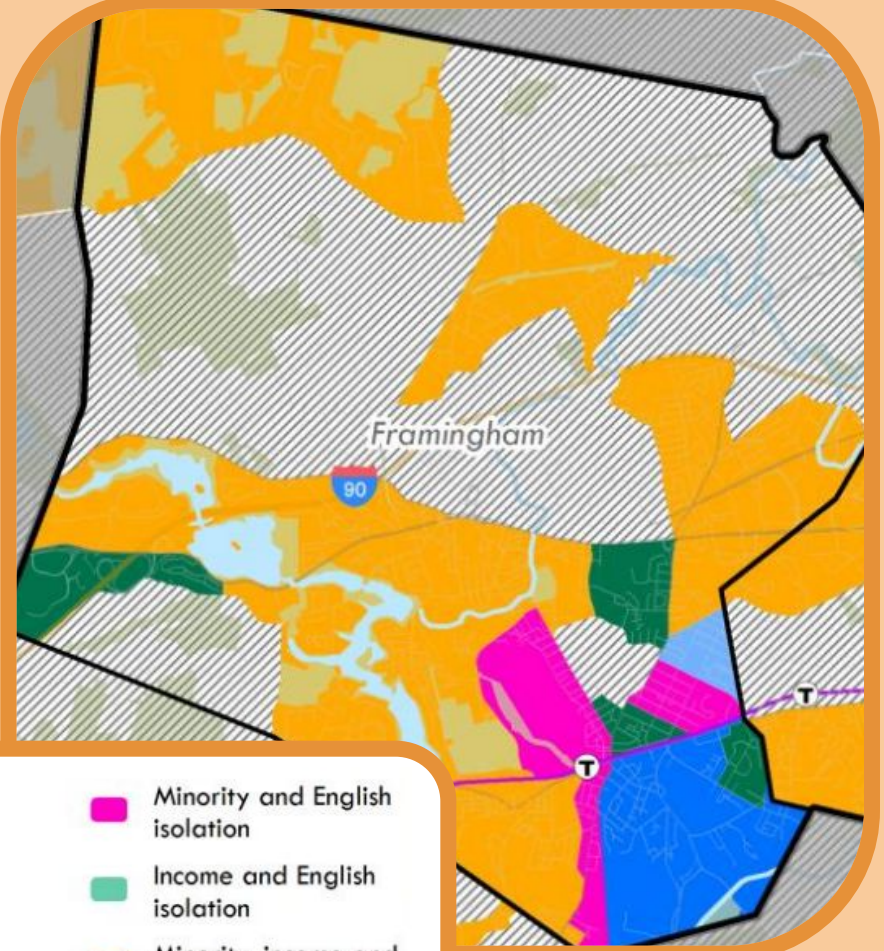
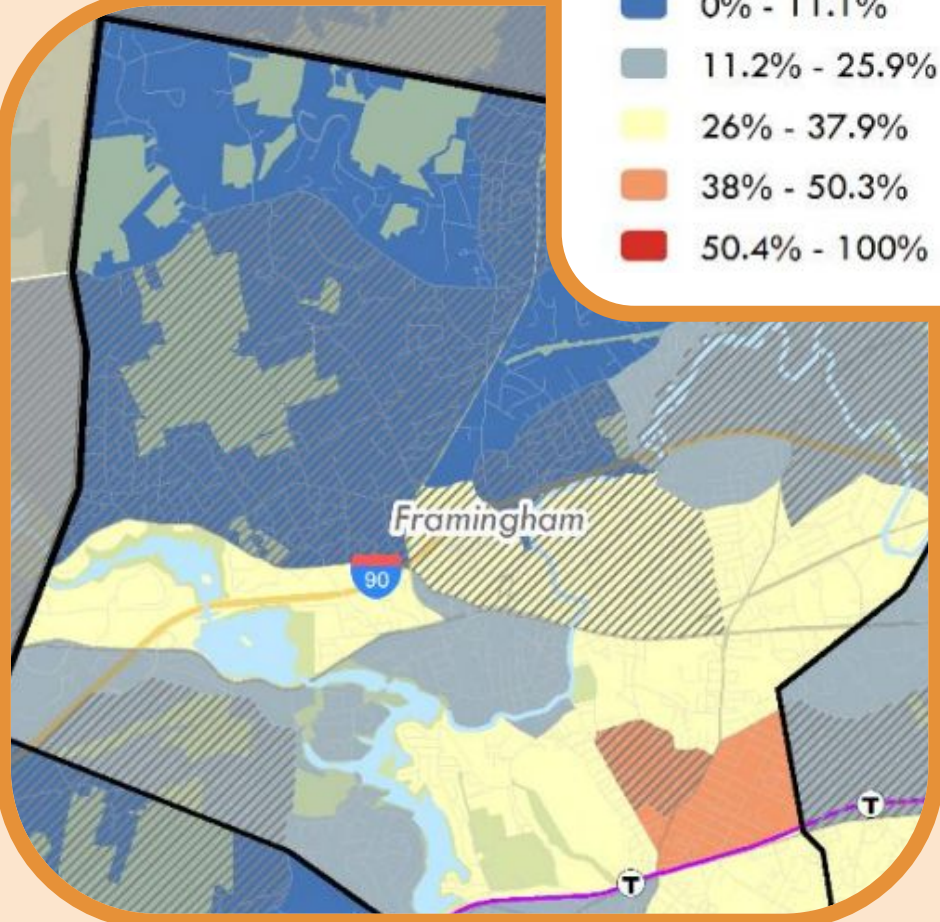
over 67,000

**heat related emergency visits
occur every year in the US**

SOUTH FRAMINGHAM IS AN URBAN HEAT ISLAND

Percent Heat Island Temperature Increase for Housing Units

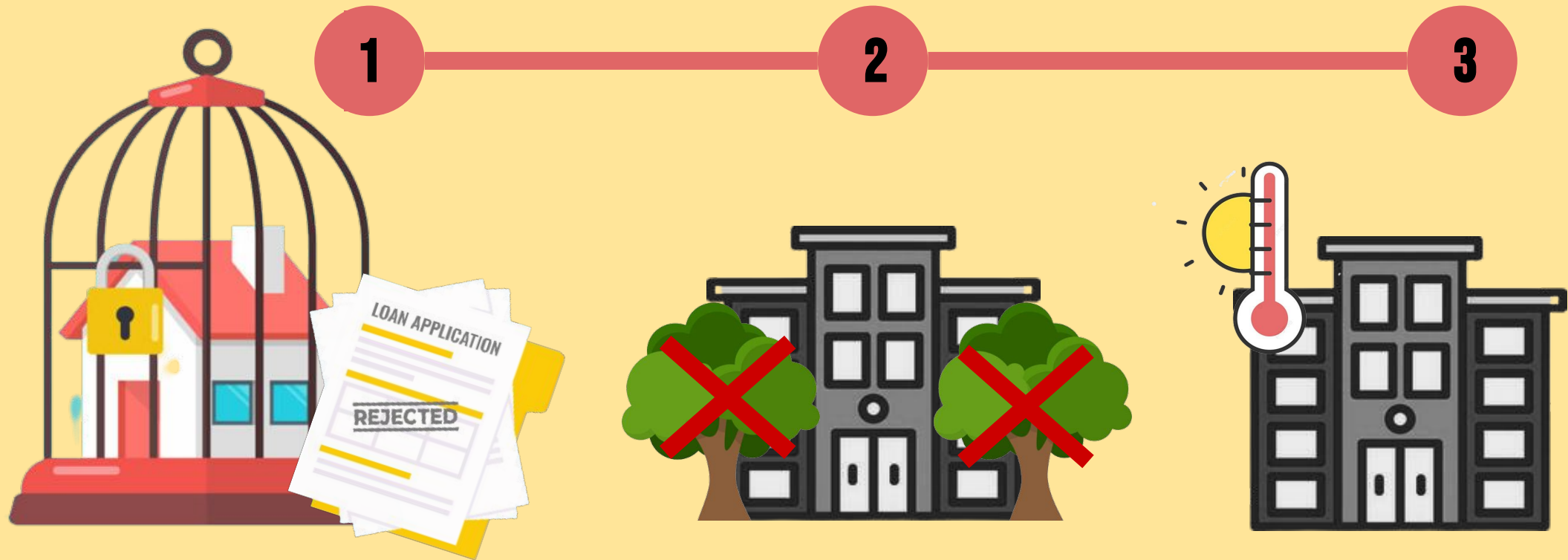
- 0% - 11.1%
- 11.2% - 25.9%
- 26% - 37.9%
- 38% - 50.3%
- 50.4% - 100%



EJ Criteria, by Block Group

- Minority
- Income
- English
- Minority and Income
- Minority and English isolation
- Income and English isolation
- Minority, income and English isolation

REDLINING



A **history of discrimination** forced these populations into less desirable areas, which developed into **urban heat islands**

OUR VISION

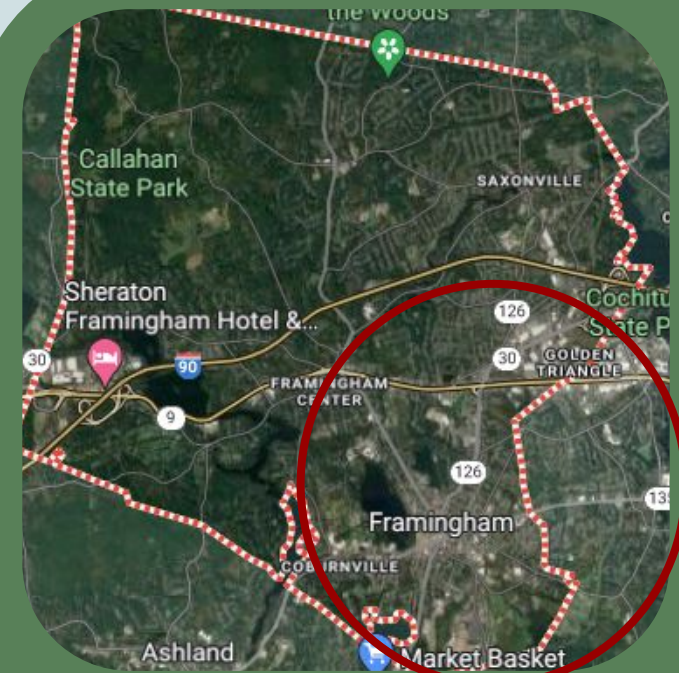
South Framingham 5 years from now...

Children
will play



Athletes
will succeed

Connections will be made

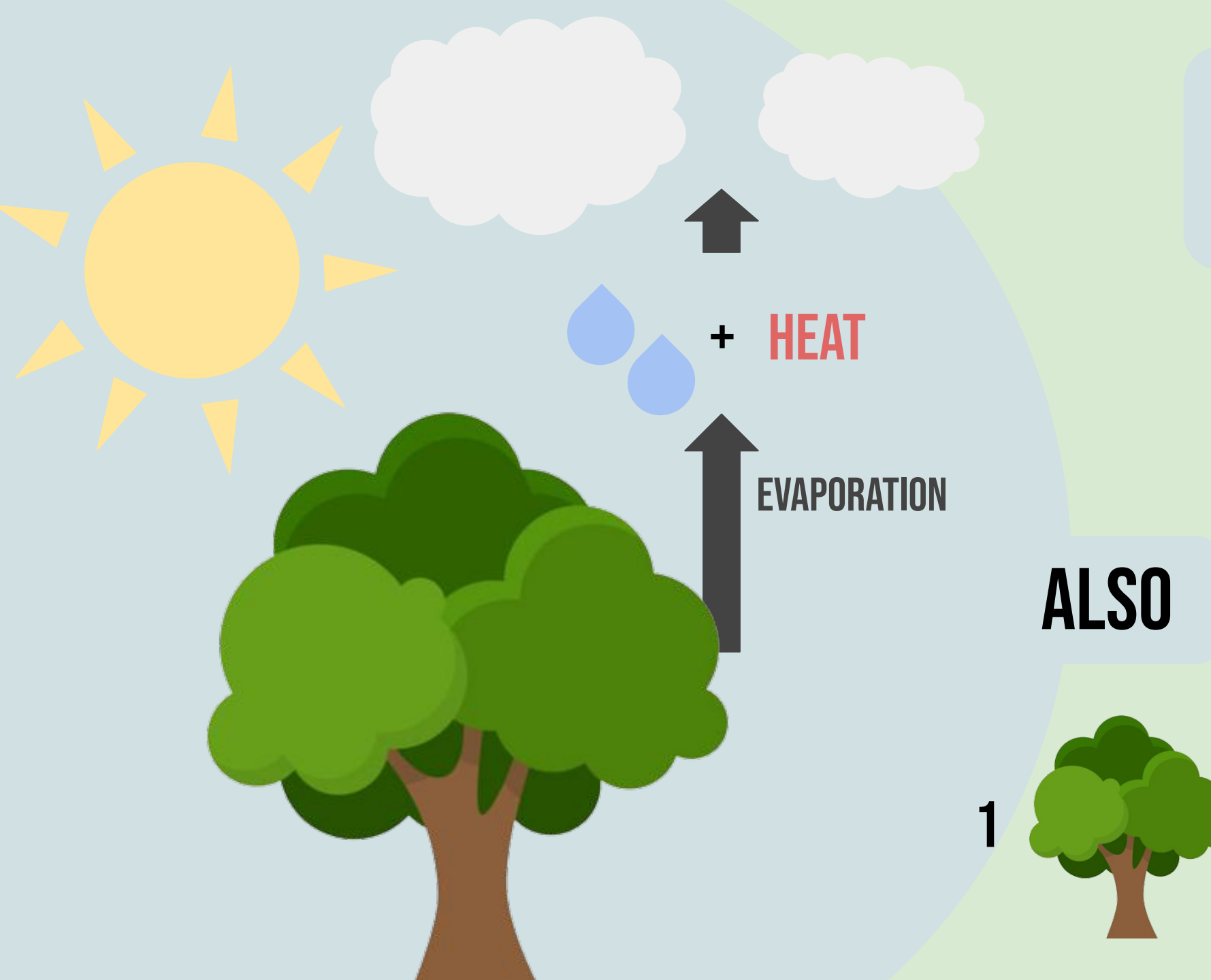


OUR PROPOSAL

Over time, we want each city block in South Framingham to reach **40% tree coverage**



WHY TREES?



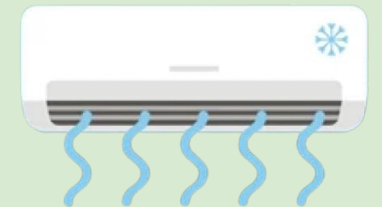
ALSO

1



=

5X



Trees perform **evapotranspiration** which sends heat away as water evaporates from the tree

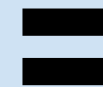
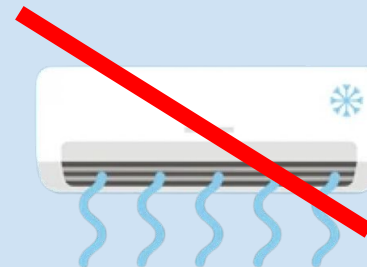
HOW WILL SOUTH FRAMINGHAM BENEFIT?

- Walkable neighborhoods will let residents save money on gas



- Less heat-induced illness

- Less air conditioning use



RECOMMENDATION TO THE CITY OF FRAMINGHAM



Opportunities for
Volunteers (high schoolers)

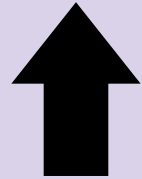


40 % tree coverage

IMPORTANCE OF ENLISTING VOLUNTEERS



Our petition



OUR SOURCES

- [Heat Island Effect](#)
- [Metro West Climate Equity Project](#)
- [Heat and Health Tracker - CDC](#)
- [Immerse Yourself in a Forest for Better Health - Department of Environmental Conservation.](#)
- [Interactions between Tree Canopy Cover and Impervious Surfaces](#)
- [Using Trees and Vegetation to Reduce Heat Islands](#)
- [Analysis of Impediments to Fair Housing Choice](#)

ACKNOWLEDGEMENTS

We would like to thank Framingham State University and the Christa McAuliffe Center for Integrated Science Learning for sharing space, staff, and resources.

We are grateful to the PETM program funders, including the MA STEM Pipeline Fund/Massachusetts Executive Office of Education, MassHire Metro South / West Workforce Board, MassHire Central Workforce Board, Blackstone Valley Education Foundation, YouthWorks - Commonwealth Corporation, the Institute of Museum and Library Services, the Sudbury Foundation, Main Street Group Foundation, and Framingham Cultural Council, Marlborough Cultural Council, and Milford Cultural Council, local agencies which are supported by the Mass Cultural Council, a state agency.

Finally, we would like to thank those individuals who contributed their time and expertise, including Michael Barros-Smith, Angie Alberto Escobar, Erin Creel, Brian Herr, Amy Johnston, Barry Keppard, Kat Kobylt, Shawn Luz, Alexa Mogck, Jerusha Nelson-Peterman, Jim Newman, Cara Pina, Sasha Shyduroff, Charlie Sisitsky, and Larry Stoodt.