

# Farming for the Future

Promoting Sustainable Urban Growth for the Central Valley

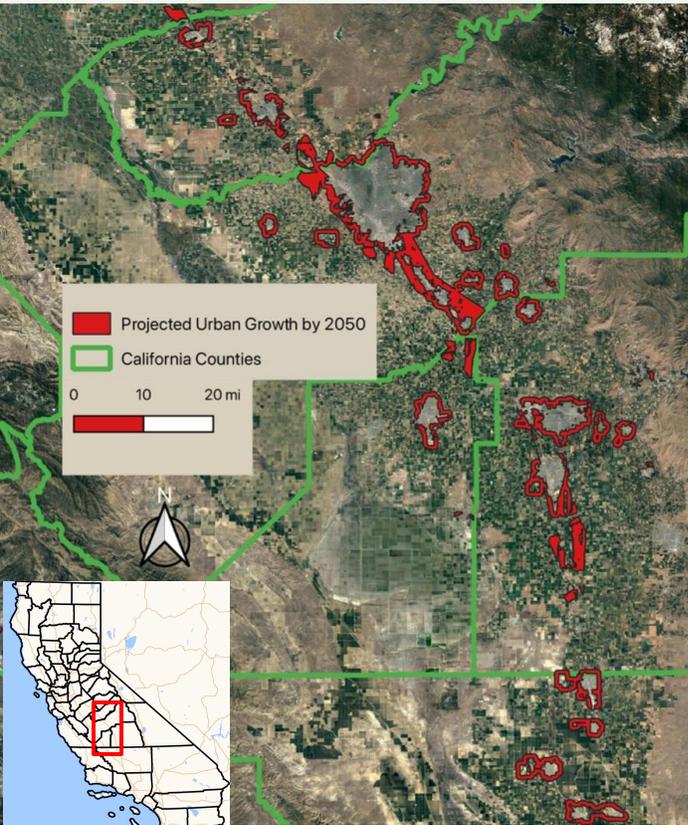
Julien Wright-Ueda | Maya Passmore | Sriram Sundararajan | Desmond Sieburth

## What's Going on in the Valley?

- By 2040, the population in the Central Valley is projected to triple to 15.6 million.<sup>1</sup>
- By 2050, urban development will expand by 1.6 million acres.

### This will:

- Come at the expense of current agricultural areas and green spaces.
- Cause biodiversity and ecosystem loss in an already impacted region
- Be detrimental to public health and food security.



## Why Green Space Matters:

- Can be urban farms, gardens and parks that can serve as agricultural and community hubs
- Provides habitat for local pollinators and bird species.
- Improves physical and mental wellbeing including happiness and energy levels<sup>2</sup>
- Improves urban air quality.<sup>3</sup>
- Urban agriculture improves food security.<sup>4</sup>

## Farming for the Future Goals

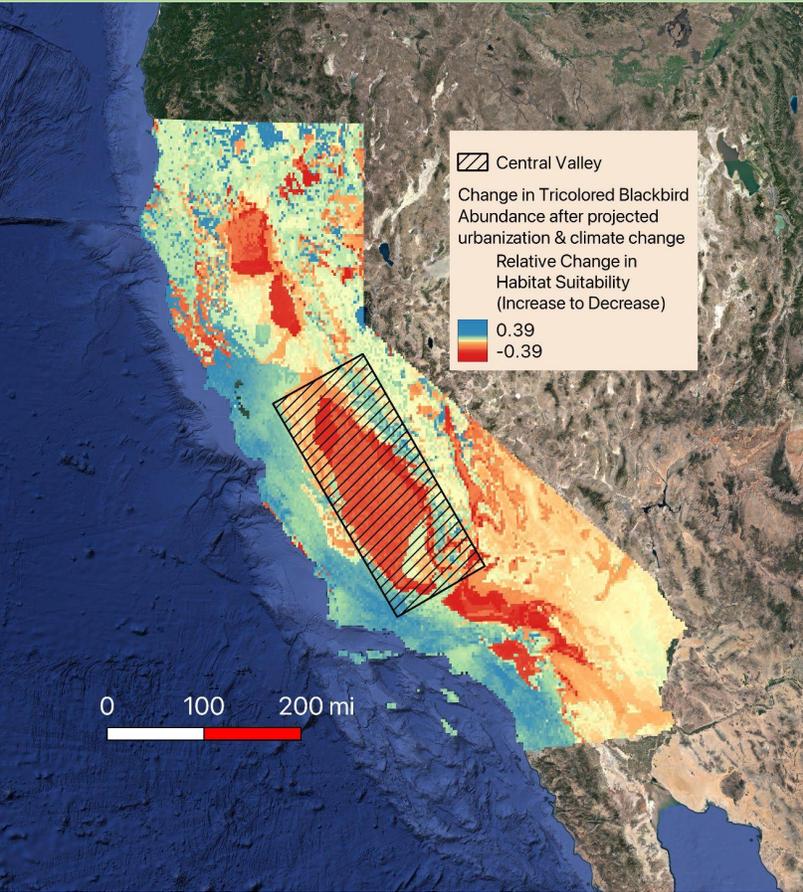
- Reserve a central green space with a native garden and a community farm for each neighborhood.
- Provide a city-central nursery and joint demonstrative native garden and urban farm
- Promote outreach and volunteer efforts in the gardens and farms for all community members.

Farming for the Future aims to promote food security and equitable access to affordable, nutritious, and culturally appropriate foods in emerging urban centers in synergy with California's 30x30 goals.

# Implementing Farming for the Future: State to Neighborhood Recommendations

- State**
  - Mandate that all new urban development has a minimum 30% of new incorporated land designated as green space.
- City**
  - Each city should have a central nursery so individuals, city businesses and neighborhoods can locally source native plants, and agricultural plants and livestock.
  - Each city nursery should have regionally appropriate native plants, and climate appropriate heritage livestock and heirloom plants.
  - Each city should have a demonstrative green space, with a native garden and urban farm that work with each neighborhood to maintain a city wide network of native plant and animal habitat to promote biodiversity and urban farms for food security, and to promote community engagement, and community supported agriculture programs.
  - Each city demonstrative green space should have a central community center to promote education on engagement with the environment and with our food system.
  - Each city should implement our neighborhood level recommendations, and provide a per capita fund for each neighborhood green space for maintenance, and an initial development fund for startup costs.
  - Promote native plant landscaping and "edible lawn" gardening, and maintain a diverse urban canopy of native and orchard trees.
  - Incentivize educational gardens in schools, and provide affordable, nutritious, culturally appropriate food to students.
- Neighborhood**
  - Should have a central green space, that is at least 30% of the neighborhood for each neighborhood, consisting of both a native plant garden and a community farm.
  - On site of each green space there should be a community center that promotes outreach and volunteer efforts, and provides educational opportunities for community members of all ages and backgrounds.
  - Ensure that all community members have equal access to green spaces and to affordable, nutritious, culturally appropriate food.

## Projected Tricolored Blackbird Range Loss: South Central California Case Study



- The Tricolored Blackbird is Endangered (IUCN) and only lives in California.
- To exemplify the importance of urban agriculture, we modeled the species' current distribution and its future range under projected urbanization and climate change.
  - Data from the Global Biodiversity Information Facility was combined with urbanization data and input into the MaxEnt R package.<sup>5</sup>
- The Tricolored Blackbird will lose 39% of its suitable habitat in the Southern Central Valley under projected urbanization and climate change.**
- Urban farms interspersed within growing residential spaces will decrease the loss of agricultural fields that currently provide food for Tricolored Blackbirds.<sup>6</sup>



## References

- American Farmland Trust. 1995. **Alternatives for future urban growth in California's Central Valley: the bottom line for agriculture and taxpayers.** Washington DC: American Farmland Trust; 128 p.
- Larson LR, Jennings V, Cloutier SA (2016) Public Parks and Wellbeing in Urban Areas of the United States. PLOS ONE 11(4): e0153211. <https://doi.org/10.1371/journal.pone.0153211>
- Kuo M. (2015). How might contact with nature promote human health? Promising mechanisms and a possible central pathway. *Frontiers in psychology*, 6, 1093. <https://doi.org/10.3389/fpsyg.2015.01093>
- McClintock, N. (2008). From Industrial Garden to Food Desert: Unearthing the Root Structure of Urban Agriculture in Oakland, California. UC Berkeley: Institute for the Study of Societal Issues. Retrieved from <https://escholarship.org/uc/item/1wh3v1s>
- Steven J. Phillips, Miroslav Dudik, Robert E. Schapire. [Internet] Maxent software for modeling species niches and distributions (Version 3.4.1) Available at [https://biodiversityinformatics.amnh.org/open\\_source/maxent/](https://biodiversityinformatics.amnh.org/open_source/maxent/)
- Meese, R. J. (2013). Chronic low reproductive success in the colonial tricolored blackbird from 2006–2011. *Western Birds*, 44, 98–113.

