

USDA Forest Service

# URBAN FOREST CONNECTIONS

*webinar series*

Second Wednesdays | 1:00 – 2:15 pm ET

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# COMMUNITY FOOD FORESTS: FRUITFUL AND FIRE-SMART



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# Community Food Forests

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## **Committee:**

John Munsell- Forest Resources and Environmental Conservation &  
Forest Management Extension Specialist

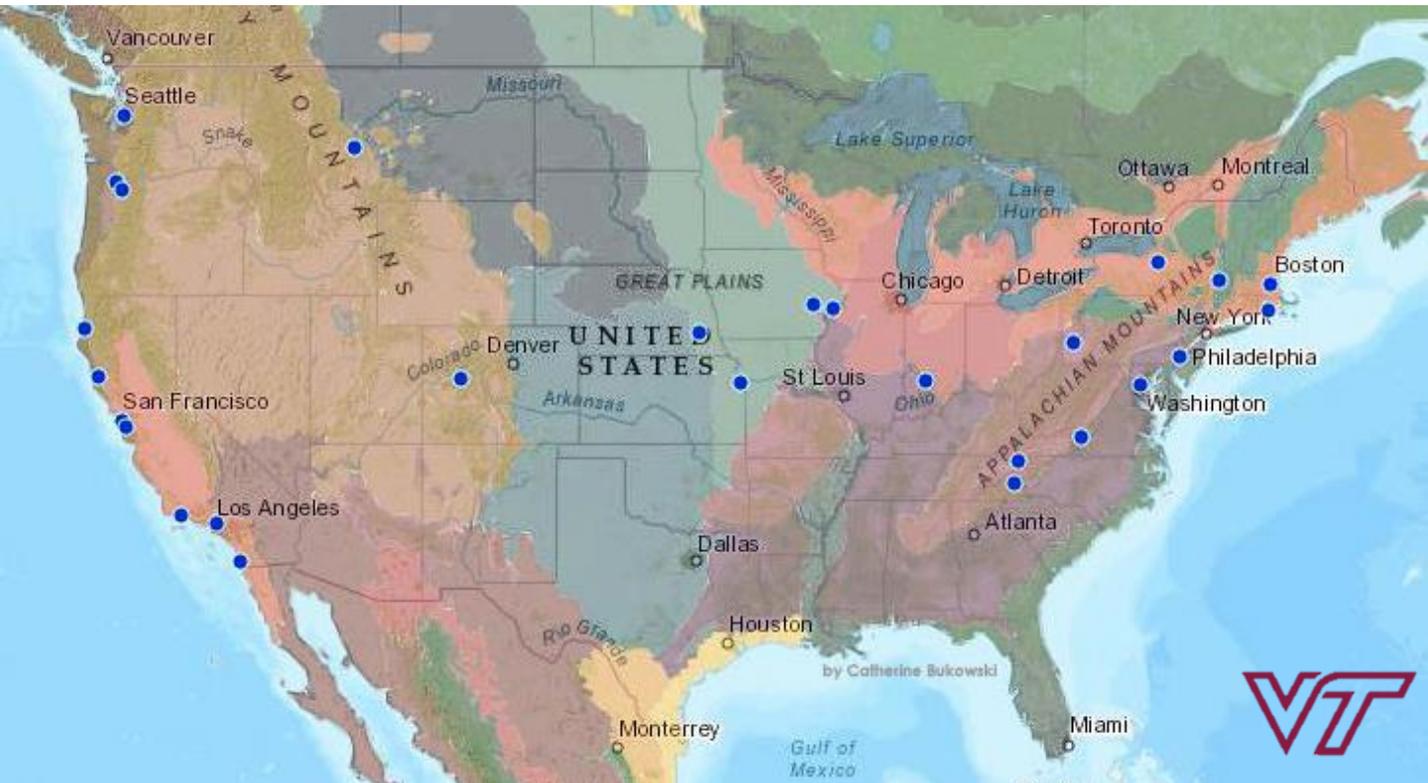
Paul Kelsch- Department of Landscape Architecture

Kim Niewolny- Department of Agricultural, Leadership, and  
Community Education in the College of Agriculture and Life Sciences

Jim Chamberlain- Southern Research Station, USDA Forest Service

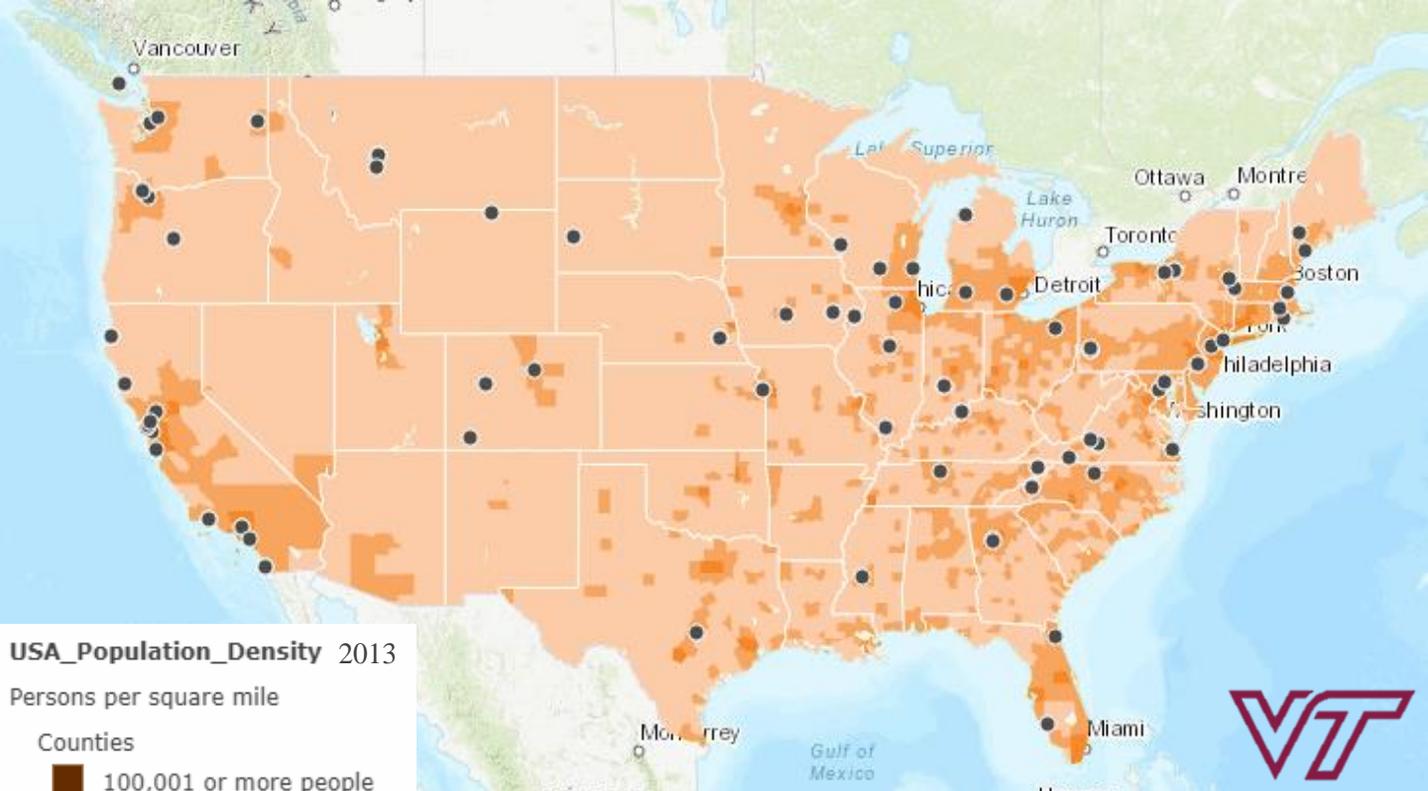


# Community Food Forest Research Sites Visited During 2014-2015



Sites are mapped over EPA Level II Ecoregions of North America. Ecoregions are areas where ecosystems are typically similar- they are useful for structuring and implementing ecosystem management strategies across organizations.

<https://www.epa.gov/eco-research/ecoregions>



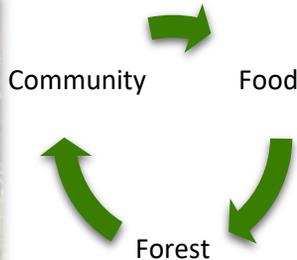
As of 2018, over **75** urban food forestry projects have been found through online searches or word of mouth.

# What is a **community food forest**?

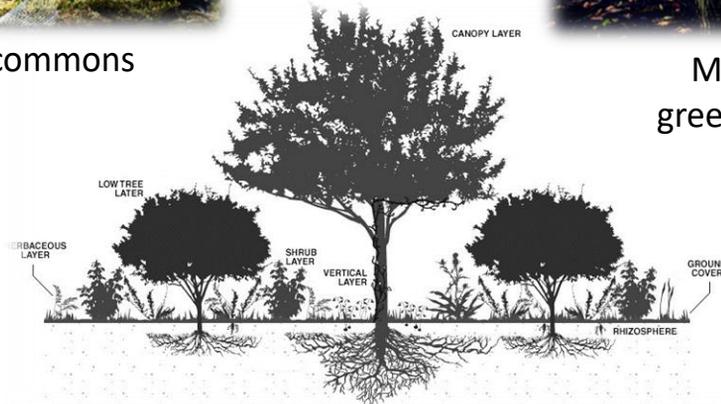
A **place** where **people come together to collaboratively grow food** using an **ecologically designed system** based on structural and functional **patterns found in forest ecosystems**.



Public food commons



Multifunctional green infrastructure





Beacon Food Forest, Seattle, WA (2009)



**AGROFORESTRY**- A land use management system that intentionally integrates trees with agricultural crops and/or livestock to create economically viable and environmentally sustainable food production.

**PERMACULTURE**- Philosophy + and Design Approach based on whole-systems thinking and ecological patterns and observations. The foundation is three basic ethics and a set of design principles that can be adapted and applied to many types of systems.



# Research Information



## Research Criteria

- **Open to the public-** for harvesting
- **Multiple vegetation layers-** at least three
- **Community participation-** Community members are involved either in planning, establishing, maintaining, or harvesting
- **Not Located on an academic campus-** Creates a different situation

## Data Collection

- **Individual Interviews**
- **Focus Groups** with initiative leaders and participants
- **Video Tours** of the food forest given by a site leader
- **Photo documentation**





# Ten-Year Urban Forestry Action Plan 2016-2026

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- **Goal 1:** Integrate Urban and Community Forestry Into All Scales of Planning
- **Goal 2:** Promote the Role of Urban and Community Forestry in Human Health and Wellness
- **Goal 3:** Cultivate Diversity, Equity, and Leadership Within the Urban Forestry Community
- **Goal 4:** Strengthen Urban and Community Forest Health and Biodiversity for Long-Term Resilience
- **Goal 5:** Improve Urban and Community Forest Management, Maintenance and Stewardship
- **Goal 6:** Diversify, Leverage, and Increase Funding for Urban and Community Forestry
- **Goal 7:** Education & Awareness



Wetherby Park Food Forest, Iowa City, IA (2014)

Fargo Food Forest, Portland, OR (October 2015)



Mesa Harmony Garden, Santa Barbara, CA (2010)

Beacon Food Forest, Seattle, WA (2009)

# Rahma Edible Forest Snack Garden

Welcome! This unique space is open to members of the community, free of charge.

## Enjoy the garden:

- Pick and eat fruit, berries, and vegetables
- Sit, stroll, relax
- To volunteer contact [rahma@address.com](mailto:rahma@address.com) to learn more



## Our goals are to:

1. Transform the cityscape from vacant lots to forested ecosystems, thereby contributing to biodiversity, and providing green infrastructure that benefits the health of our watershed
2. Bring the health care mission of the Rahma Health Clinic outdoors, making free and fresh food available to everyone in the community



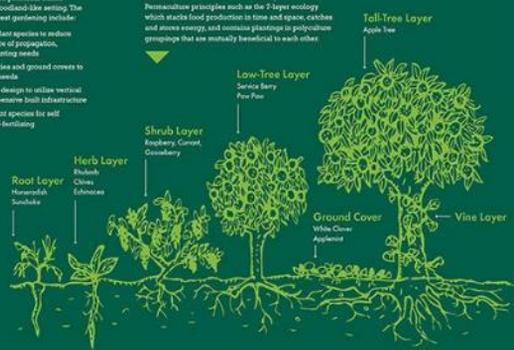
## Garden Design

This garden integrates perennial edible landscaping into a woodland-like setting. The benefits of edible forest gardening include:

- Use of perennial plant species to reduce annual maintenance of propagation, cultivation and planting needs.
- Use of native species and ground covers to reduce watering needs.
- Use of multi-story design to utilize vertical space without expensive built infrastructure.
- Use of diverse plant species for soil building and self-fertilizing.

## Seven Layer Ecology

The Rahma Garden uses edible forest garden and Permaculture principles such as the 7 layer ecology which maximizes production of time and space, carbon and access energy, and sustains plantings in polyculture groupings that are mutually beneficial to each other.



## Permaculture Ethics

The proposed design makes use of permaculture ethics as an expression of inherent values in the landscape concept.

- **Earthcare:** The site is a multi-storied forest mosaic that provides habitat and food for wildlife while capturing runoff water and building soil.
- **Peoplecare:** The site provides free access to healthy food and medicine and promotes the sharing of knowledge and information about plants and gardening strategies.
- **Fair Share:** The garden will be a source of free snacks and education for all. Most of the perennial plants will need to be thinned after 3 to 5 years of establishment, providing free plant material for visitors.



**Location:** Syracuse, NY

**Size:** Approximately .40 acres

**Established:** Discussions 2011, installation 2012



# Syracuse, NY





# Rahma Edible Forest Snack Garden

Syracuse, NY  
2007



2014  
Approx  
2 yrs old





**Rahma  
Edible Forest  
Snack  
Garden**

Syracuse, NY  
2017





Rahma  
Edible Forest  
Snack  
Garden

Syracuse, NY  
2014



2017  
Approx  
5.5 years old



Pasadena, CA  
2011



2014



# Portland, OR



Photo by Catherine Bukowski





## Fargo Food Forest

**Location:** Portland,

OR

**Size:** Approx 0.1

acres

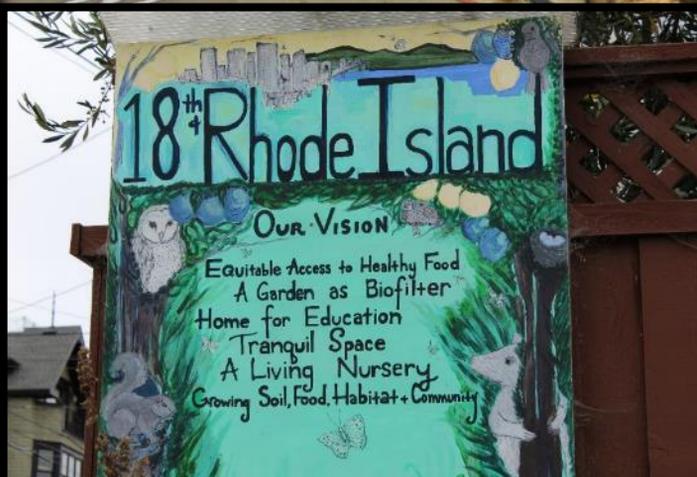
**Established:**

Discussions 2008,

Depaving & Prepping

of Soil in 2009





2007- 18<sup>th</sup> and Rhode Island,  
San Francisco, CA



2011- 18<sup>th</sup> and Rhode Island, San Francisco, CA

18th St  
San Francisco, California  
Street View - Nov 2013



2013- 18<sup>th</sup> and Rhode Island, San Francisco, CA



2014- 18<sup>th</sup> and Rhode Island, San Francisco, CA



2015  
18<sup>th</sup> & Rhode Island,  
San Francisco, CA



Roger Williams Park Edible Forest Garden

Established 2012 ~ a joint effort

between the URI Outreach Center & URI  
Master Gardeners to create a habitat rich

food producing urban ecosystem....



# Multifunctional Riparian Buffers



Roger Williams Park Botanical Center

747 ft

Google earth

# Roger Williams Park Edible Forest Garden - 2010





108 ft

Google earth



Photos by Catherine Bukowski



Location: Providence, RI

Size: Approx 0.24 acres

Est: 2012



# Community Capitals Framework

by Cornelia and Jan Flora (2008, Iowa State University)





Photo by Catherine Bukowski

## **The Richmond Greenway Edible Forest Project**

**Location:** Richmond, CA

**Managing Organization:** Urban Tilth

**Funding:** USFS Pacific Southwest Research Station + other partners

**Approx Size:** 0.1 acre

**Established:** 2010





Photo by Catherine Bukowski



**Unity Plaza  
Community Park  
Richmond, CA**



Drawing by Valler Design Associates, Inc.

<http://www.richmondgreenway.org>

# Recent Research

Clark, K. H., & Nicholas, K. A. (2013). **Introducing urban food forestry: a multifunctional approach to increase food security and provide ecosystem services.** *Landscape Ecology*, 28(9), 1649-1669.

Askerlund, P., & Almers, E. (2016). **Forest gardens—new opportunities for urban children to understand and develop relationships with other organisms.** *Urban Forestry & Urban Greening*, 20, 187-197.

Björklund, J., Eksvärd, K., & Schaffer, C. (2017) **Exploring the potential of edible forest gardens: experiences from a participatory action research project in Sweden.** *Agroforestry Systems*, 1-12.

Park, H., & Higgs, E. (2018). **A criteria and indicators monitoring framework for food forestry embedded in the principles of ecological restoration.** *Environmental monitoring and assessment*, 190(3), 113.

Park, H., Turner, N., & Higgs, E. (2018). **Exploring the potential of food forestry to assist in ecological restoration in North America and beyond.** *Restoration Ecology*, 26(2), 284-293.



# Future Directions

- **Climate Smart Urban Green Infrastructure-** How can community food forests contribute? How much carbon sequestration is occurring and how to optimize site design to increase contributions? How much impact is there on localized urban heat island effect near sites?
  - **Drought Resistance**
  - **Native Species**
  - **Fire Prevention**
  - **Living Germplasm Repository**
- **Bioretention Areas & Stormwater Management-** Are toxins an issue? Where are they being held in plant tissue? How can this be accounted for in site preparation as well as short and long term planning?
- **Novel Ecosystems/Urban Conservation-** How are these sites contributing to biodiversity? Pollinator habitat? Bird habitat? Are seeds of non-native species planted in these sites being spread to nearby areas within park systems or waterways?



# Thank You!

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[www.communityfoodforests.com](http://www.communityfoodforests.com)



[www.facebook.com/communityfoodforests](http://www.facebook.com/communityfoodforests)

