

# Cultivating Native Edibles

Presented by:

**PHXWATERSMART**



# Class Overview

- The Sonoran Desert

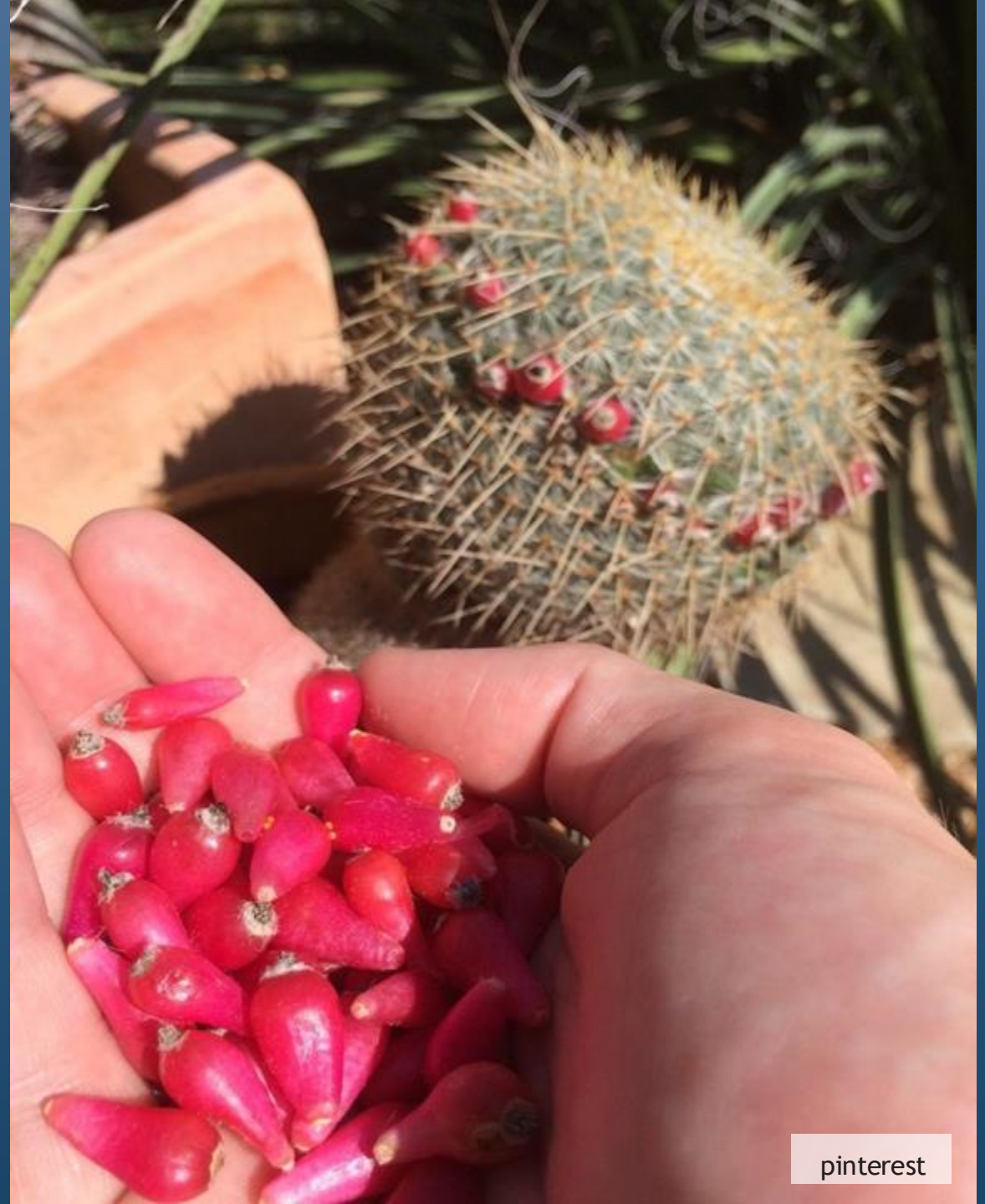
- Ecosystem
- Stewards and cultivation

- Cultivation

- Water needs of plants
- Selecting low water use

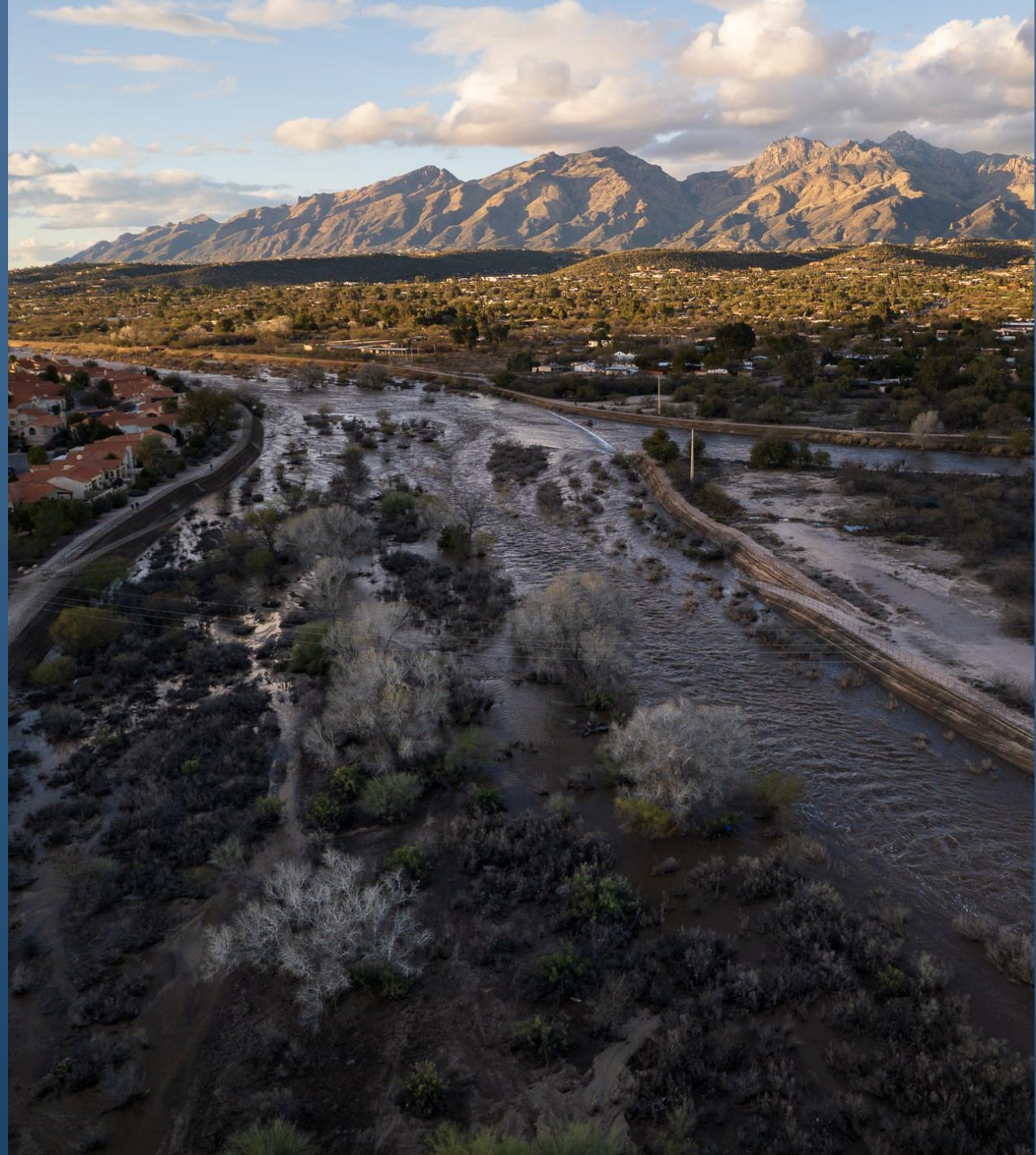
- Native Edibles!

- Get to know your natives
- Additional Resources





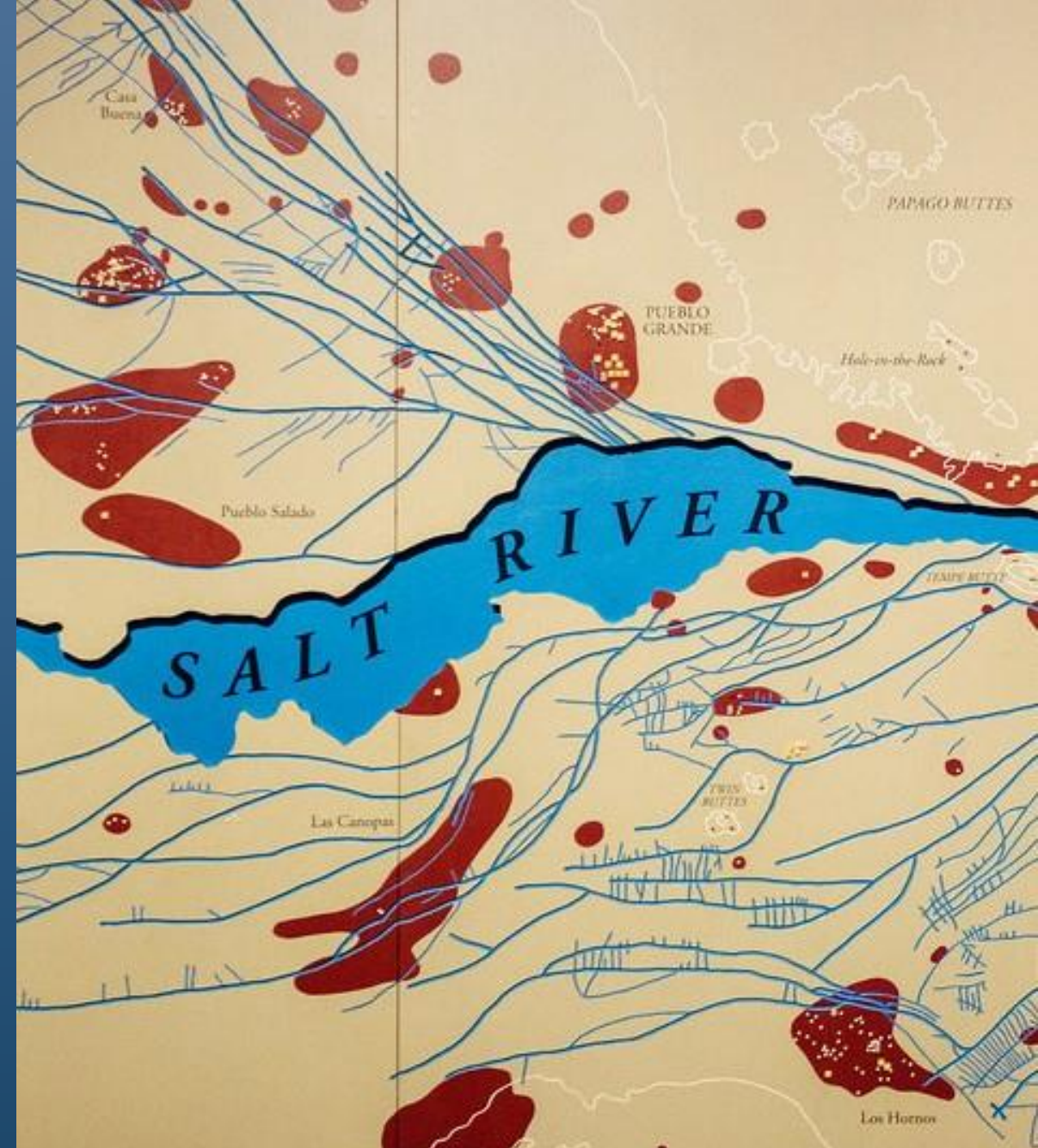
*Watershed Management Group acknowledges that we live, learn, work, and engage with community on the ancestral lands of the Hohokam, Sobaipuri, and Apache people and those of the Pascua Yaqui and Tohono O'odham, whose relationship with this land continues to this day. We acknowledge that water in the Sonoran Desert is of great spiritual, physical, and ecological significance to be protected, cherished, and celebrated.*





# Cultivation of present day Phoenix

- Akimel O'odham (Pima) - River People
- Piipaash (Maricopa) - People Who Live Toward the Water



<https://s3.amazonaws.com/ah-cms.hideawayreport.com/images/map-pueblo-grande->

# Class Overview

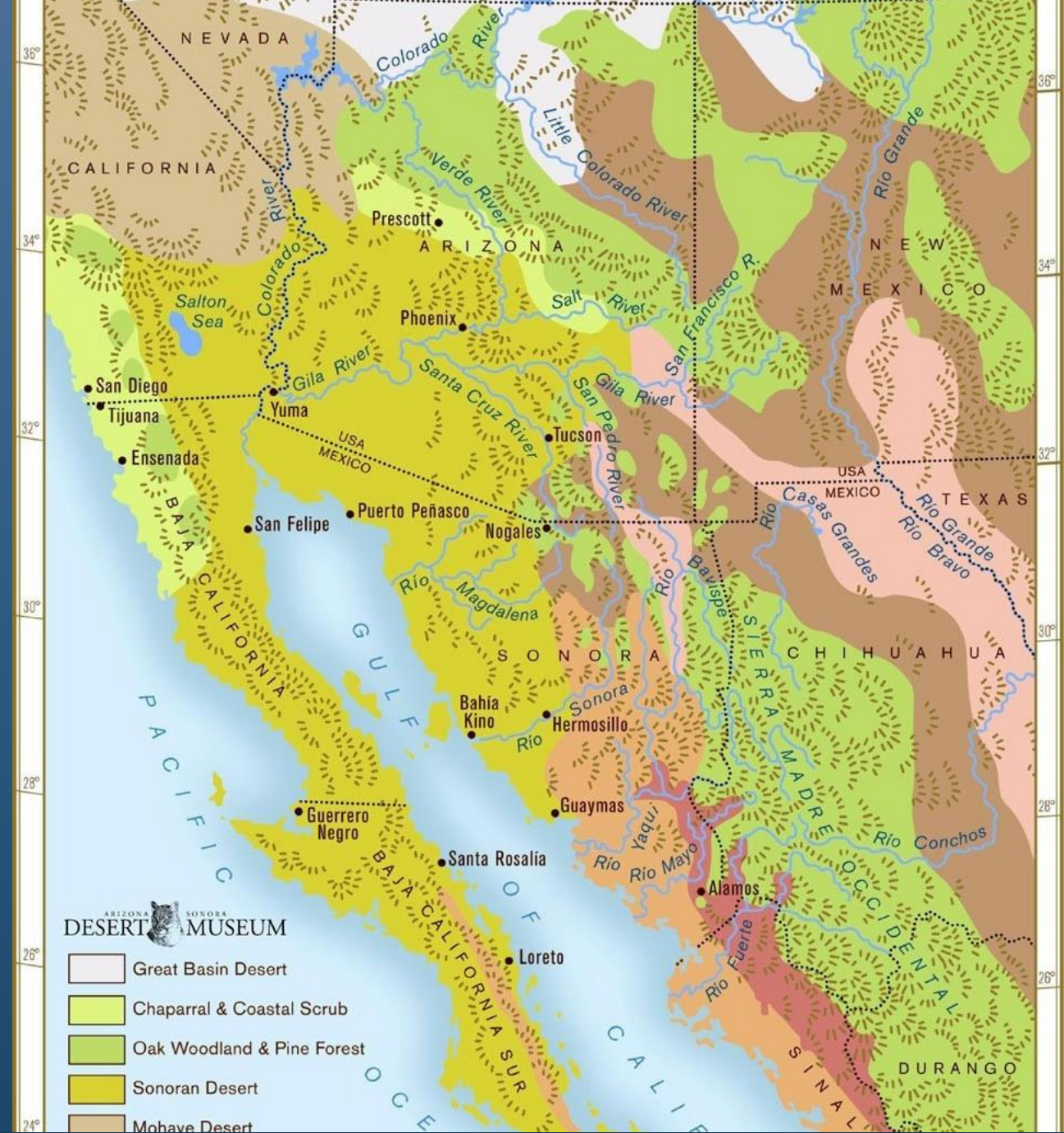
- Tribes along the Gila River
  - Akimel O'odham (Pima)
  - Pee-Posh (Maricopa)
- Tribes along the Salt River
  - Pima ("Akimel Au-Authm" or River People)
  - Maricopa ("Xalychidom Pipaash" or People Who Live Toward the Water).





# Sonoran Desert

- Comprises approximately 100,000 square miles of land including parts of Arizona, California, Baja California, and Sonora Mexico.
- Biomes:
  - Tundra
  - Coniferous forest
  - Temperate deciduous forest
  - Grassland
  - Chaparral
  - Desert
  - Thornscrub
  - Tropical Forest
  - Riparian communities





# Sonoran Desert

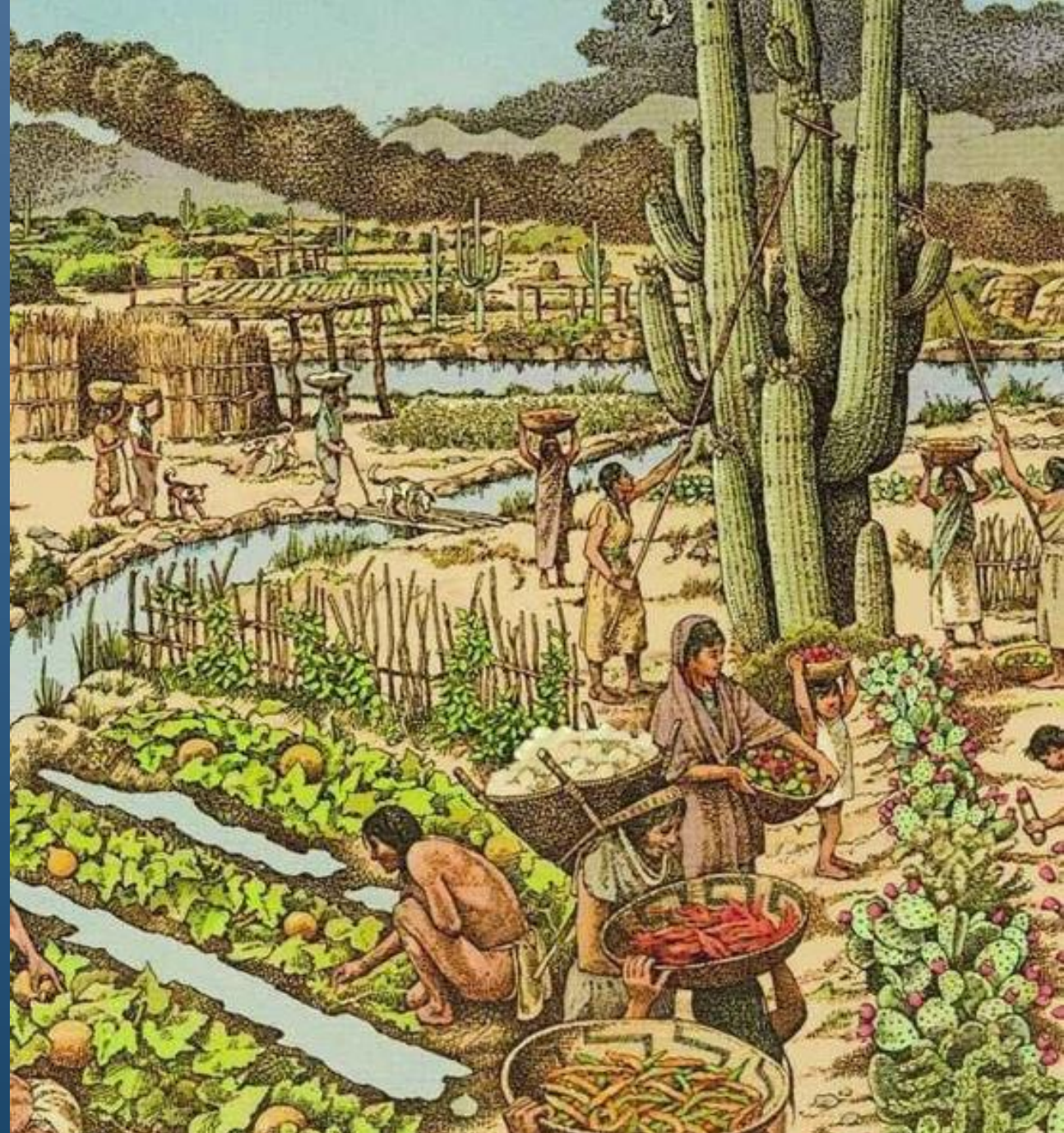
- Defined by biseasonal rains
- Average annual rainfall in Phoenix is 8"
- Received about 3.9" in 2024 – varies throughout the city





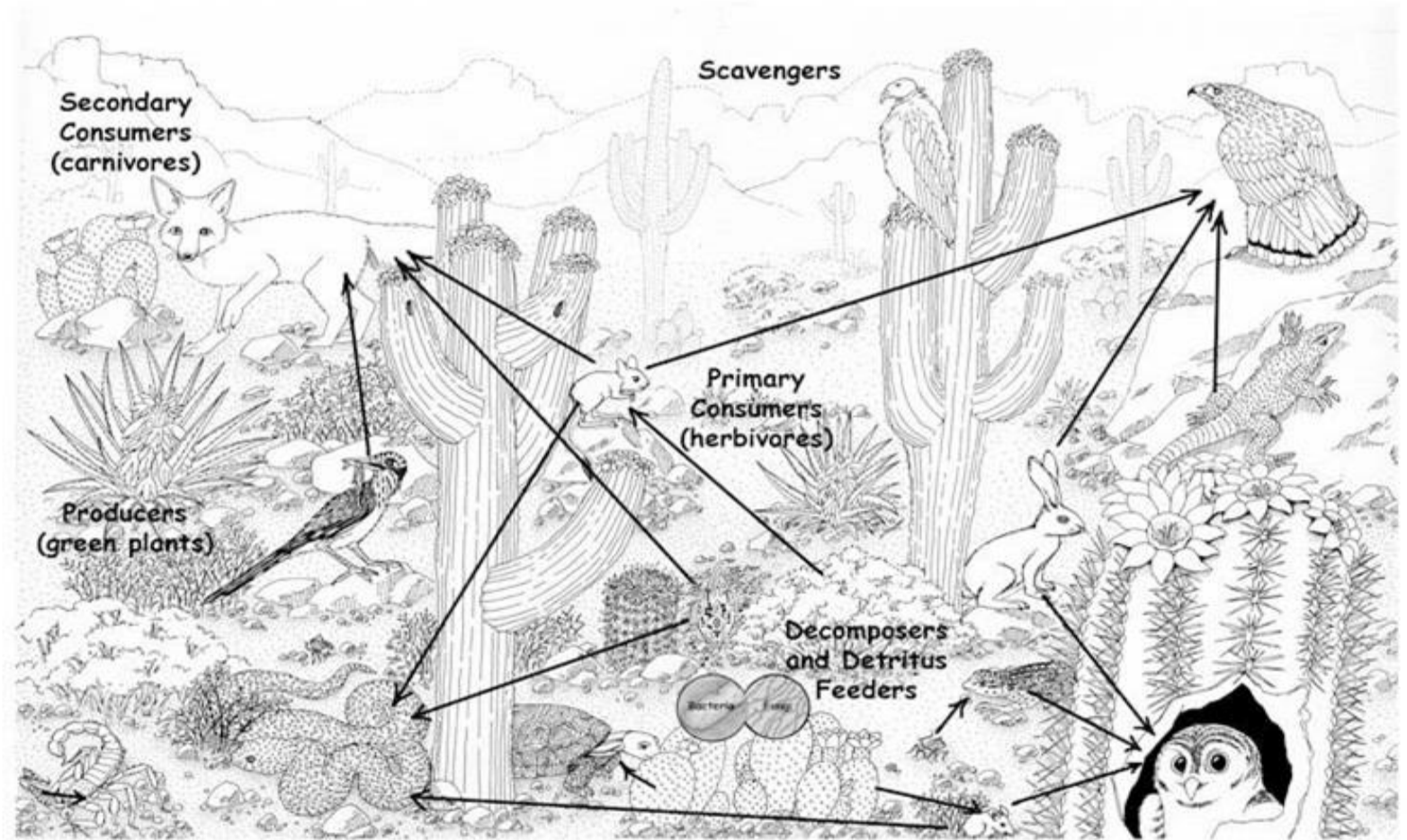
# People and the Desert

- People arrived here about 12,000 years ago
- Sonoran Desert has been cultivated for more than 4,000 years
- Over 540 edible plants meaning about 1/5 of the flora is edible.





# Desert Food Web



©Sheri Amsel

[www.exploringnature.org](http://www.exploringnature.org)







# non native Edibles

- Vegetable garden needs about 55 inches of rain per year
  - 50sqft = 3,180 gallons/year
- Low water use trees use 10 – 20 inches of water
- Moderate water use plants use 20 – 35 inches
- High water use plants use 35 – 60 inches of water





20 ft canopy tree

Mesquite (Low Water Use)

- 2,000 gallons per year

Pomegranate (Moderate Water Use)

- 4,000 gallons per year

Citrus (High Water Use)

- 6,800 gallons per year





# Heritage Fruit Trees

## Pomegranate

**Sosa Carrillo** - A delicious soft-seeded Pink pomegranate, that appears to have been originally grafted onto a white pomegranate, planted in 1880's in Tucson

**Ruby** - White pomegranate found near spring near ghost town of Ruby near Border, Santa Cruz County

## Figs

**Black Mission Fig** - Sourced from the historic Sosa Carrillo house in Tucson's Barrio Viejo.

**Oro Blanco** - Sourced from Oro Blanco, a former mining town south of Ruby, AZ. First crop starts ripening in late May, second in early July.







## Types of Edible Landscapes

**Community Gardens**  
**Home Gardens**  
**Neighborhood**  
**Foraging**

**Permaculture**  
**Edibilizing**  
**Rewilding**





# Cultivated Plans

## Tepary Beans

- Heat, drought and salt-tolerant, thriving in alkaline desert soil
- Planted during monsoon rains and harvested in October when pods are brown and crispy

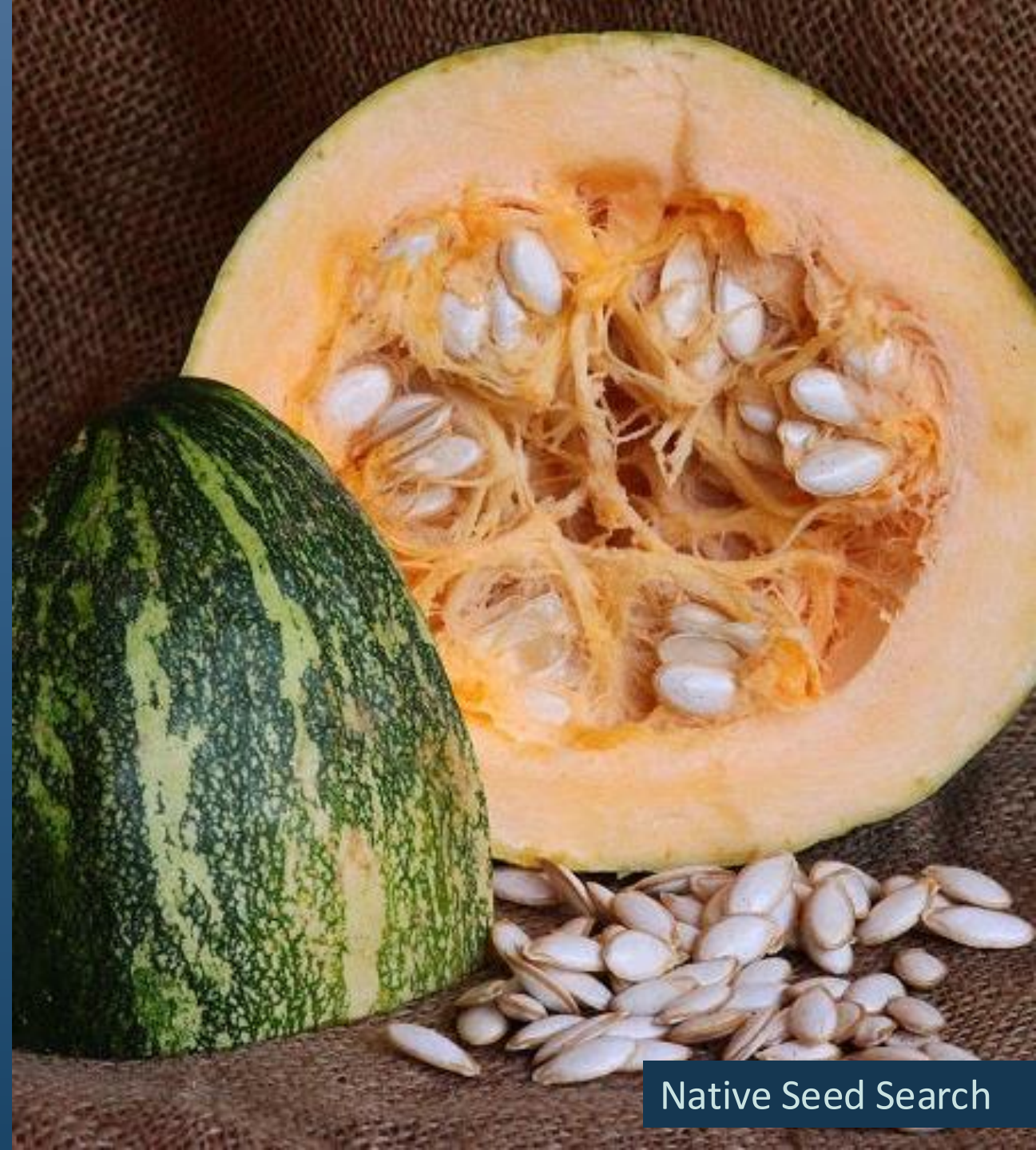




# Cultivated Plans

## Tohono O'odham Ha:l Squash

- Heat, drought and salt-tolerant, thriving in alkaline desert soil
- Planted during monsoon rains and harvested in October when pods are brown and crispy
- Winter squash will last till winter if stored correctly





# Cultivated Plans

## Maricopa Sweet Corn

- Categories of corn are based on their level of starch – pop, flour, flint, dent, and sweet.
- Sweet corn needs warm temperatures, moderate water and soil nutrients
- Harvest when kernels are milky white - colors in the kernels develop after the corn is sweetest to taste





# Cultivated Plans

## Chiltepin

- Grow best in filtered light
- Harvested in the fall, perennial plant
- Ancestor of the *Capsicum* annum species including jalapeños and bell peppers





# Traditional Techniques

- Sunken Garden Beds
- Planting three sisters
  - Corn – provides tall stalks for beans to climb up
  - Beans are a legume, known for fixing nitrogen in soil
  - Squash spreads along the ground providing shade to soil
  - Additional sister plants are tobacco, amaranth, and sunflowers





A pair of vintage metal scissors with a weathered, dark finish is positioned diagonally across the center of the frame. The scissors are open, with the blades pointing towards the top right and the handles curving downwards. They are resting on a dense pile of chili peppers. The peppers are mostly green, but many have a pinkish-red blush, indicating they are ripe. The peppers have a bumpy texture and small dark spots. The background is a soft, out-of-focus blue, which makes the peppers and scissors stand out. The overall mood is rustic and culinary.

**Questions?  
Comments**



# Some Edible Plants







# **Trees Please (and shrubs)**



Foothills Palo Verde - Wild Native  
*Parkinsonia microphylla*

- **Biotic Community**

- » Uplands

- **Edible Parts**

- » Edible Flowers

- » Edible Seed Pods (like snap peas)

- **Seasonality / Harvest**

- » Spring, Summer





Desert Ironwood - Wild Native  
*Olneya tesota*

- **Biotic Community**
  - » Uplands
- **Edible Parts**
  - » Edible Flowers
  - » Edible Seed Pods (like snap peas)
- **Seasonality / Harvest**
  - » Spring, Summer





## Desert Ironwood - Wild Native *Olneya tesota*

- Desert ironwood beans steal the show in this dish with spaghetti squash, garden tomatoes, and basil.
- Ironwood beans were harvested while still green and tender, then blanched - cooked in boiling water for 3-5 minutes.
- Tastes like green peas, but with the flavor of the desert!
- There may be 1, 2, 3, or more beans in each pod.





Velvet Mesquite - Wild Native  
*Prosopis velutina*





Jojoba - Wild Native  
*Simmondsia chinensis*

- **Biotic Community**

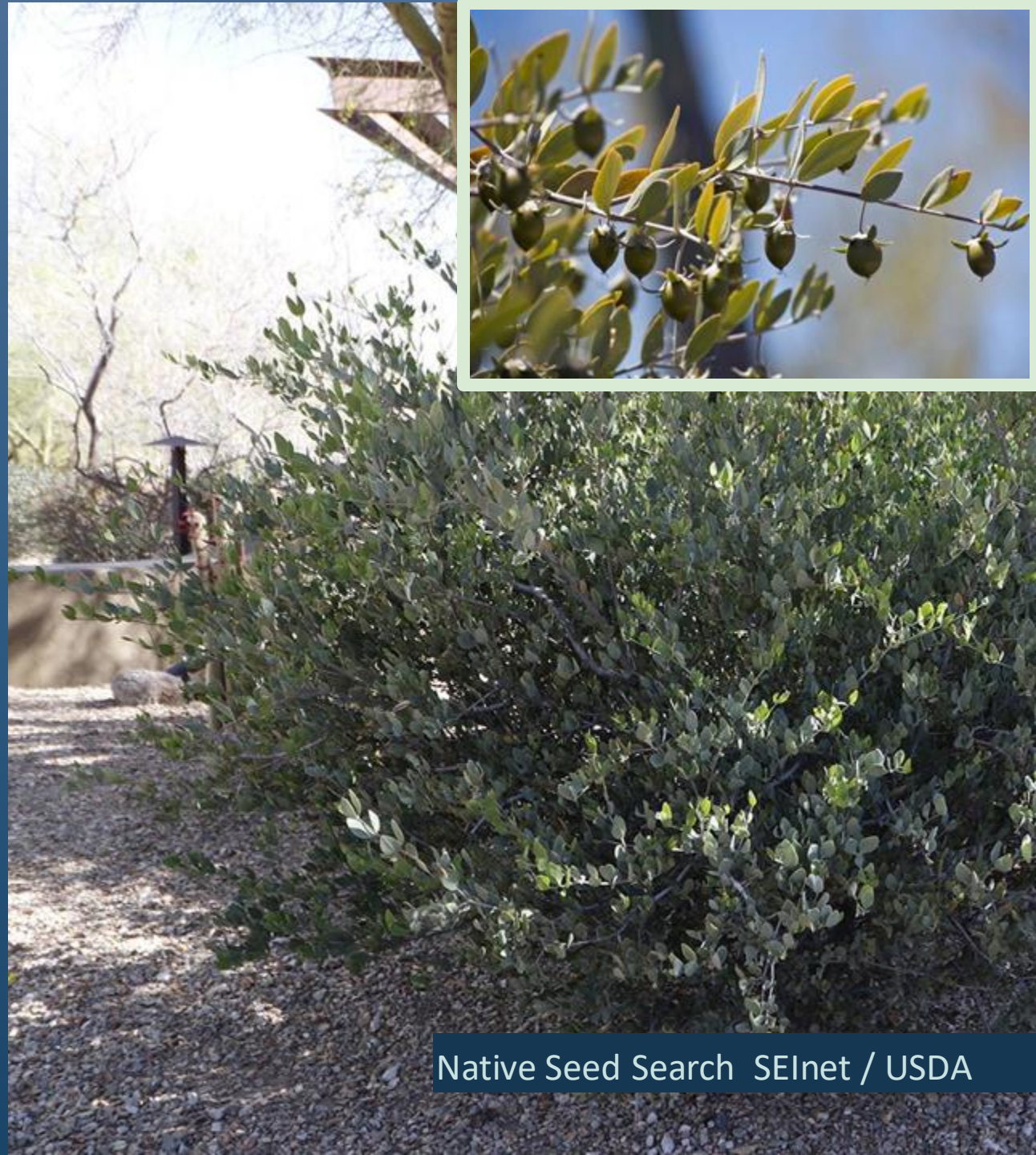
- » Riparian, upland, lowland

- **Edible Parts**

- » Edible Fruits (aka nuts)
  - » Better roasted

- **Seasonality / Harvest**

- » Spring, Early Summer







Creosote

*Larrea tridentata*

- **Biotic Community**

- » Riparian, upland, lowland

- **Edible Parts**

- » Leaves and flowers

- **Seasonality / Harvest**

- » Spring, Summer





Wolfberry - Wild Native  
*Lycium sp.*

- **Biotic Community**

- » Riparian, upland, lowland

- **Edible Parts**

- » Flowers, berries

- **Seasonality / Harvest**

- » Spring, Summer





seedoftheweek.com


tucsonaudubon.blogspot.com



Hackberry - Wild Native  
*Celtis sp.*

- **Biotic Community**
  - » Riparian, upland, lowland
- **Edible Parts**
  - » berries
- **Seasonality / Harvest**
  - » Summer





# **Scrumptious Succulents**





## Staghorn Cholla - Wild Native *Cylindropuntia versicolor*

- **Biotic Community**
  - » Lowland
- **Edible Parts**
  - » Fruit, Flower buds
- **Seasonality / Harvest**
  - » Spring



# Desert Prickly Pear - Wild Native

## *Opuntia phaeacantha*

- **Biotic Community**
  - » Lowland
- **Edible Parts**
  - » Pads (new growth)
  - » Fruit
- **Seasonality / Harvest**
  - » Spring (pads) and Summer/Fall (fruit)



Desert Prickly Pear - Wild Native  
*Opuntia phaeacantha*



# Organ Pipe - Wild Native

## *Stenocereus thurberi*

- **Biotic Community**
  - » Lowland
- **Edible Parts**
  - » Seeds, Fruit
- **Seasonality / Harvest**
  - » Late summer







# **Pass the Annuals**



# Desert Rhubarb - Wild Native

## *Rumex hymenosepalus*

- **Biotic Community**
  - » Lowland, riparian, disturbed areas
- **Edible Parts**
  - » Seeds, Stem and leaves
- **Seasonality / Harvest**
  - » Late summer - post rain, winter





# Devil's Claw - Wild Native

## *Proboscidea parviflora*

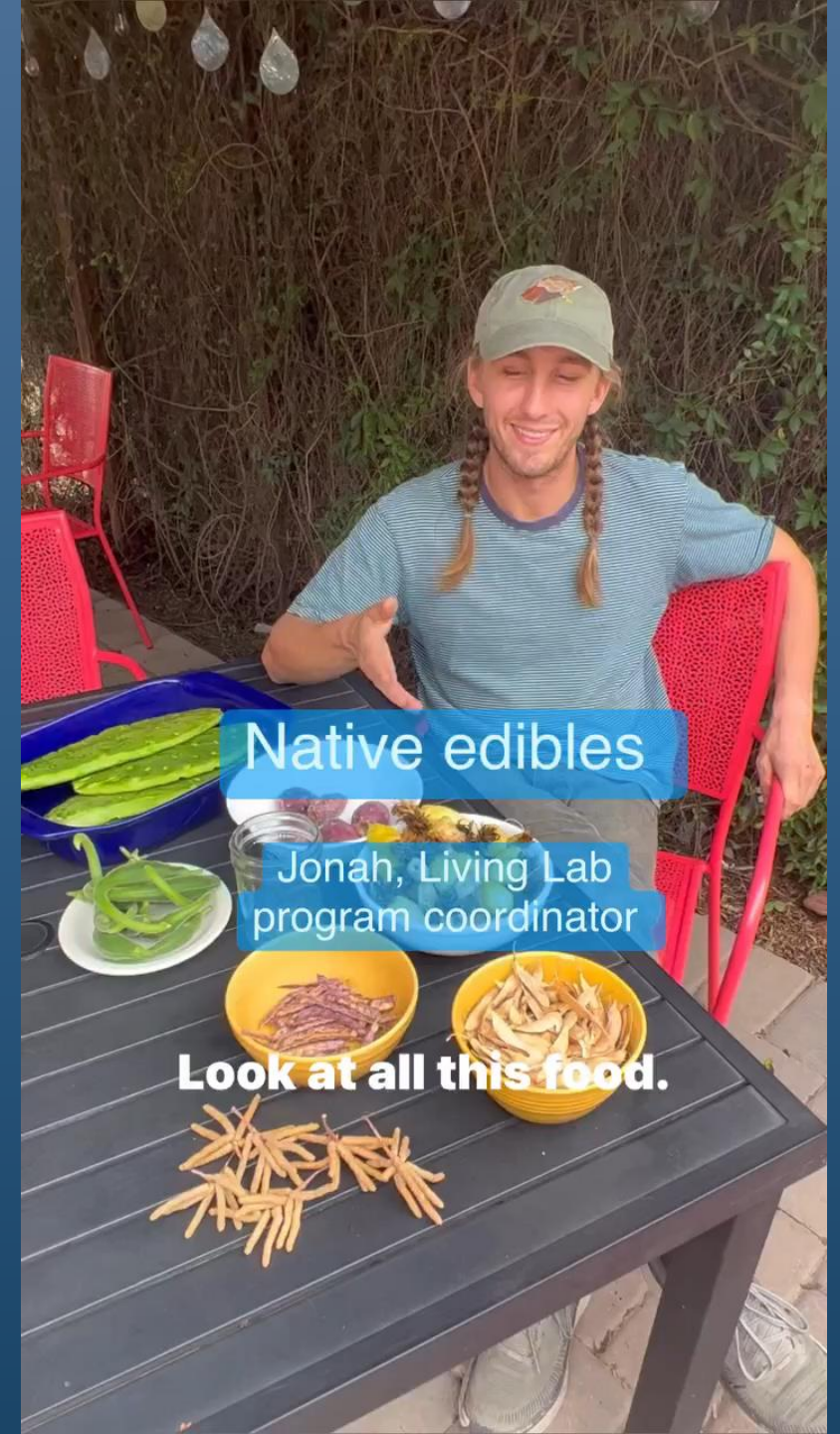
- **Biotic Community**
  - » Lowland, riparian, disturbed areas
- **Edible Parts**
  - » Immature fruit
- **Seasonality / Harvest**
  - » Post rain, mid-summer





# Careless weed - Wild Native

*Amaranthus palmeri*




Native edibles

Jonah, Living Lab  
program coordinator

Look at all this food.





# **Viney Victuals**



# Arizona Grape - Wild Native

## *Vitis arizonica*

- **Biotic Community**
  - » Lowland, riparian, disturbed areas
- **Edible Parts**
  - » Flowers, seeds, young leaves
- **Seasonality / Harvest**
  - » Winter and Spring







# **Street Food**



# London Rocket - Naturalized Invasive

## *Sisymbrium irio*

- **Biotic Community**
  - » Lowland, riparian, disturbed areas
- **Edible Parts**
  - » Flowers, seeds, young leaves
- **Pesto!**
  - Rocket leaves washed
  - Pine nuts
  - Pecorino cheese
  - Garlic
  - Olive oil
  - Salt and pepper



Desert Tortoise Botanicals



# Cheese Weed - Naturalized Invasive

## *Malva neglecta*

- **Biotic Community**
  - » Lowland, riparian, disturbed areas
- **Edible Parts**
  - » Leaves, stalks, and seeds
- **Seasonality / Harvest**
  - » Winter and Spring



Plantsam.com



SWbiodiversityportal.com



# Purslane - Naturalized Invasive/ Native

## *Portulaca sp.*

- **Biotic Community**
  - » Lowland, riparian, disturbed areas
- **Edible Parts**
  - » Leaves, stalks
- **Seasonality / Harvest**
  - » Winter and Spring



Northern Arizona Invasive  
Plants



SWbiodiversityportal.c  
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# Medicinals

- **Morman Tea** (*Ephedra viridis*)
- **Brittle Bush** (*Encelia farinose*)
- **Ocotillo** (*Fouquieria splendens*)
- **Creosote** (*Larrea tridentate*)
- **Desert Lavender** (*Condea emoryi*)
- Desert Broom (*Baccharis sarothroides*)
- Many more....







# Additional Resources



# Plant Resources

- » Southwest Environmental Information Network (SEINet)
- » U.S. Department of Agriculture Plants Database (NRCS)
- » [www.fireflyforest.com](http://www.fireflyforest.com)
- » Arizona Flora by Kearny and Peebles
- » Natural History of the Sonoran Desert, AZ Sonoran Desert Museum
- » Wild Foods of the Sonoran Desert by Kevin Dahl





# Foraging Resources

- » Southwest Desert Foraging by John Slattery
- » Southwest Medicinal Plants by John Slattery
- » Sonoran Desert Food Plants by Charles Kane



SEInet, Pointleaf Manzanita (Little Apple)



Savor the Southwest Blog, Bracken Fern



# Information on Domesticated and Introduced Edible Species

- » Mission Gardens
- » Native Seed Search
- » Desert Gardening by George Brookbank



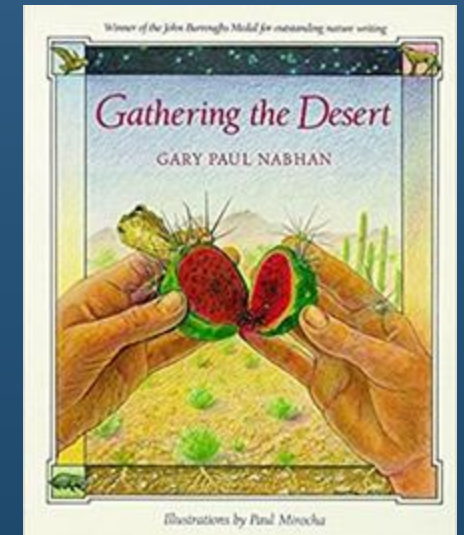
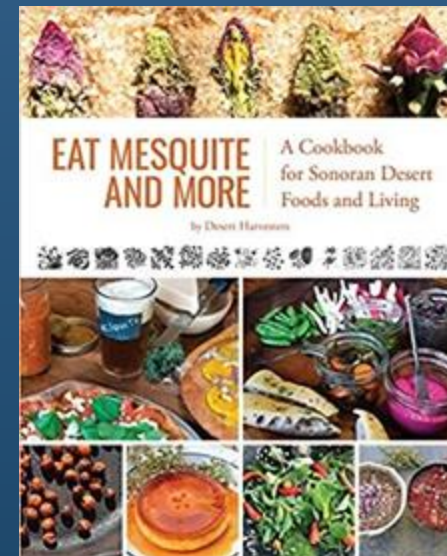
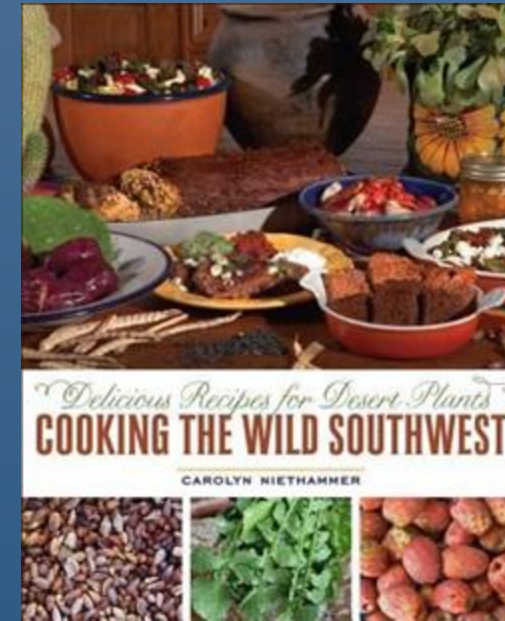
Savor the Southwest Blog, l'itoi (Elder Brother) Onion





# Recipe and Cooking

- » Eat Mesquite and More, Desert Harvesters)
- » Desert Harvesters Website
- » Cooking the Wild Southwest: Delicious Recipes for Desert Plants, Carolyn Niethammer
- » Gary Nabhan books and website







Have fun!

**Food for thought:**  
*After taking this class, what are your  
next steps going to be?*