

Cultivating Native Edibles

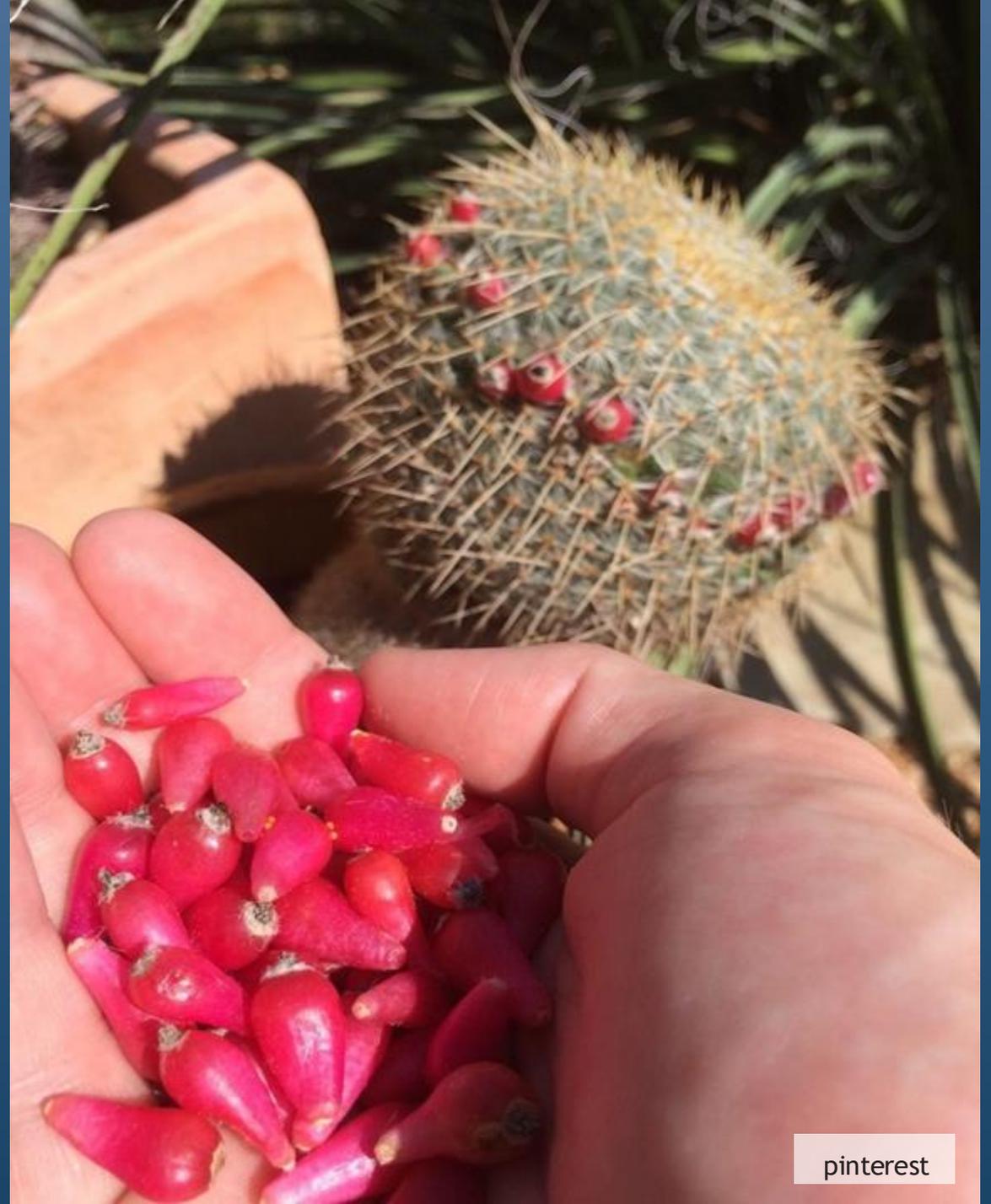
Presented by:

PHX WATER SMART

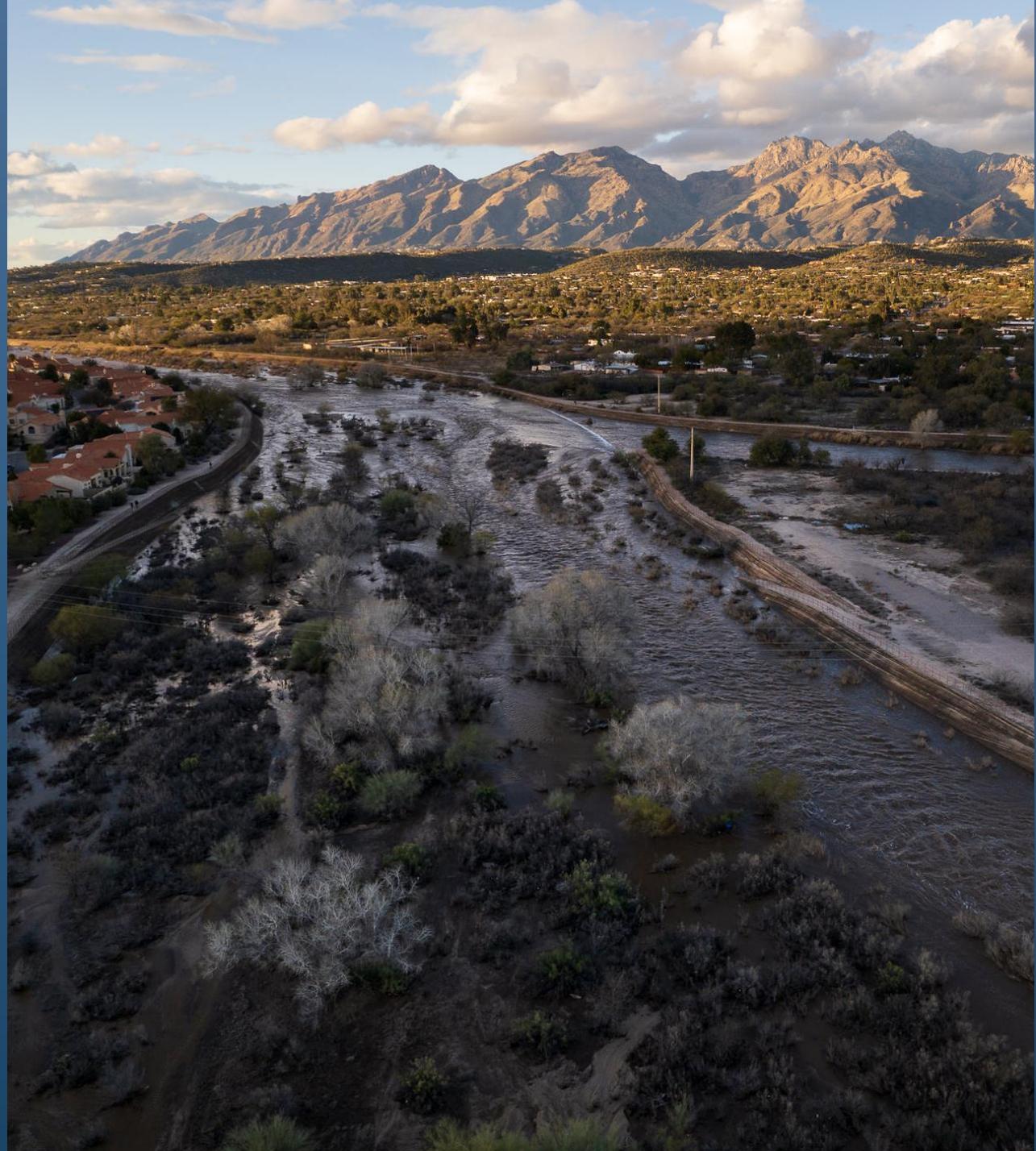


Class Overview

- 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

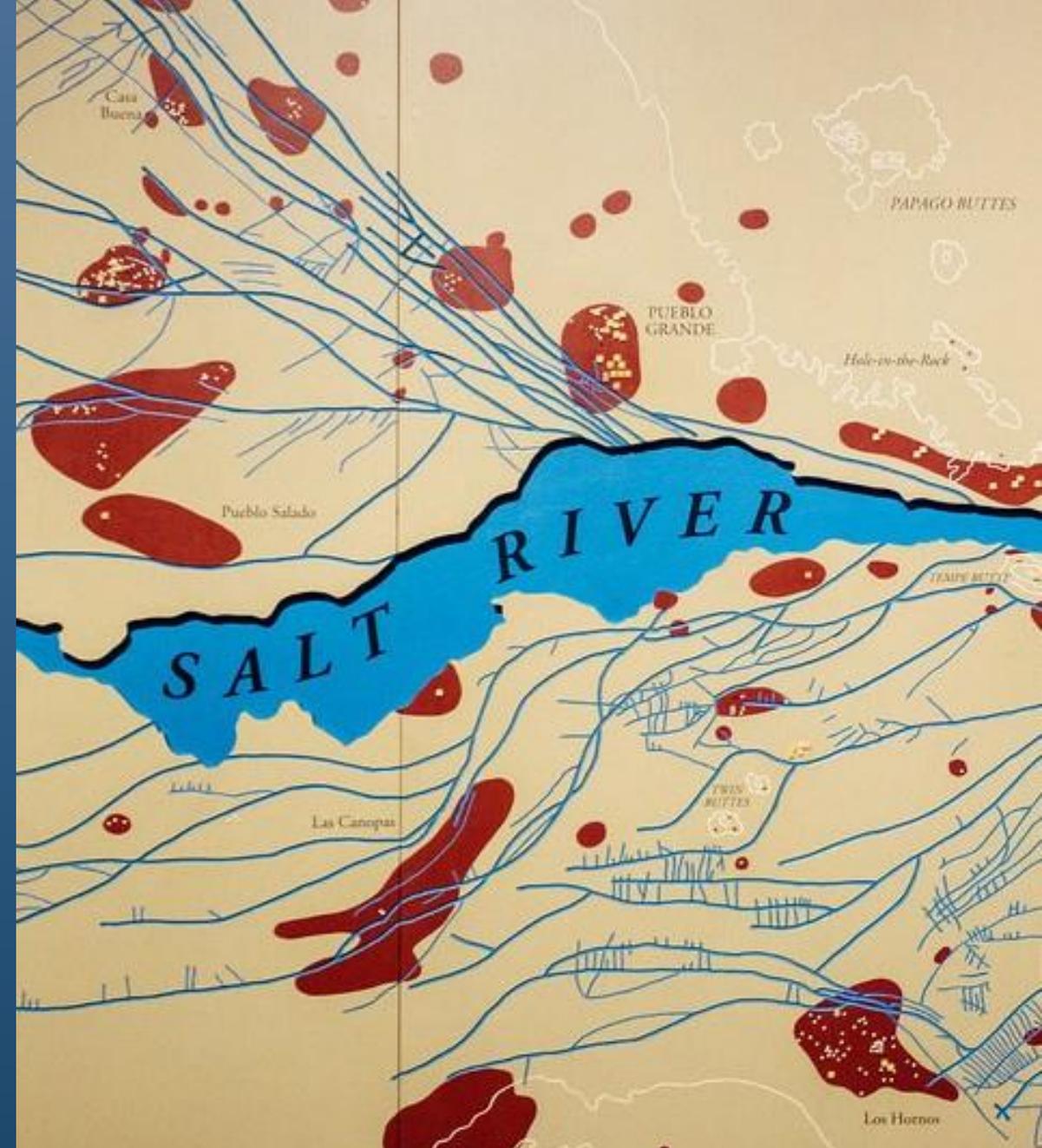


Watershed Management Group acknowledges that we live, learn, work, and engage with community on the ancestral lands of the Hohokam, Sobaipuri, and Apache people and those of the Pascua Yaqui and Tohono O'odham, whose relationship with this land continues to this day. We acknowledge that water in the 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).



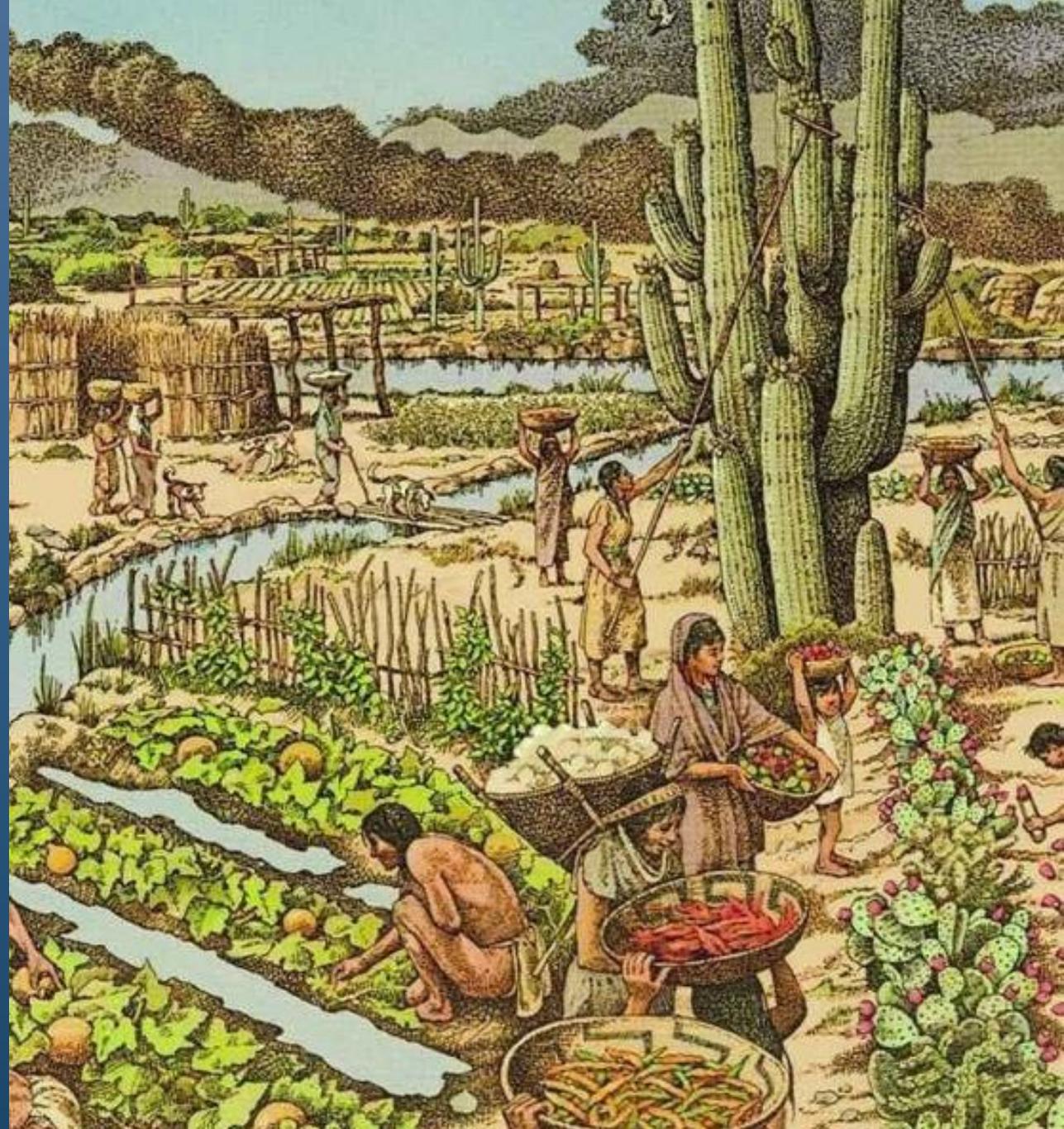
Sonoran Desert

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

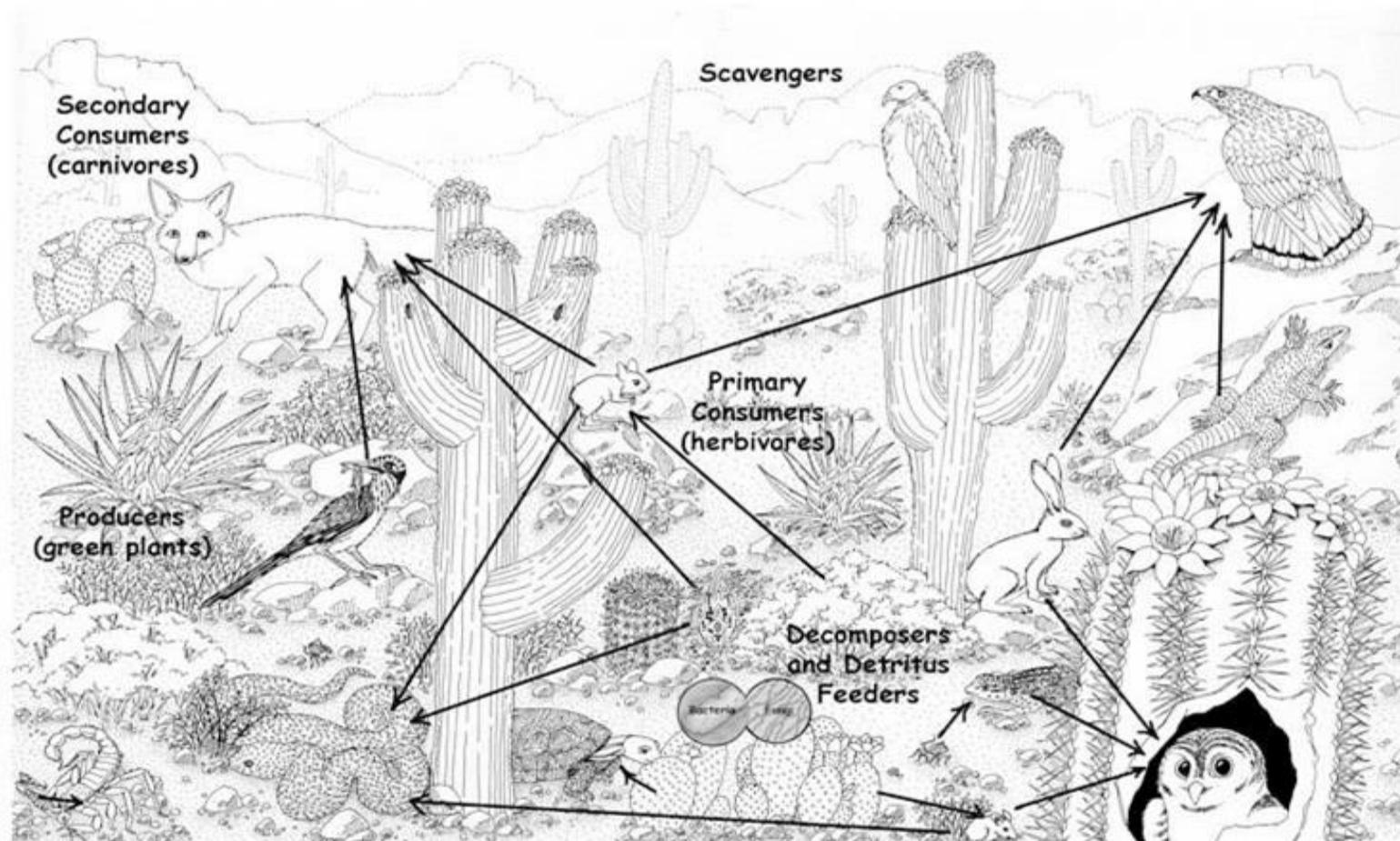


People and the Desert

- 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



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

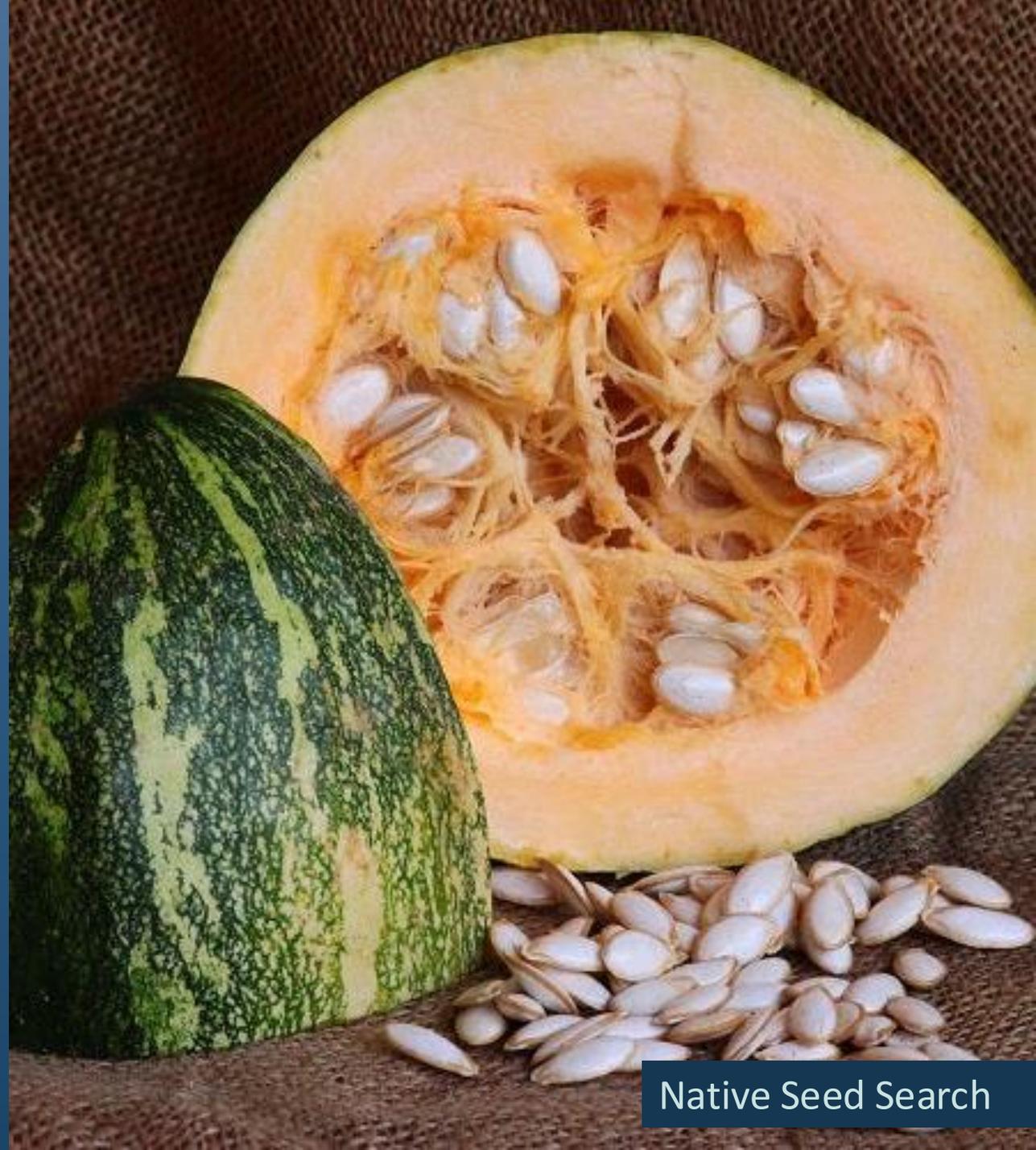
- Heat, drought and salt-tolerant, thriving in alkaline desert soil
- Planted during monsoon rains and harvested in October when pods are brown and crispy



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

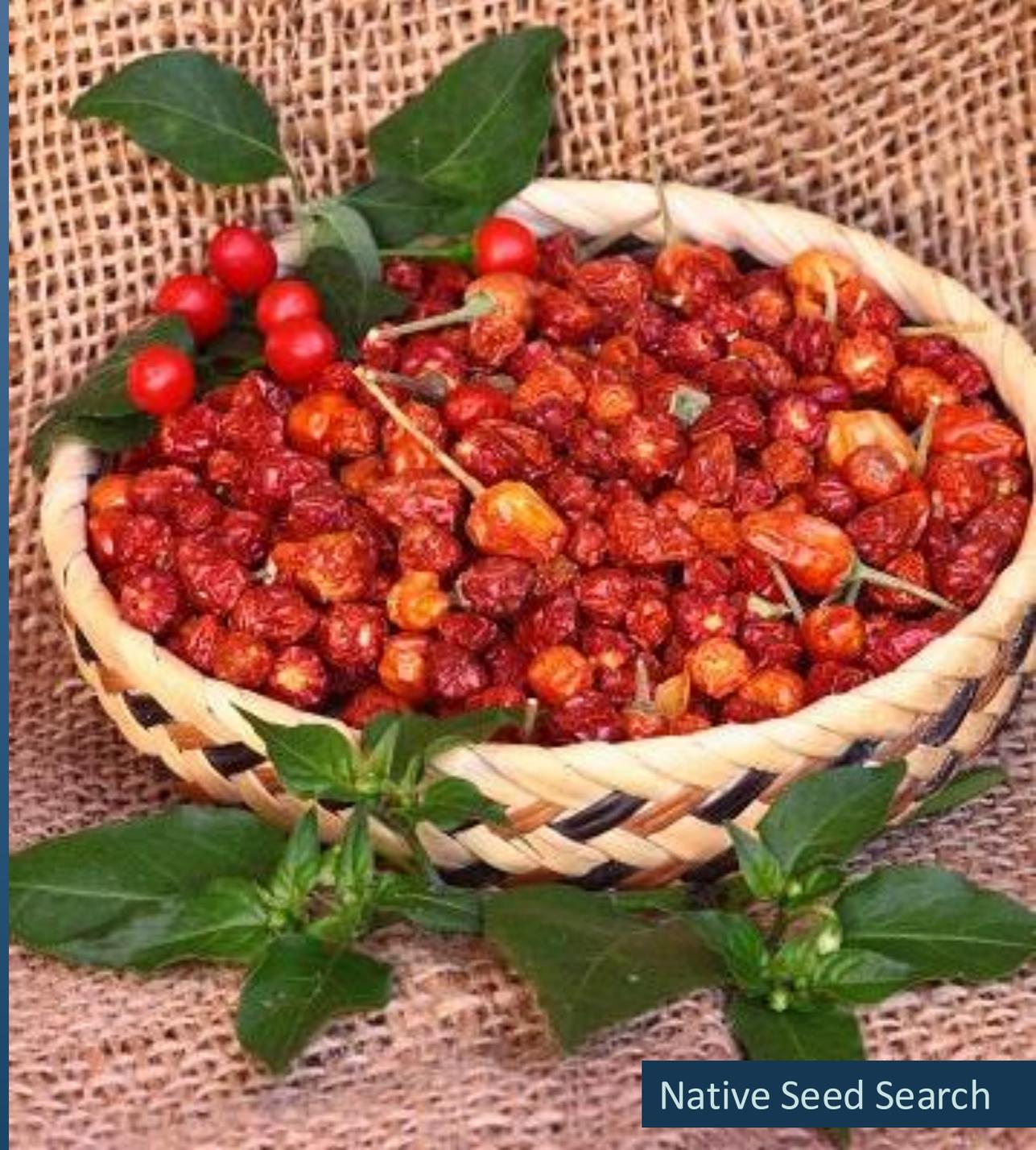
- Categories of corn are based on their level of starch – pop, flour, flint, dent, and sweet.
- Sweet corn needs warm temperatures, moderate water and soil nutrients
- Harvest when kernels are milky white - colors in the kernels develop after the corn is sweetest to taste



Cultivated Plans

Chiltepin

- Grow best in filtered light
- Harvested in the fall, perennial plant
- Ancestor of the *Capsicum annuum* 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 metal shears is positioned diagonally across the center of the image, resting on a large pile of cactus cholla cholla (cholla cholla) segments. The segments are mostly green with some pinkish-red ones, and they are covered in small, dark, circular spots. The shears have a long, straight blade and two curved handles. The background is a dense, textured surface of these cactus segments.

**Questions?
Comments**

Some Edible Plants



A pair of metal pruning shears is positioned diagonally across the center of the image. The background is a dense pile of cut tree branches, some showing green bark and others showing pinkish-red wood. The entire image has a light blue overlay.

**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**

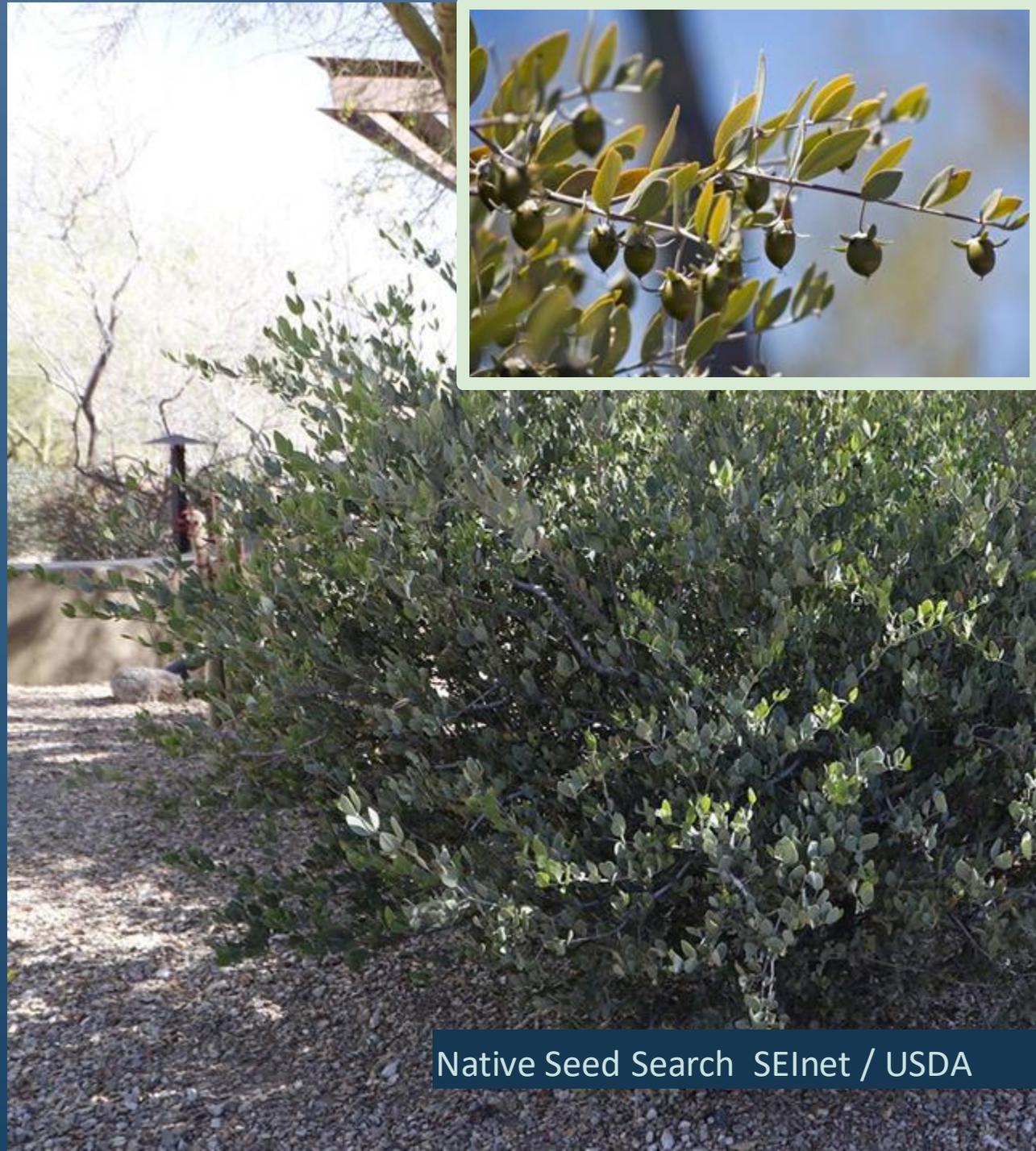
- » Riparian, upland, lowland

- **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

A pair of silver scissors is positioned diagonally across the center of the image, cutting through a large pile of sliced succulent pieces. The succulents are in various shades of green, yellow, and pink, and are cut into small, irregular shapes. The background is a soft, light blue color.

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



A pair of blue-handled scissors is positioned vertically, cutting through a dense pile of small, green and pinkish-red annual plants. The plants are scattered and appear to be in various stages of growth or decay. The scissors have a single visible screw on the upper blade. The background is a soft, out-of-focus green.

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

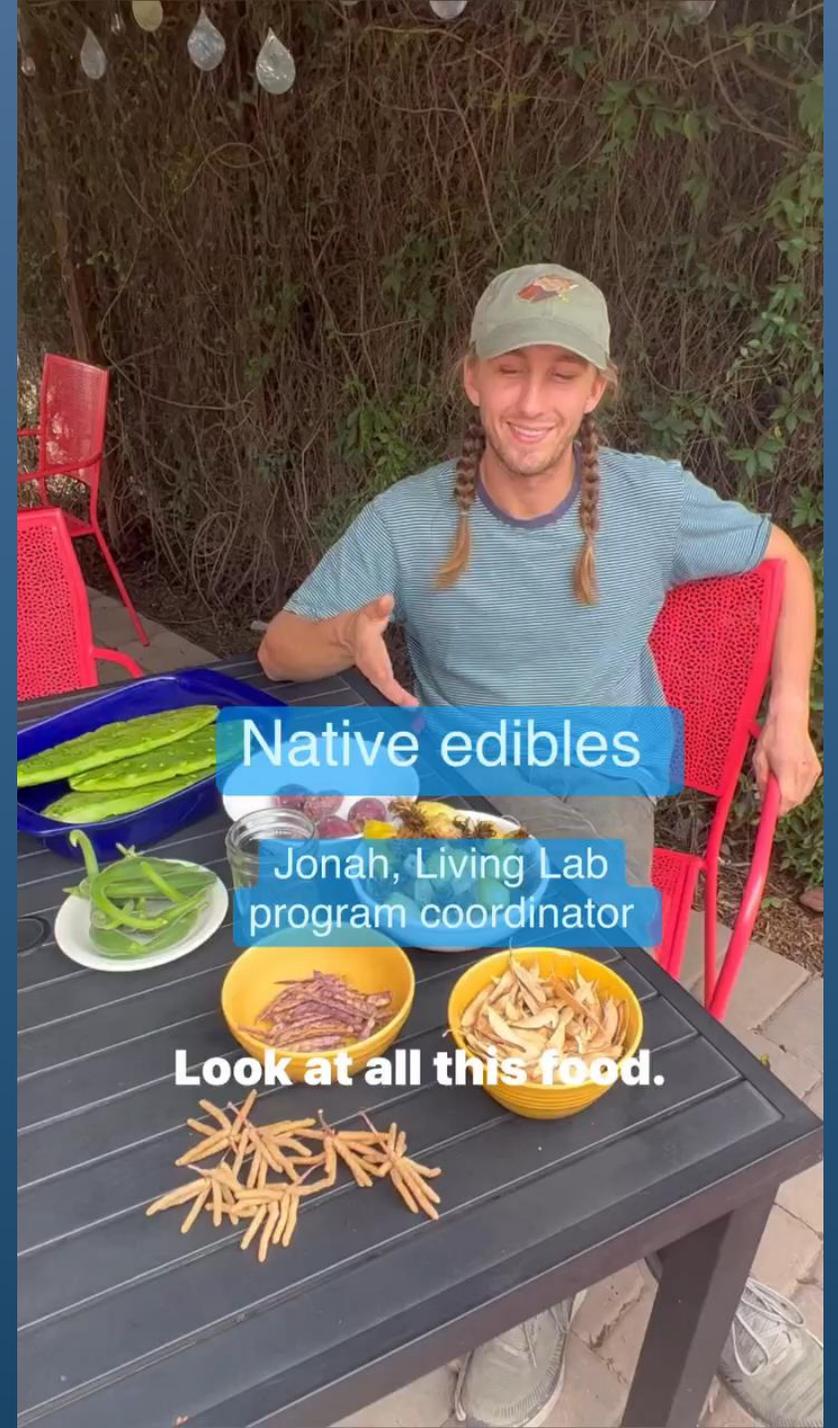


Devil's Claw - Wild Native *Proboscidea parviflora*

- **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



SEInet

SEInet

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.com

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....



The background of the image is a dense field of green, succulent-like plants with small, rounded leaves and thin, reddish-brown stems. The plants are growing closely together, creating a textured, natural-looking background. A semi-transparent white rectangular box is centered horizontally across the middle of the image, containing the text "Additional Resources".

Additional Resources

Plant Resources

- » Southwest Environmental Information Network (SEINet)
- » U.S. Department of Agriculture Plants Database (NRCS)
- » 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)



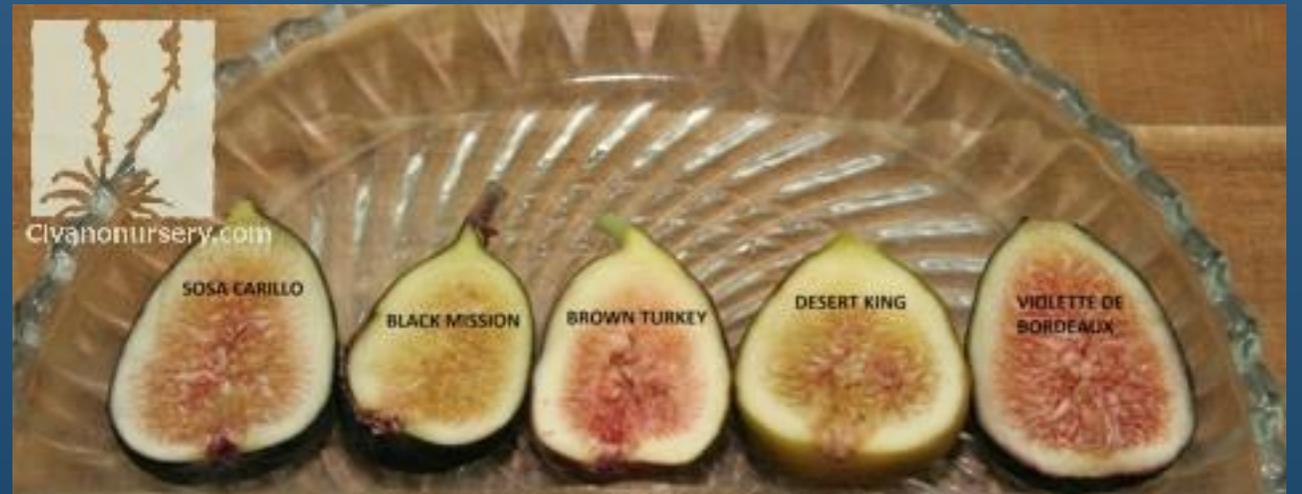
Savor the Southwest Blog, Bracken Fern

Information on Domesticated and Introduced Edible Species

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

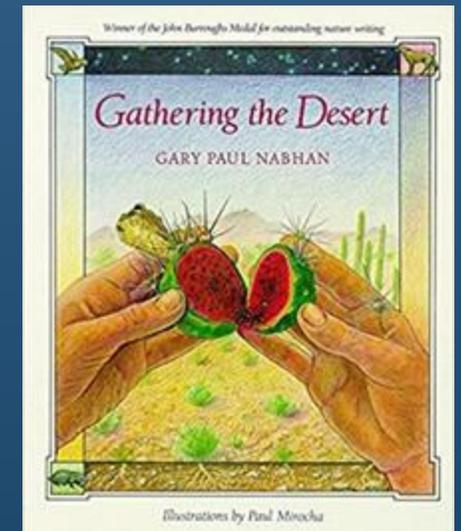
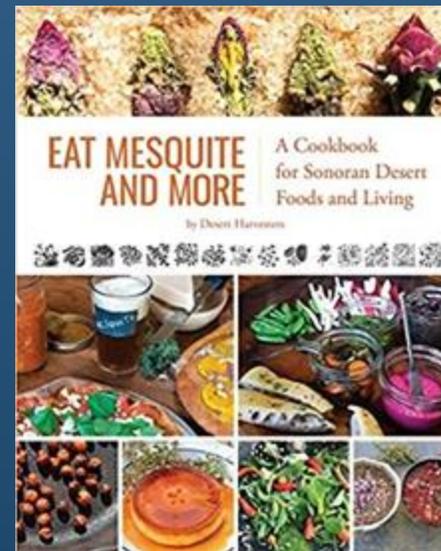
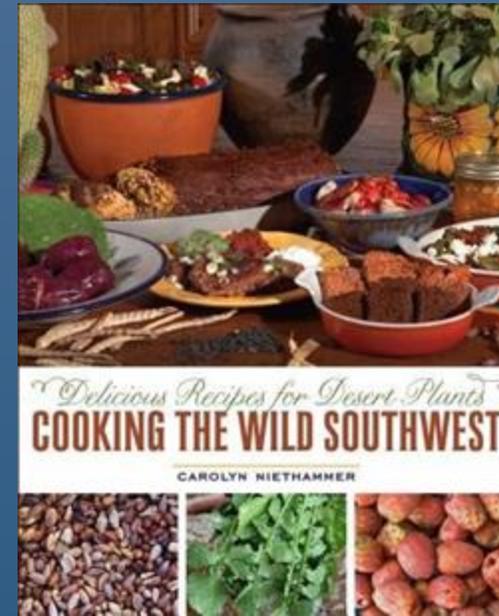


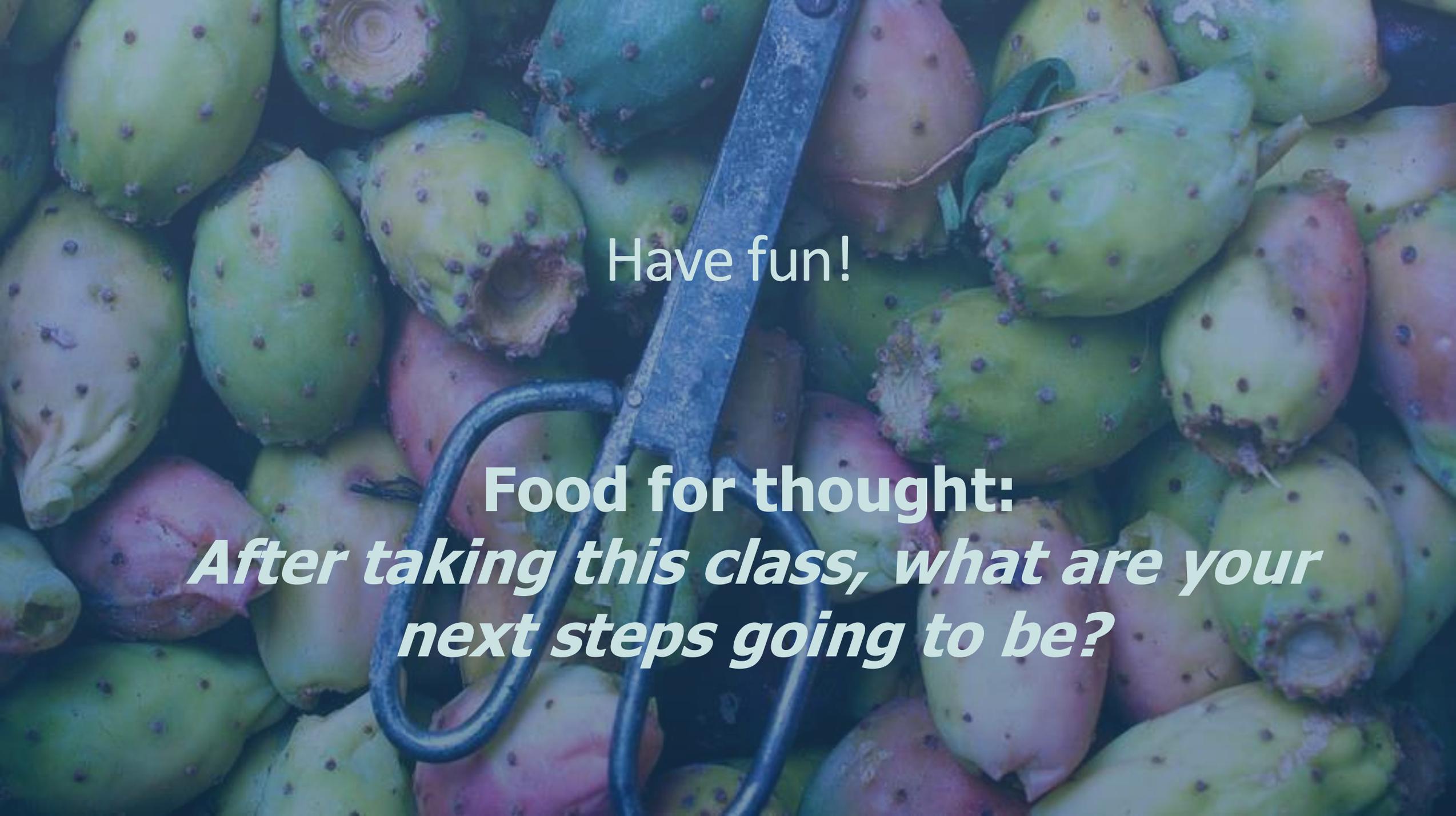
Savor the Southwest Blog, l'itoi (Elder Brother) Onion



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?*