Edible Tree Selection for Arizona's Urban Forests

Regional Tree & Shade Summit
March 9, 2016, Tempe, AZ
Ann Audrey, Chair, LEAF Network

The LEAF Network

Linking Edible Arizona Forests

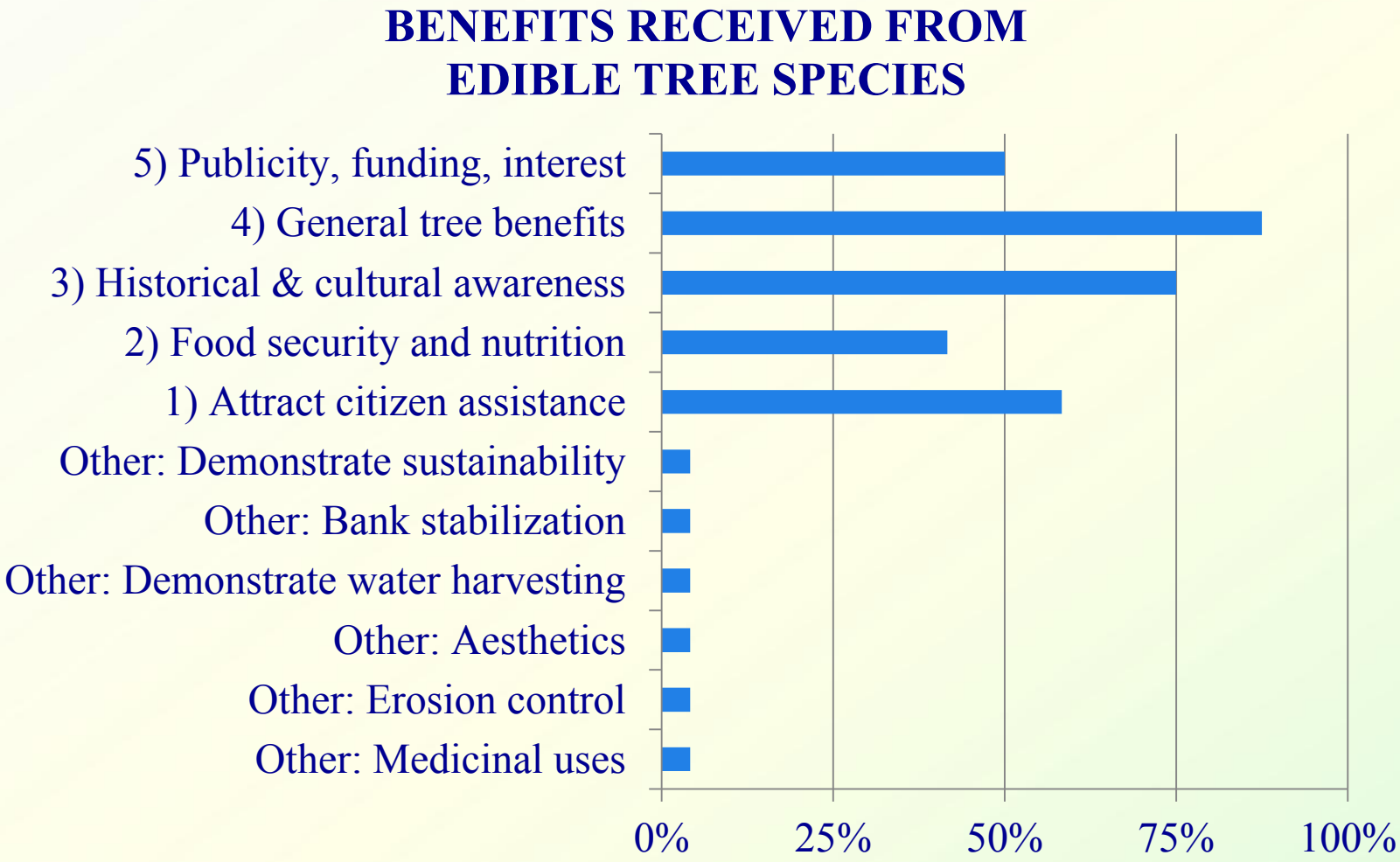
Mission

To link people with the benefits of edible trees and to support edible trees with our stewardship

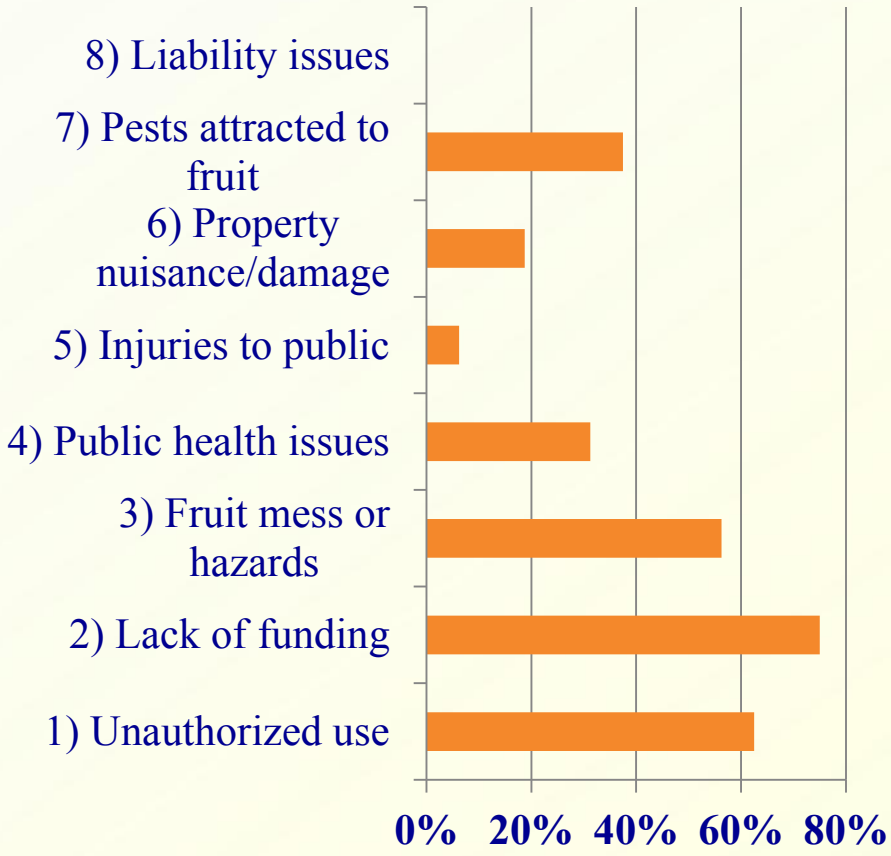
Edible trees…

- *Include native and cultivated species*
- *Produce edible fruits, seeds, nuts and pods*
- *Sustain people & wildlife*
- *Help the economy*
- *Include heritage species with community, cultural and historic significance*

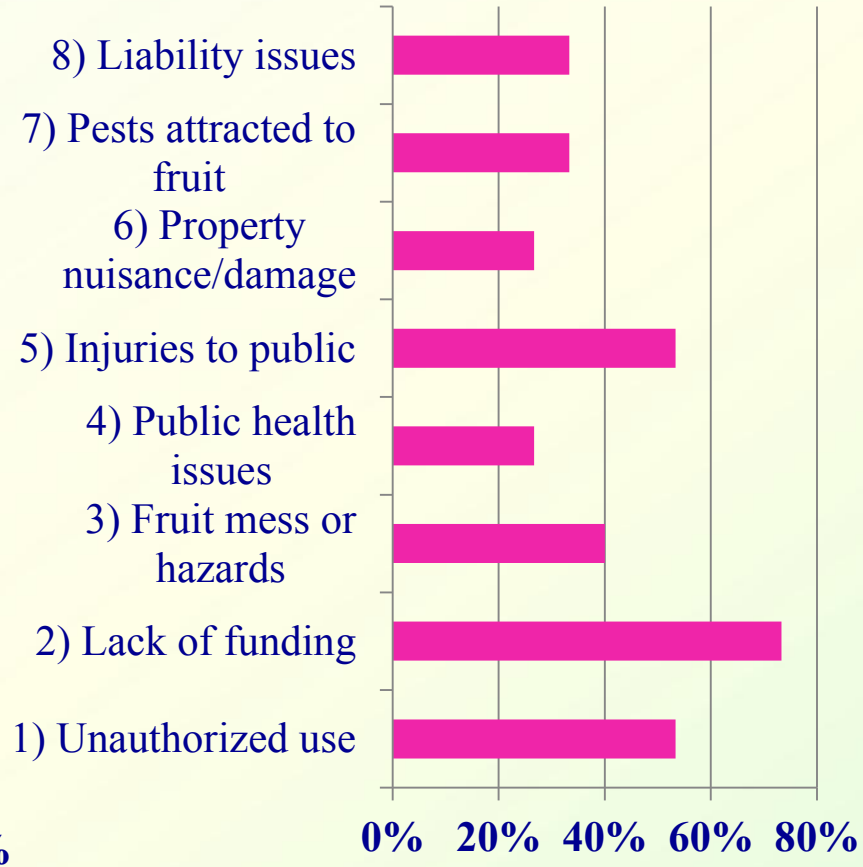
LEAF survey of public and conservation land owners and managers



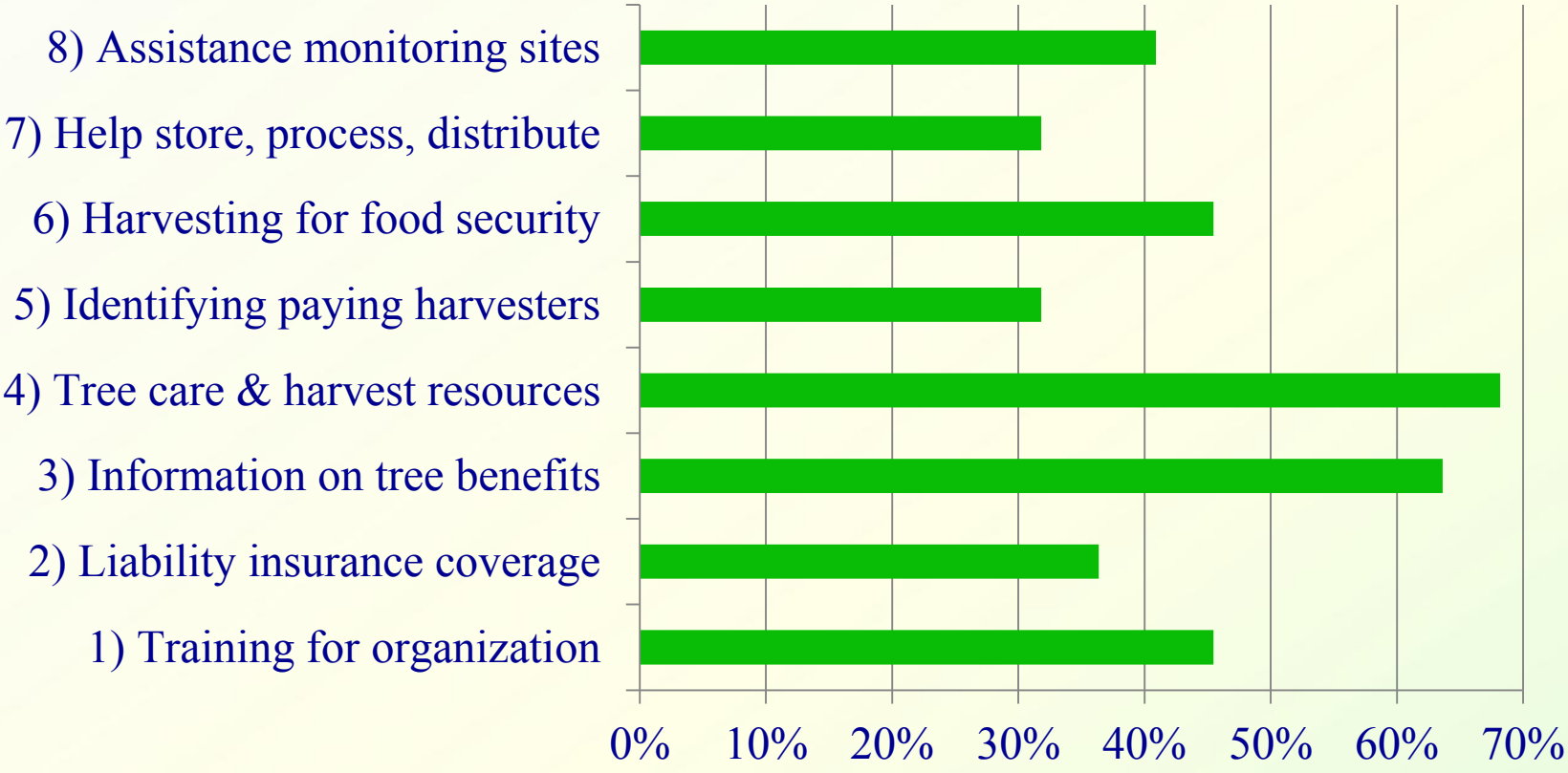
CURRENT ISSUES WITH EDIBLE TREES



FUTURE CONCERNS FOR SITES WITH EDIBLE TREES



WAYS TO ENCOURAGE PUBLIC/CONSERVATION LANDOWNERS TO USE EDIBLE TREES



RESOURCES FROM LEAF

Community Challenge Grant products

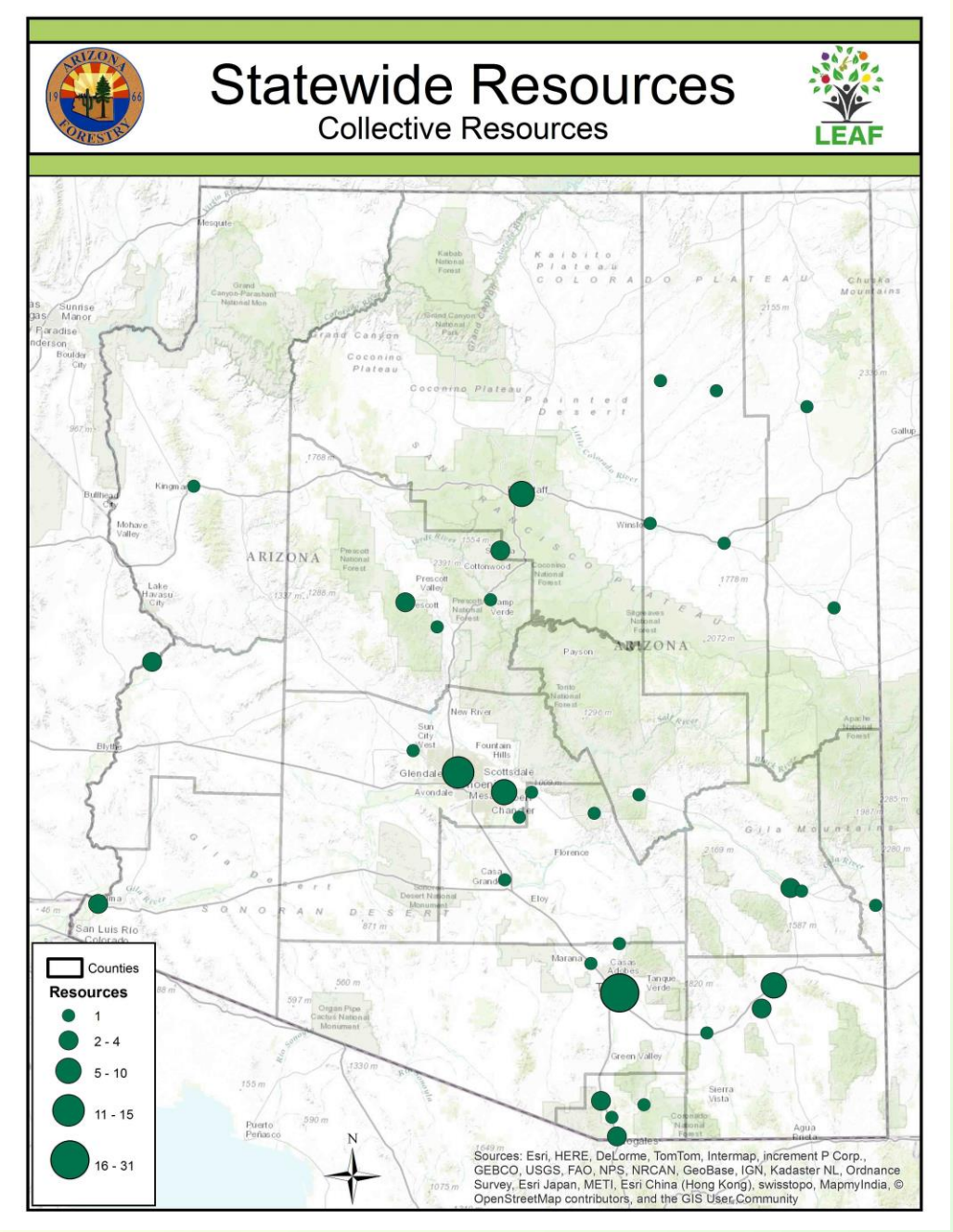
- *Five-Year Workplan*
- *Statewide Directory*
- *Report on edible tree issues and solutions*
- *Orchardist survey and report*
- *Collaboration on trainings and workshops*

Western Competitive Grant, in process

- *Edible Tree Database*
- *Edible Tree Guidebook*
- *LEAF Network Website*
- *Trees for Tucson Edible Tree Guide*
- *Statewide conference*
- *Edible tree docent network*
- *Edible tree celebration*
- *Brochure on benefits of edibles*

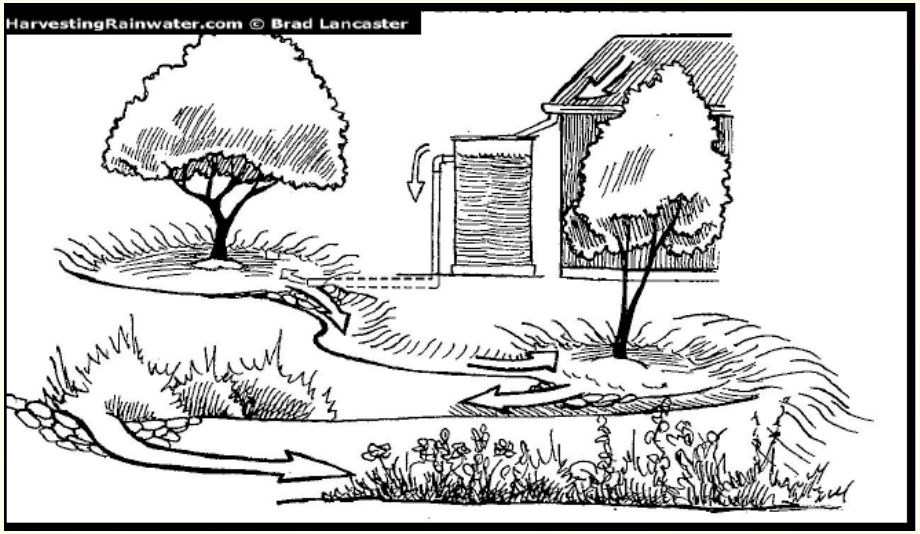
RESOURCES THROUGHOUT ARIZONA

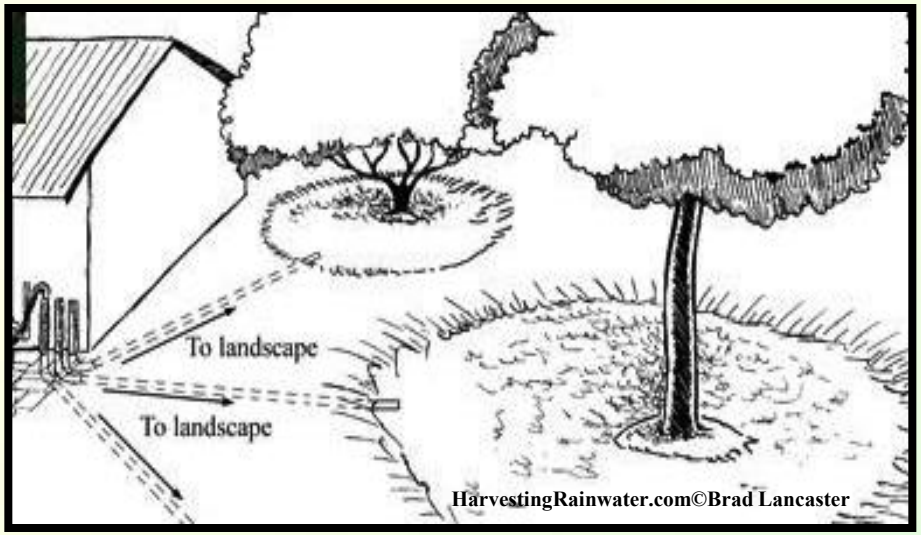
- *NGOs*
- *Businesses*
- *Governments*
- *Nurseries*
- *Farms*
- *Orchards*

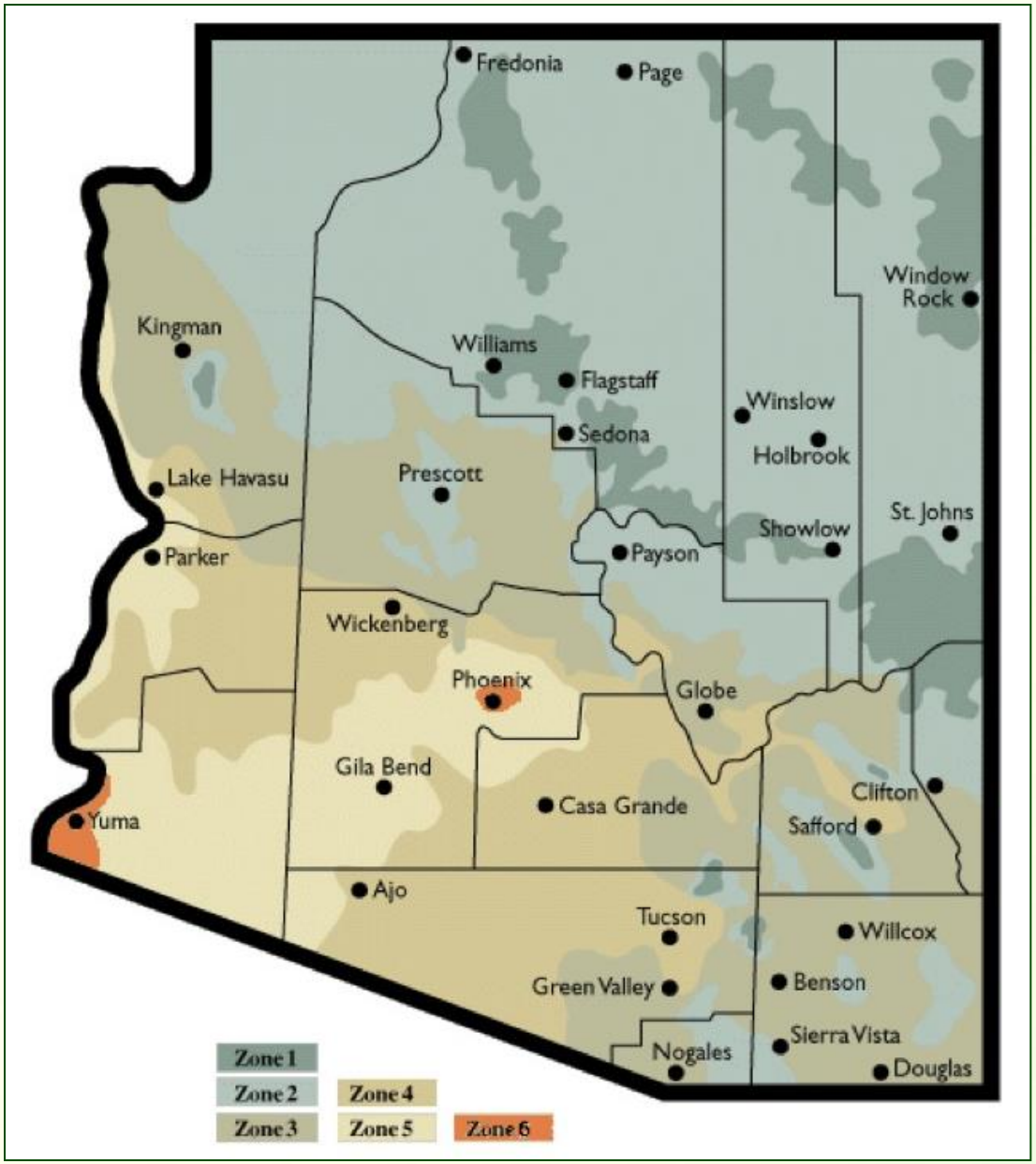


ALTERNATIVE WATER RESOURCES

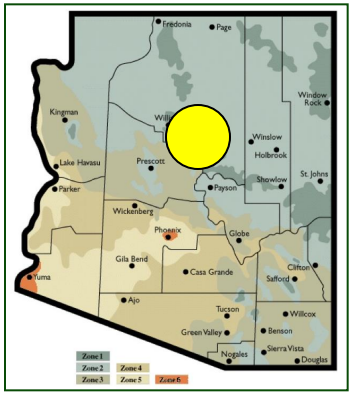
- **Passive rainwater harvesting in soil**
- **Rainwater harvesting in tanks**
- **Graywater reuse**
- **Stormwater capture**
- **AC condensate and others**







Which edible species are appropriate for Arizona Plant Climate Zones?

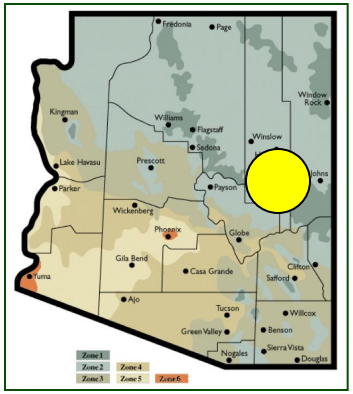


Zone 1
High mountains
Elevation > 6000 feet
Example, Flagstaff

Apple

Edible tree species*	Source	Low water use	Medium water use	Ever-green	Width, feet	Height, feet	Lifespan, years	Chill hours needed, 32 to 45 degrees	Thorns
apple	cultivated		X		15-20	15-20	150	variable	
cherry, cultivated &wild	cultivated, native		X			variable	15-30	400 - 1400	
elderberry	native		X		10	10-30	short	unknown	
hackberry, netleaf	native		X		35	35	100-200	unknown	X
hawthorn, cultivated & wild	cultivated, native		X		10-15	10-15	unknown	unknown	X
jujube, Chinese	cultivated		X		12	20-40	long-lived	none	X
juniper	native	X		X	20-40	Up to 50	long-lived	unknown	
medlar	cultivated		X		10-20	10-20	50-300+	800+	
mulberry, cultivated & wild	cultivated, native		X		20-30	20-30	up to 300, cultivated	300-450	
oak	Native		X	X	40+	60	long-lived	unknown	
pear, Asian pear	cultivated		X		15-25	30-60	150+	200-1500	X
persimmon	cultivated		X		15-25	40-50	50-75	100-400	
plum, cultivated & wild	cultivated, native		X		15-25	15-25	15-30	250-360	

** DRAFT DATA FROM LEAF NETWORK EDIBLE TREE DATABASE*



Zone 2
Cold plateau highlands
Elevation > 4000 - 6000 feet
Example, Holbrook

Quince

Edible tree species*	Source	Low WU	Medium WU	Ever-green	Width, feet	Height, feet	Lifespan, years	Chill hours	Thorns
apple	cultivated		X		15-20	15-20	150	variable	
apricot	cultivated		X		20	25-30	25-40	300-1000	
cherry, cultivated &wild	cult. native		X			variable	15-30	400 - 1400	
elderberry	native		X		10	10-30	short	unknown	
hackberry, netleaf	native		X		35	35	100-200	unknown	X
hawthorn, cult., wild	cult., native		X		10-15	10-15		unknown	X
jujube, Chinese	cultivated		X		12	20-40	long-lived	none	X
juniper	native	X		X	20-40	Up to 50	long-lived	unknown	
medlar	cultivated		X		10-20	10-20	50-300+	800+	
mulberry, cult. & wild	cult., native		X		20-30	20-30	<300, cult.	300-450	
oak	native		X	X	40+	60	long-lived	unknown	
peach, nectarine	cultivated				15-25	15-25	15-20 years	150-1200	
pear, Asian pear	cultivated		X		15-25	30-60	150+	200-1500	X
persimmon	cultivated		X		15-25	40-50	50-75	100-400	
pinyon pine		X		X	15-40	10-60	nuts to 200, live to 1000	unknown	
plum, cultivated & wild	cultivated		X		15-25	15-25	15-30	250-360	
quince	cultivated		X			25	30-50	100-500	
walnut wild	native		X		30-45	30-60	60+cult 400 wild	300-1500	

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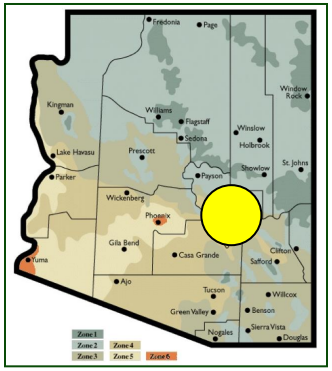
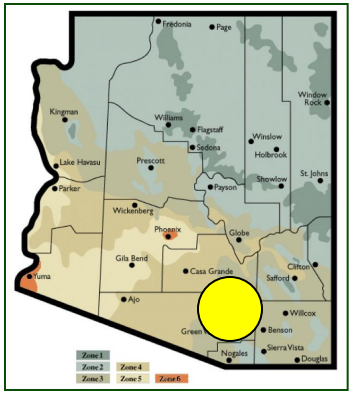


Zone 3
High altitude desert
Elevation > 3500 - 5000 feet
Example, Globe

Pomegranate

Edible tree species*	Sources	Low WU	Medium WU	Ever-green	Width, feet	Height, feet	Lifespan, years	Chill hours	Thorns
apple	cultivated		X		15-20	15-20	150	variable	
apricot	cultivated		X		20	25-30	25-40	300-1000	
cherry, cult., wild	cult, native		X			variable	15-30	400 - 1400	
elderberry	native		X		10	10-30	short	unknown	
fig	cultivated		X		15-50	10-30	30-40	<100	
hackberry, netleaf	native		X		35	35	100-200	unknown	X
hawthorn, cult, wild	cult., native		X		10-15	10-15		unknown	X
jujube, Chinese	cultivated		X		12	20-40	long-lived	none	X
juniper	native	X		X	20-40	Up to 50	<800	unknown	
kumquat	cultivated		X	X	5-10	8-15		none	X
medlar	cultivated		X		10-20	10-20	50-300+	800+	
mesquite	native	X			30	30	long-lived	none	X
mulberry, cult., wild	cult., native		X		20-30	20-30	<300 cult.	300-450	
oak	native		X	X	40+	60	long-lived	unknown	
pear, Asian pear	cultivated		X		15-25	30-60	150+	200-1500	X
persimmon	cultivated		X		15-25	40-50	50-75	100-400	
pinyon pine	native	X		X	15-40	10-60	200- 1000	unknown	
pistachio	cultivated		X		15	20	<150	1000	
plum, cult., wild	cult, native		X		15-25	15-25	15-30	250-360	
pomegranate	cultivated		X		10	15-30	25-30	50-300	X
quince	cultivated		X			25	30-50	100-500	
walnut, cult., wild		X			30-45	30-60	60+c, 400 wild	300-1500	



Zone 4
Mid-altitude desert
Elevation > 2000 - 4000 feet
Example, Tucson

Mesquite

Edible tree species*	Source	Low WU	Medium WU	Ever-green	Drought deciduous	Width, feet	Height, feet	Lifespan, years	Chill hours	Thorns
apricot	cultivated		X			20	25-30	25-40	300-1000	
carob	cultivated	X	X			25	25	100+	none	
citrus, 10 types	cultivated		X	x		various	20-30	50+	none	X
elderberry	native		X			10	10-30	short	unknown	
fig	cultivated		X			15-50	10-30	30-40	<100	
ironwood	native	X			x	15-25	15-45	1500	none	X
jujube, Chinese	cultivated		X			12	20-40	long-lived	none	X
kumquat	cultivated		X	X		5-10	8-15		none	X
loquat	cultivated		X	X		15-20	20-30	long lived, bear for 90	none	
mesquite	native	X			x	30	30	long-lived	none	X
mulberry, cultivated & wild	cultivated, native		X			20-30	20-30	up to 300, cultivated	300-450	
olive	cultivated		X	X		30	30	ave 500, up to 1500	100-300	
palo verde	native	X			x	25-30	20-30	long-lived	none	X
pistachio	cultivated		X			15	20	up to 150	1000	
pomegranate	cultivated		X			10	15-30	25-30	50-300	X
quince	cultivated		X				25	30-50	100-500	

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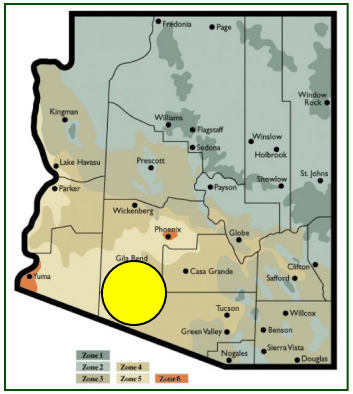

Zone 5
Low-altitude desert
Elevation > 1000 - 2000 feet
Example, Ajo

Loquat

Edible tree species*	Source	Low WU	Medium WU	Ever-green	Drought deciduous	Width, feet	Height, feet	Lifespan, years	Chill hours	Thorns
carob	cultivated	X	X			25	25	100+	none	
citrus (10 species)	cultivated		X	x		various	20-30	50+	none	X
fig	cultivated		X			15-50	10-30	30-40	<100	
Ironwood	native	X			x	15-25	15-45	1500	none	X
jujube, Chinese	cultivated		X			12	20-40	long-lived	none	X
kumquat	cultivated		X	X		5-10	8-15		none	X
loquat	cultivated		X	X		15-20	20-30	long lived, bear for 90 urs	none	
mesquite	native	X			x	30	30	long-lived	none	X
olive	cultivated		X	X		30	30	average 500, up to 1500	100-300	
palo verde	native	X			x	25-30	20-30	long-lived	none	X
pomegranate	cultivated		X			10	15-30	25-30	50-300	X
saguaro	native	X				15	45+	150-200	none	X
sapote: white/yellow	cultivated		X		x	20-30	15-60		none	

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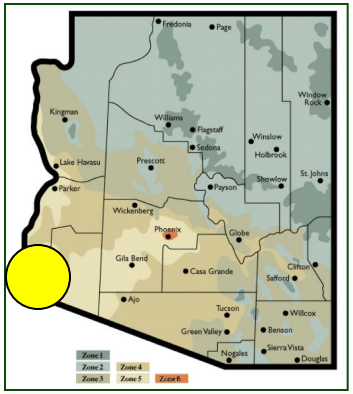

Zone 6
Very low desert
Elevation < 1000 feet
Example, Yuma

Lemon

Edible tree species*	Source	Low WU	Medium WU	High WU	Ever-green	Drought deciduous	Width, feet	Height, feet	Lifespan, years	Chill hours	Thorns
carob	cultivated	X	X				25	25	100+	none	
citrus, 10 species	cultivated		X		X		various	20-30	50+	none	X
fig	cultivated		X				15-50	10-30	30-40	<100	
ironwood	native	X				X	15-25	15-45	1500	none	X
jujube, Chinese	cultivated		X				12	20-40	long-lived	none	x
kumquat	cultivated		X		X		5-10	8-15		none	X
loquat	cultivated		X		X		15-20	20-30	long lived, bear for 90 yrs	none	
mesquite	native	X				X	30	30	long-lived	none	X
olive	cultivated		X		X		30	30	ave 500, up to 1500	100-300	
palo verde	native	X				X	25-30	20-30	long-lived	none	X
saguaro	native	X					15	45+	150-200	none	X
sapote: white/yellow	cultivated		X			X	20-30	15-60		none	

** DRAFT DATA FROM LEAF NETWORK EDIBLE TREE DATABASE*

How planting edible trees can help Arizona's future….

Lancaster residence RIGHT OF WAY, Tucson, 1994 and today

Edible tree landscape supported by street runoff accessed through curb cuts

Special thanks to

Arizona State Forestry
Arizona Community Tree Council

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SIGN UP FOR MORE INFORMATION