

2020-2024

Urban and Community Forestry Strategic Plan



Arizona Department of Forestry and Fire
Management - UCF Staff

Arizona Community Forestry Committee

TABLE OF CONTENTS

| | |
|--|----|
| Introduction..... | 1 |
| Background and Need..... | 1 |
| Community Forestry Committee..... | 1 |
| Purpose and Scope..... | 2 |
| Purpose..... | 2 |
| Scope..... | 2 |
| Goals, Objectives and Strategies..... | 3 |
| 1. Integrate UCF Into All Scales of Planning..... | 3 |
| 2. Promote the Role of UCF in Human Health and Wellness..... | 4 |
| 3. Cultivate Diversity, Equity and Leadership in Urban Forestry Community..... | 5 |
| 4. Strengthen UCF Health and Biodiversity for Long-term Resilience..... | 6 |
| 5. Improve UCF Management, Maintenance, and Stewardship..... | 6 |
| 6. Diversify, Leverage and Increase Funding for UCF..... | 7 |
| 7. Increase Public Awareness and Environmental Education..... | 8 |
| Participants..... | 9 |
| Appendices..... | 10 |
| 2017 Urban and Community Forestry Needs Assessment..... | 10 |
| Historical Perspective for Urban & Community Forestry in Arizona..... | 34 |
| Tables and Maps of Program Activities..... | 36 |

INTRODUCTION

BACKGROUND AND NEED

Formed in 1966, the Department of Forestry and Fire Management (DFFM) – formerly known as Arizona State Forestry - manages and reduces wildfire risk to Arizona's people, communities and wildland areas, while providing forest resource stewardship through strategic implementation of forest health policies and cooperative forestry assistance programs. DFFM's Urban and Community Forestry (UCF) Program is a cooperative forestry program that focuses on the stewardship of urban natural resources. The UCF Program provides technical assistance, education and other resources – responding to the needs of urban areas by helping communities value, conserve, manage and enhance community forest ecosystems throughout Arizona.

The Arizona UCF program was initiated in 1991 and was tasked to provide technical assistance and cost-share grants to Arizona communities. Since 1996, more than 3 million in cost-share grants have been awarded to over 275 communities and organizations for urban forest management activities. In the past 4 years alone, the Arizona UCF Community Challenge Grant program has received more than \$1.6 million in matching partner contributions.

Arizona's UCF program is managed and funded in collaboration with the USDA Forest Service who stipulates that a programmatic 5-year strategic plan be developed for funding eligibility. Thus, this five-year plan is an important guiding document for review of program accomplishments and enables Arizona to receive Federal funding for UCF program efforts.

COMMUNITY FORESTRY COMMITTEE

In order to better coordinate and support the DFFM Natural Resources Action Plan (NRAP) priorities, a 9- to 11-member Community Forestry Committee (CFC) was created and is a Designated Committee to the State Forester. The CFC serves as the Department's Advisory Committee to the Arizona UCF Program, allowing DFFM to continue to meet national program requirements. The 2015-

2019 Strategic Plan and the plan presented here were developed, reviewed and approved by the CFC. This document will guide Arizona's UCF program implementation and is a culmination of the CFC's efforts, with assistance from UCF program staff.



PURPOSE AND SCOPE

PURPOSE

The purpose of this five-year plan is to provide strategic direction and guidance for Arizona's UCF program implementation and to coordinate statewide efforts to value, conserve, manage, and enhance Arizona's community forests.

SCOPE

This plan is intended to span a five-year period, providing direction to DFFM staff and Community Forestry Committee members as they build on past program success and continue to improve, expand and support the UCF program.

GOALS, OBJECTIVES AND STRATEGIES

Strategic goals and objectives for the UCF program were aligned with the National Urban and Community Forestry Advisory Council's (NUCFAC) Ten-Year Urban Forestry Action Plan: 2016-2026 and support the Arizona DFFM Natural Resources Action Plan (completed in 2010 and currently under revision with completion in 2018). Action items (referred to herein as Strategies) were identified by the CFC and UCF program staff for UCF program-specific activities that help DFFM achieve strategic NRAP goals. These strategies support the three overarching principals of NUCFAC's Ten-Year Urban Forestry Action Plan of (1) Advance health and wellness of forests, ecosystems, and people (2) Maximize community and ecosystem sustainability (3) Build community and natural ecosystem resilience.

The Strategies identified by the CFC and UCF staff are described under the related NUCFAC goals below; the corresponding DFFM NRAP Goal is also listed for ease in cross-referencing.

1. INTEGRATE UCF INTO ALL SCALES OF PLANNING

DFFM NRAP Goals: People and Landscapes Goal 1, Objs. 1-4; Goal 2, Objs. 1-2 || Ecosystem Health Goal 1, Obj. 1; Goal 2, Obj. 3 || Water Goal 1, Obj. 4; Goal 3, Obj. 3 || Economy Goal 2, Obj. 1 || Climate Change Goal 1, Obj. 1; Goal 3, Obj. 1 || Culture Goal 1, Obj. 2; Goal 2, Obj. 1

STRATEGIES:

- Connect with HOAs and tree care companies as appropriate to gather tree inventory data that can be added to the AZUTM database, with the goal of capturing the urban canopy data in HOA common areas. Connect with Tucson Clean and Beautiful during their tree mapping project to gather applicable urban canopy data in Tucson.
- Create Scenario/Die-off Preparedness Plan that identifies threats to urban forest health and corresponding mitigation measures (e.g. Early Detection Rapid Response-type strategies) which can also act as a central repository for forest health threats information. The Plan could include what to look for, steps on how to attack each threat on the ground, outreach materials, and prevention messaging. Contact other states to get examples, determine what does/does not work, and assess what information they wish they knew ahead of time. Include

connection to current AZUTM products as appropriate to encourage tree inventories that will aid in threat detection.

- Increase TREE City USA participation as outlined in the 2018-2019 TCUSA Programmatic Plan. Include outreach material that outlines the four standards and examples on how to meet them, with attention to the budget and observance standards.
- Identify planners and create reference materials on the benefits of community trees that can influence multi-dimensional comprehensive plans (e.g. stormwater management plans, land use, green streets, downtown revitalization plans and others). Collaborate with ASU Sustainable Cities Network initially on Tree and Shade Master Plan and green infrastructure plans. Survey cities, towns, and Association of Governments (e.g. PAG, MAG) with the goal of determining what plans are being updated and the schedule for updates. Participate in planning groups as resources and staff time allow.
- Provide cost-share grant program opportunities (as resources allow) under identified cost-share grant themes to facilitate urban forest resource stewardship. Community Challenge Grant priorities will focus on the following themes for the next five years:
 - 2019 - Water Conservation and Rainwater Harvesting for Benefit of Trees and Communities; Using Trees to Manage Water Volumes
 - 2020 – Assessment and Dissemination of Practical Application
 - 2021 - Promote the Value/Benefits of Trees (educating or marketing) in Underserved Communities
 - 2022 - Planning for Trees
 - 2023 - Using Technology for Management and Maintenance
 - 2024 - Immigrant and Refugee Relationship to Trees; Cultural and historic use and value of trees; historic tree preservation; or maintaining connections to historically important trees that are no longer standing.

2. PROMOTE THE ROLE OF UCF IN HUMAN HEALTH AND WELLNESS

DDFM NRAP Goal: People and Landscapes Goal 1, Objs. 1, 2, 4 || Air Goal 1, Obj. 1

STRATEGIES:

- Partner with and create outreach/marketing materials for new audiences, including but not limited to hospitals, retirement homes, community centers, realtors, and the media. The focus for realtors could include information on how trees increase property values, how existing

trees on a lot affect energy savings, and data on increased consumer spending in areas with trees (for business lots).

- ❑ Research feasibility of partnership with AZ Department of Health to produce materials outlining benefits of trees on reduced healthcare costs and other economic benefits related to health.
- ❑ Partner with school parent organizations to encourage tree plantings on campus and to create materials connecting trees with benefits to common youth health issues like asthma.
- ❑ Research interest in using existing outreach materials like Neighborhood Forests curriculum in school districts across the state.

3. CULTIVATE DIVERSITY, EQUITY AND LEADERSHIP IN URBAN FORESTRY COMMUNITY

DFFM NRAP Goal: People and Landscapes Goal 1, Objs. 1- 2; Goal 2, Obj. 1 || Ecosystem Health Goal 2, Obj. 3 || Economy Goal 2, Obj. 4; Goal 3, Obj. 3 || Culture Goal 1, Objs. 1- 2; Goal 2, Obj. 2



STRATEGIES:

- ❑ Add lesson plans to the existing Neighborhood Forests curriculum series and make use of free USFS translation services to make plans available in Spanish and other languages.
- ❑ Continue to offer tree care and maintenance trainings/certifications – cross-listed under Goals 3,4,5,7.
- ❑ Provide one networking opportunity for Tree City/Campus USA participants as outlined in the TCUSA Programmatic Plan 2018-2019. Include topics such as engaging decision makers to increase

support; cross-listed under Goal 5. Research feasibility of adding a networking luncheon to the AZ Arbor Day Celebration.

- Explore innovative new partnerships with groups including, but not limited to, tribes, Hispanic Chamber of Commerce, AARP, transportation authorities, Arizona Forward, and Local First.
- Create connections with and educational materials for landscape and green jobs workforce (e.g. YARDS program – TCB; Recidivism crew; veterans; DFFM Phoenix crew). Create program materials on urban forestry careers for schools (could include ACTC career poster and a show-and-tell experience with kids' climbing gear such as that owned by Jon Bora with All American Arborist).

4. STRENGTHEN UCF HEALTH AND BIODIVERSITY FOR LONG-TERM RESILIENCE

DFFM NRAP Goal: People and Landscapes Goal 1, Objs. 1, 2, 4; Goal 2, Objs. 1-2 || Ecosystem Health Goal 1, Obj. 1; Goal 2, Obj. 3 || Climate Change Goal 3, Objs. 1-2

STRATEGIES:

- Research a possible partnership with Agro forestry to create a food tree map that locates food trees in public spaces. Map could be available online and interactive. Gather any data that has already been used by DFFM or the LEAF Network. Resource could include information related to laws or guidelines regarding collecting on public property. Research feasibility in adding an attribute to the AZUTM inventory platform that would allow the user to identify public food trees.
- Research feasibility and usefulness of creating a list or other resource that describes native trees' response to climate change, commonly planted trees and native alternatives for different parts of the State to encourage increased species diversity. Connect with Maricopa County Air Quality X (MCAQX) regarding their "List of Lists."
- Continue to offer trainings and workshops on forest health issues; cross-listed under Goals 3,4,5,7.

5. IMPROVE UCF MANAGEMENT, MAINTENANCE, AND STEWARDSHIP

DFFM NRAP Goal: People and Landscapes Goal 1, Objs. 1, 2, 4; Goal 2, Objs. 1- 2 || Ecosystem Health Goal 1, Objs. 1, 4; Goal 2, Obj. 3 || Air Goal 1, Obj. 1

STRATEGIES:

- Create Tree Failure and Mortality Database to identify health trends in

common species. Research database examples such as those used in CA. Create simple form for tree care workers.

- Create Tree Care Videos for the DFFM You Tube Channel. Videos could be short (1-3 minutes maximum) tutorials and interviews on tree care topics (e.g. Top 5 Tree Care Mistakes as listed on DFFM website); cross-listed under Goal 7. Engage professionals in the tree care industry to be involved on camera. Utilize a wide variety of camera technologies and techniques to capture the impact of Arizona's Magnificent Trees on the environment and surrounding community. Work with partners to engage and promote sponsorship.
- Continue and expand current Tree Risk Assessment trainings to non-typical audiences (e.g. State parks and other land managers).
- Continue to offer workshops and trainings as cross-listed under Goals 3,4,5,7.
- Continue to offer grants targeted at management and maintenance (slated for 2023 funding cycle).
- Research examples of checklist/guidelines for ordinances and tree management plans for Tree City/Campus USA program with the Arbor Day Foundation. If none exist, create an online checklist to help first-time applicants. Include a list of questions for communities to answer rather than a customizable template.
- Provide one networking opportunity for Tree City/Campus USA participants as outlined in the TCUSA Programmatic Plan 2018-2019. Include topics such as engaging decision makers to increase support; cross-listed under Goal 3.

6. DIVERSIFY, LEVERAGE AND INCREASE FUNDING FOR UCF

DFFM NRAP Goal: People and Landscapes Goal 1, Objs. 1, 2, 4; Goal 2, Obj. 2 || Ecosystem Health Goal 2, Obj. 3

STRATEGIES:

- Solicit partners and previous grantees for volunteer and tree planting data for use in requests aimed at increasing State funding.
- Explore partnerships with other government agencies to leverage funding (e.g. AZ Department of Health Services).

7. INCREASE PUBLIC AWARENESS AND ENVIRONMENTAL EDUCATION

DFFM NRAP Goal: People and Landscapes Goal 1, Objs. 1, 2, 4; Goal 2, Objs. 1- 2 || Ecosystem Health Goal 1, Obj. 1

STRATEGIES:

- Create Tree Care Videos. Videos could be short (1-5 minutes maximum) tutorials and interviews on tree care topics (e.g. Top 5 Tree Care Mistakes as listed on DFFM website); cross-listed under Goal 5. Engage professionals in the tree care industry to be involved on camera. Inclusion of Arizona's Magnificent Trees.
- Create a youth activity for tabling events to encourage kids and families to peruse the table (e.g. Stump the Arborist).
- Continue to offer workshops and trainings – listed under Goals 3,4,5,7.
- Partner with school parent organizations to encourage tree plantings on campus and to create materials connecting trees with benefits to common youth health issues like asthma. Research interest in using existing outreach materials like Neighborhood Forests curriculum in school districts across the state. Provide information and material for planting trees at events. Cross-listed with Goal 2.



PARTICIPANTS

MC Baldwin, Navajo Nation

Claud Cluff, Arizona Community Tree Council

Harry Cooper, Flood Control District of Maricopa County

Cori Dolan, AZ Department of Forestry and Fire Management

Doug Duport, Arizona State University

Tom Ellis, Tucson Clean & Beautiful/ Trees for Tucson

Bonnie Ervine, AZ Rare Fruit Growers

Matthew Goodnight, Salt River Project

Wolfgang Grunberg, AZ Department of Forestry and Fire Management

Jon Orona, AZ Department of Forestry and Fire Management

Jerry Payne, AZ Department of Forestry and Fire Management (retired)

John Richardson, AZ Department of Forestry and Fire Management

Alix Rogstad, AZ Department of Forestry and Fire Management (formerly)



Purpose and Vision

Through this Needs Assessment, the UCF Program hopes to understand how to better fulfill the urban forestry needs of the diverse cities, towns and communities in Arizona and continuously improve the programs and resources offered.

The purposes of this Needs Assessment are to:

- Obtain feedback from Arizona residents regarding experiences with the Department of Forestry and Fire Management, its programs and the urban forest in their community.
- Inform current strategic planning efforts.

Objectives

The Needs Assessment was developed with several objectives in mind that will assist the UCF Program in strategic planning and long-term program implementation.

Specific Objectives:

1. Identify needs and gaps in services provided by the DFFM Community Forestry and Forest Health programs.
2. Gather information on the awareness and status of community forests across the state.
3. Identify training and conservation education needs by community.
4. Assess the status of volunteer and tree planting programs across the state.

Data Collection Methodology

The Needs Assessment was conducted using SurveyMonkey and was open from 4 June through 27 June 2017. A link to the Needs Assessment was sent to 627 individuals, including but not limited to Urban Tree Talk newsletter recipients, past and current grantees, and academic, federal, state and NGO project collaborators.

Data Analysis and Responses Received

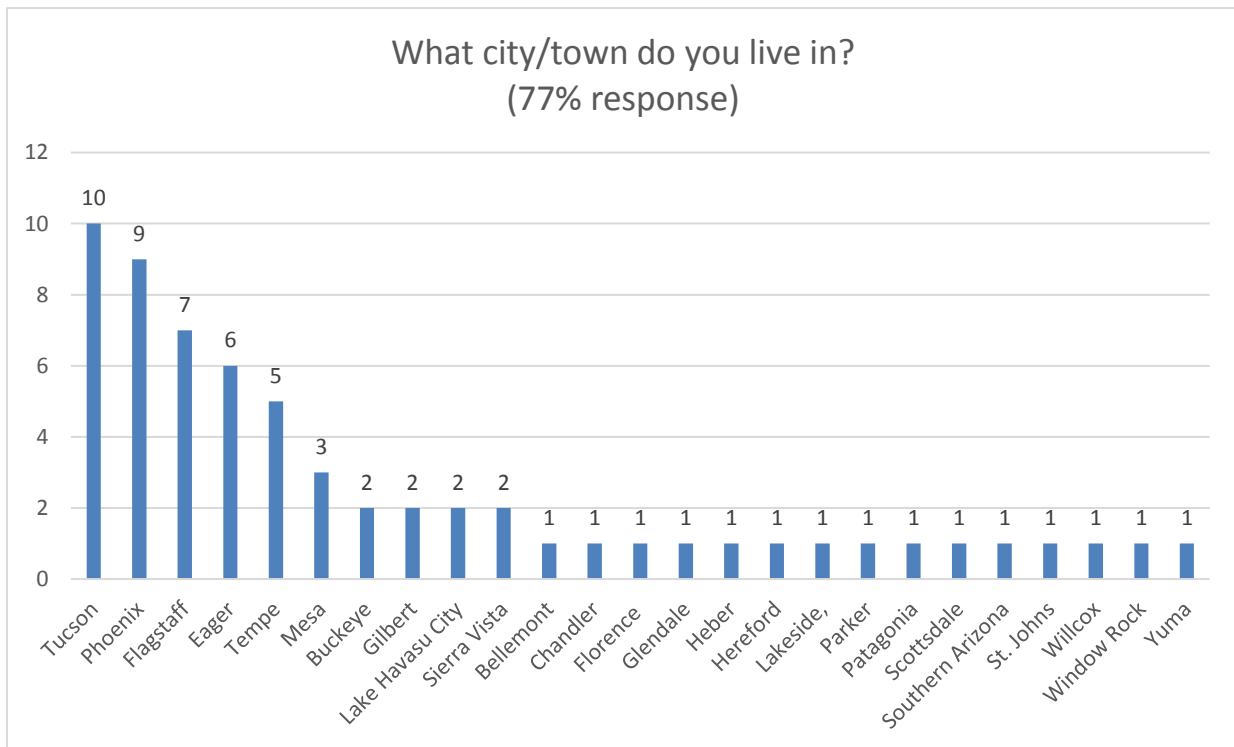
There were 75 responders for a response rate of 12%. The national average for response rates for assessments of this nature is 10-15%.

Summary of Survey Questions and Responses

Demography Questions

Residency

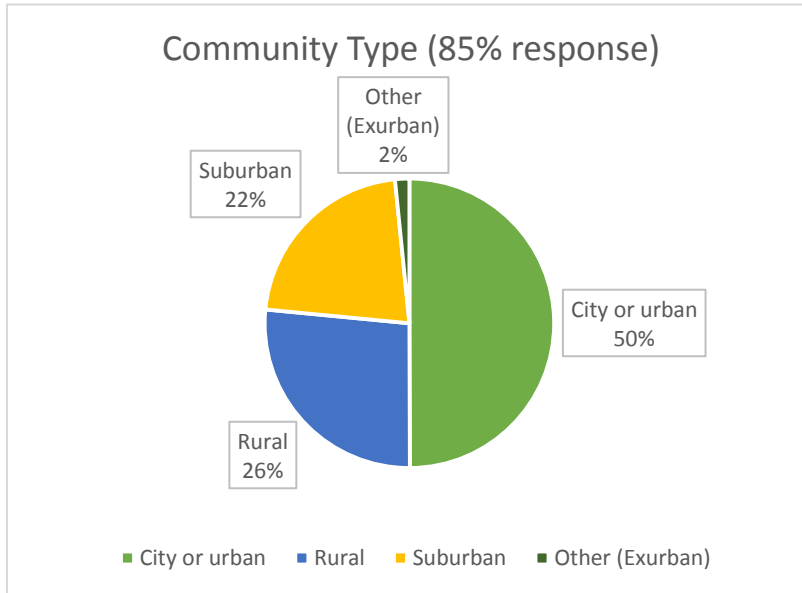
Question 20 - 77% response.



Most survey respondents are residents of Phoenix and Tucson, the two largest metropolitan areas in Arizona. 41% of respondents live outside of these metropolitan areas. This is a 7% increase from the 2015 NA, where only 34% of respondents replied they were residents outside of the Phoenix and Tucson metropolitan areas.

Type of Community

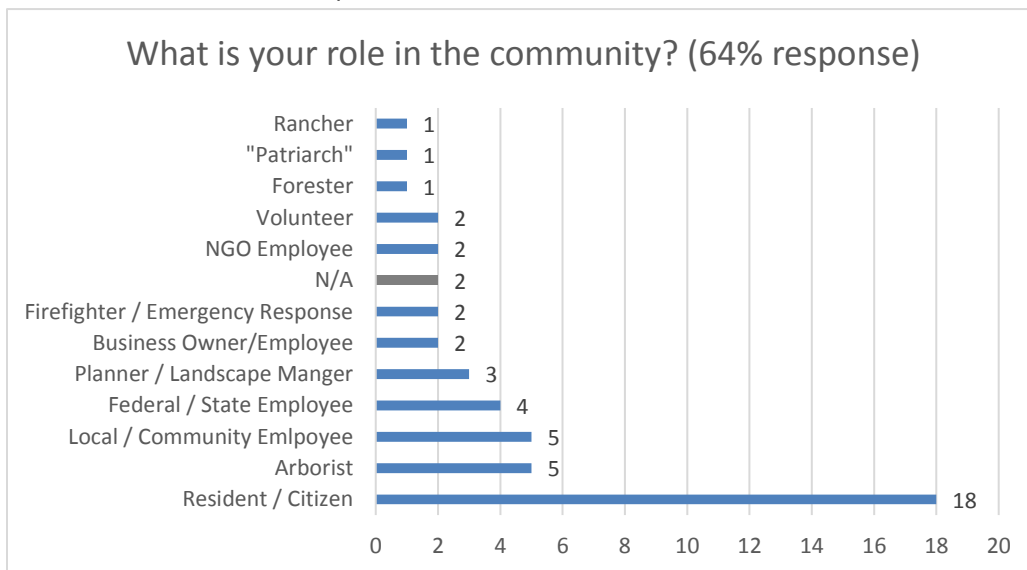
Question 21 – 85% response.



Half of survey respondents reside in urban areas. 26% of respondents live in rural areas.

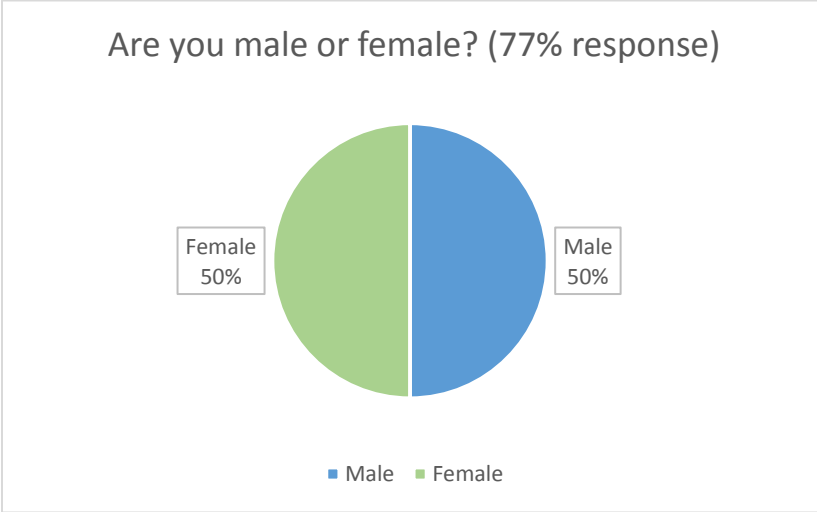
Role in Community

Question 22 – 64% response.



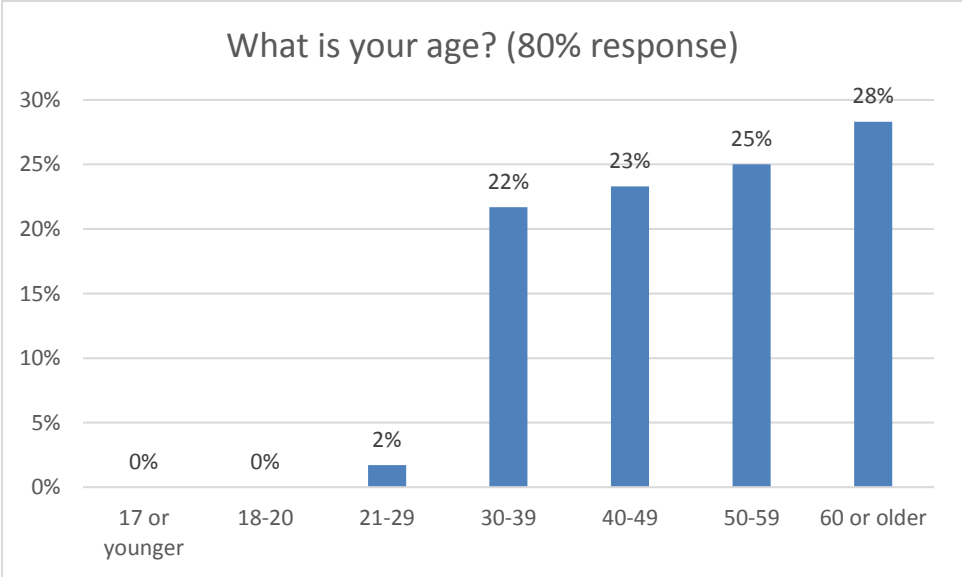
Gender

Question 23 – 77% response.



Age

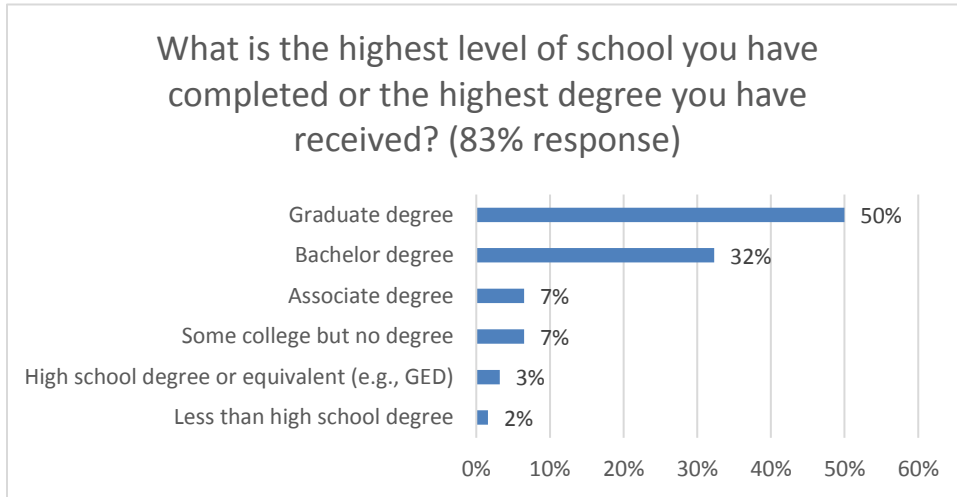
Question 24 – 80% response.



98% of survey respondents are over the age of 30. There were no respondents under the age of 20.

Education

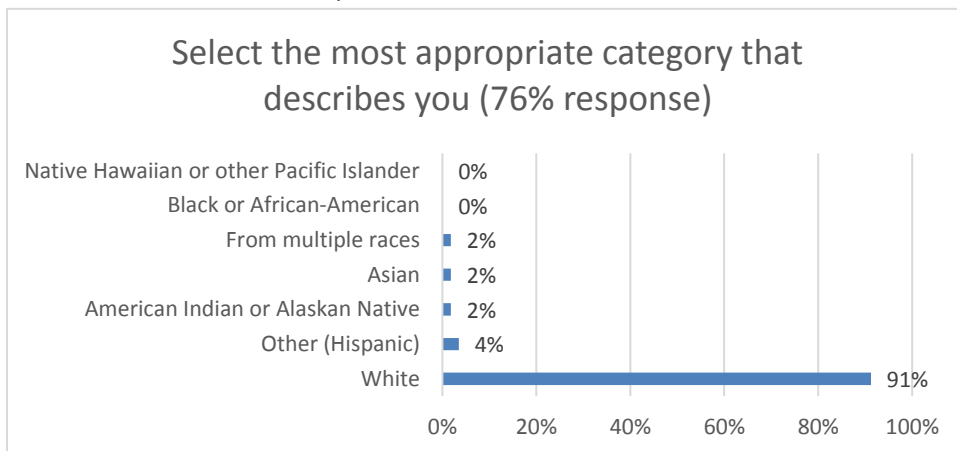
Question 25 – 83% response.



82% of survey respondents hold a bachelor's degree or higher.

Race

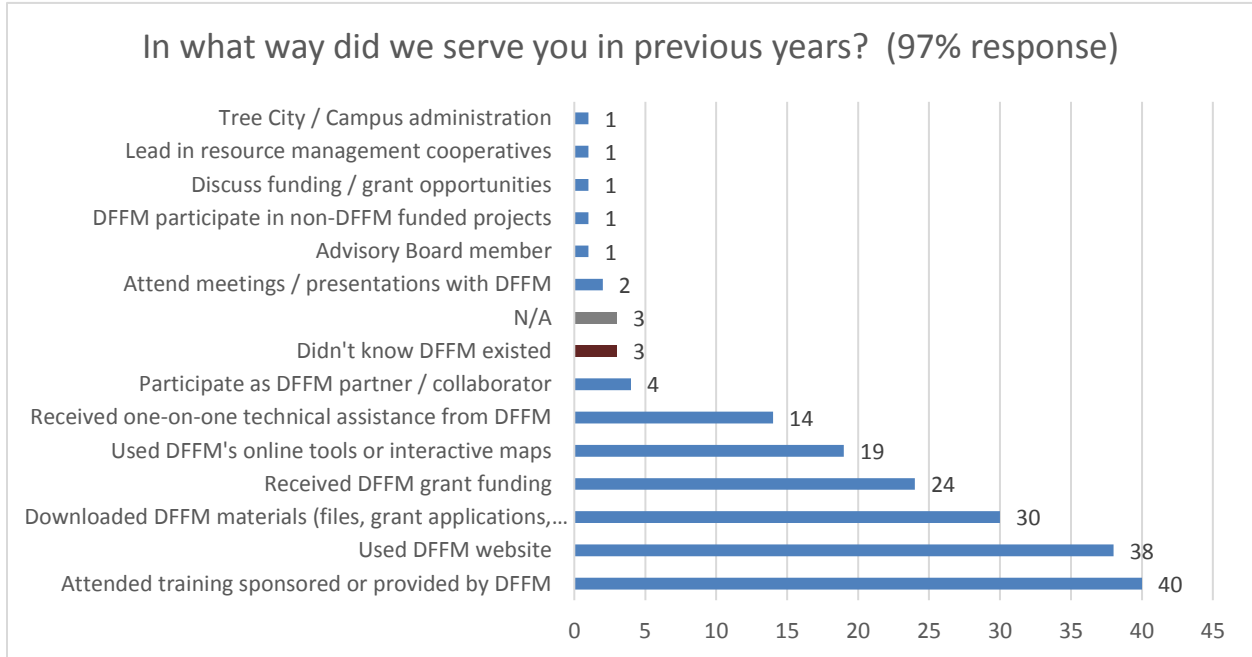
Question 26 – 76% response.



DFFM Urban and Community Forestry Service Questions

In what way did we serve you in previous years?

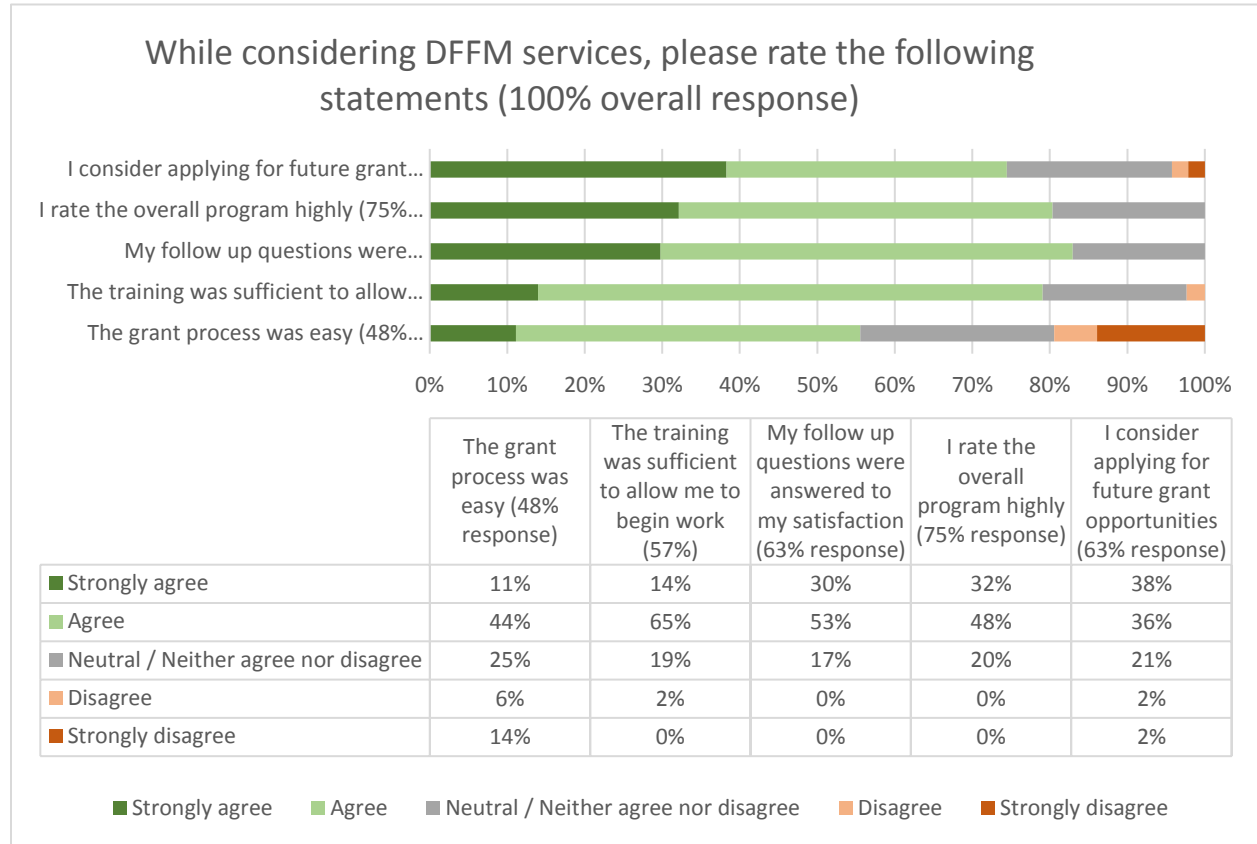
Question 1 – 97% response



Attending DFFM sponsored trainings, using the DFFM website, and downloading DFFM materials are the top 3 ways that survey respondents were served in previous years. In the 2015 NA, technical assistance, grants, and the Arbor Day celebration were the top ways survey respondents were served by DFFM.

Service Satisfaction

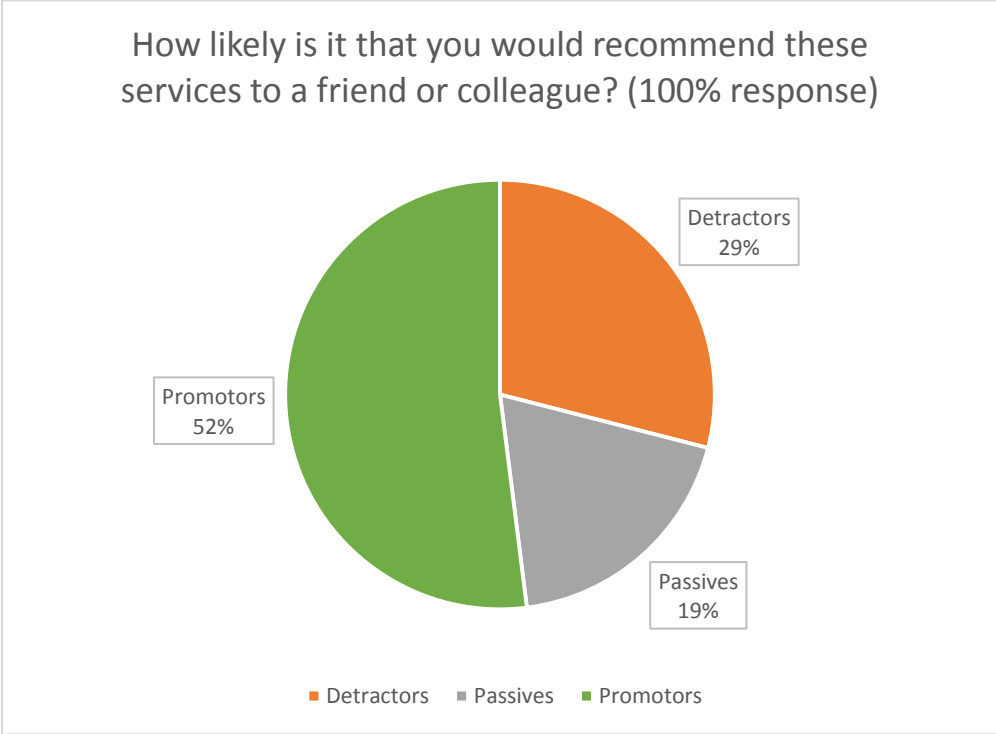
Question 2 – 100% overall response.



When asked if the DFFM grant process was easy, 20% of respondents either disagreed or strongly disagreed. This was the lowest rating of all services asked to be rated. When asked if they would rate the overall UCF program highly, 80% of respondents either agreed or strongly agreed. In the 2015 NA, 92% of survey respondents rated the service provided by DFFM as good or excellent.

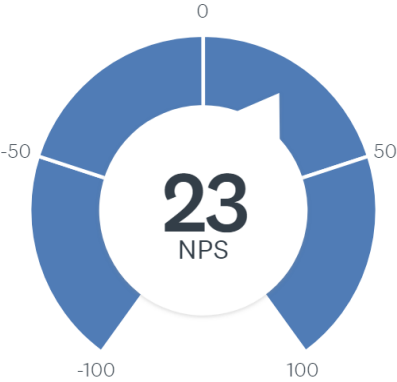
UCF Service Promotion

Question 3 – 100% response.



A little more than half of survey respondents would recommend DFFM services.

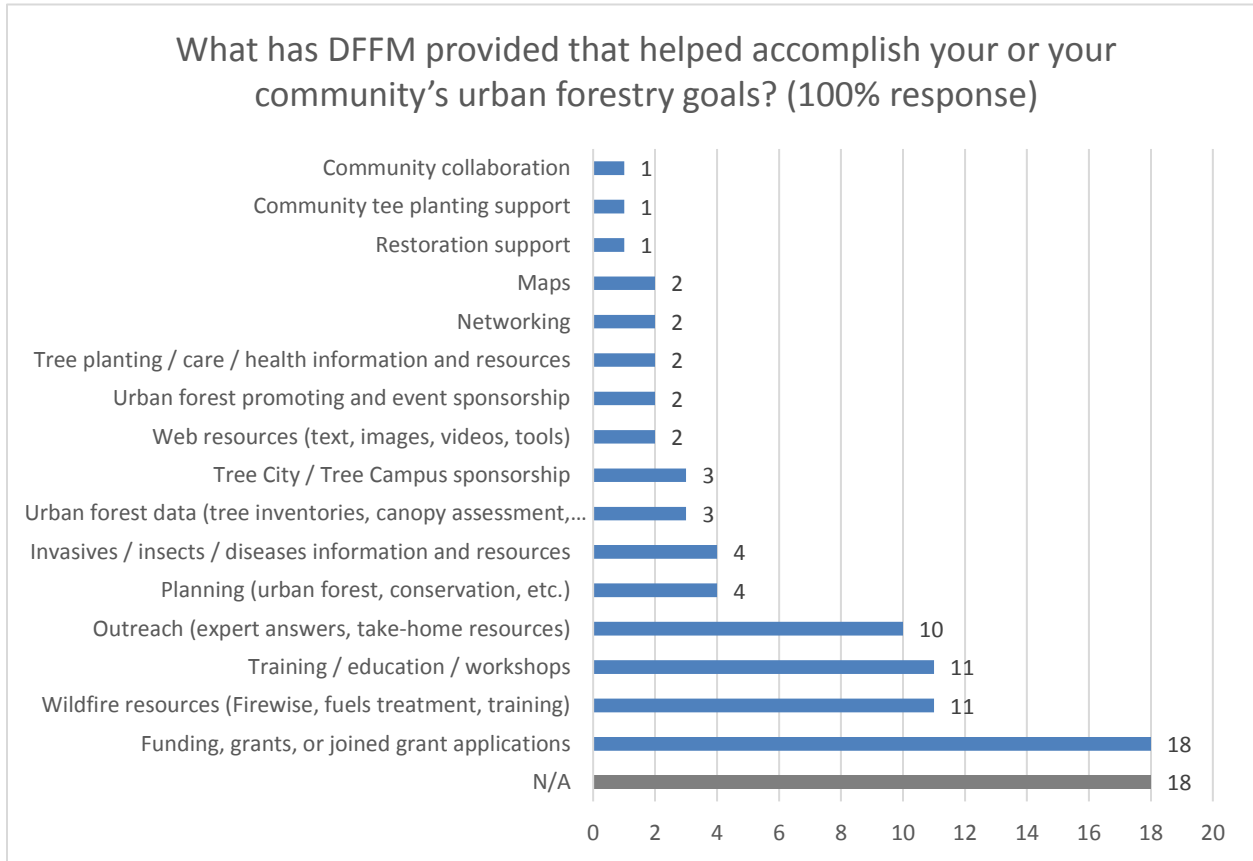
Net Promotor® Score of +23.



The Net Promoter score (NPS) is a customer loyalty metric used in business and claims to be correlated with revenue growth. "An NPS that is positive (i.e., higher than zero) is felt to be good, and an NPS of +50 is excellent" (Wikipedia https://en.wikipedia.org/wiki/Net_Promoter).

Service Successes

Question 4 – 100% response rate

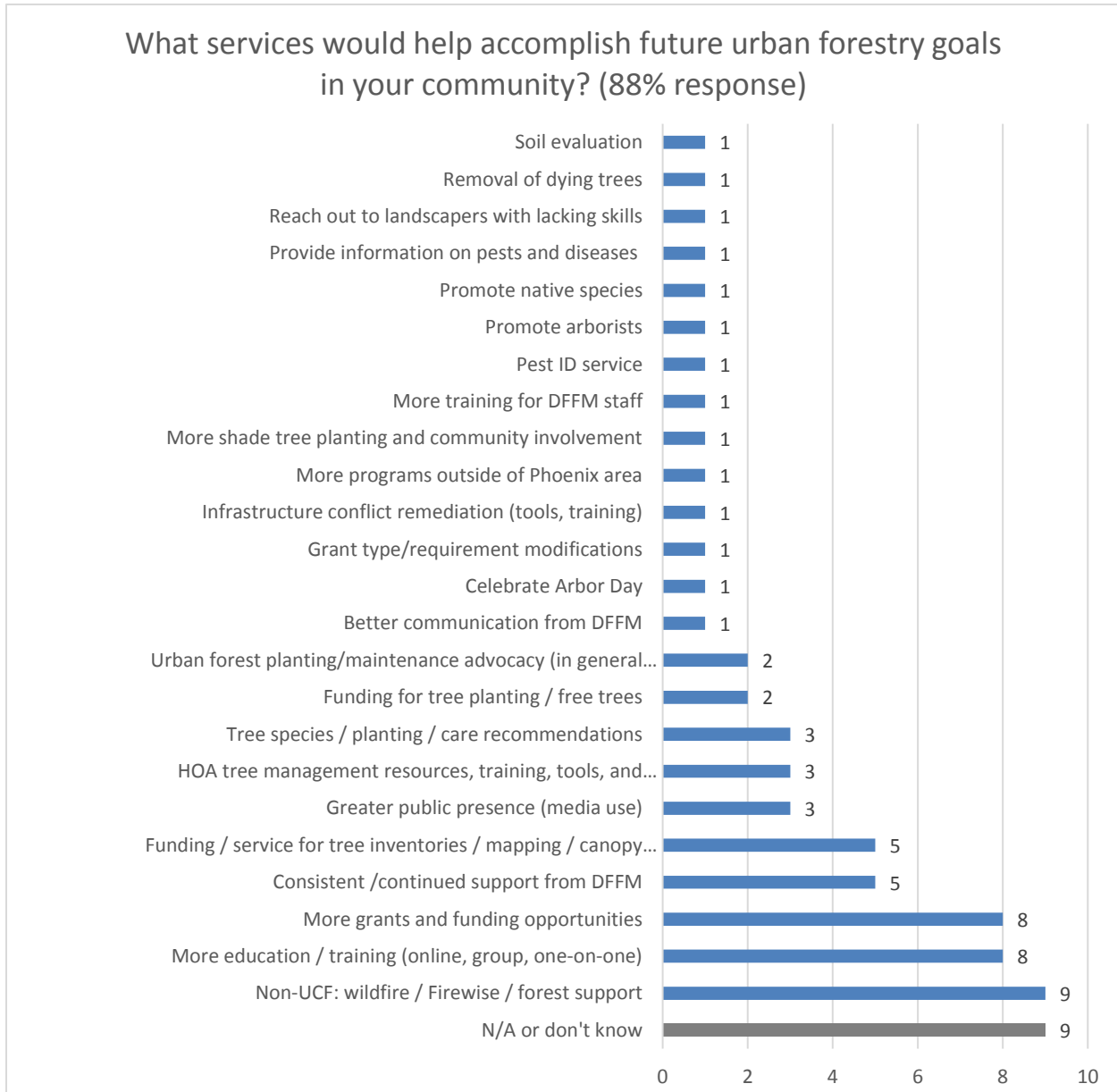


Funding was the #1 service provided by DFFM to help survey respondents accomplish their urban forestry goals. Wildfire resources, training, education, workshops, and outreach are the other highest selected services that were provided by DFFM.

Urban Forest Needs Questions

Future Service Needs

Question 5 – 88% response



When asked what services would help accomplish future urban forestry goals in their community, survey respondents were most interested in more education, funding opportunities, and Non-UCF related services like wildfire assistance, Firewise, and forest support.

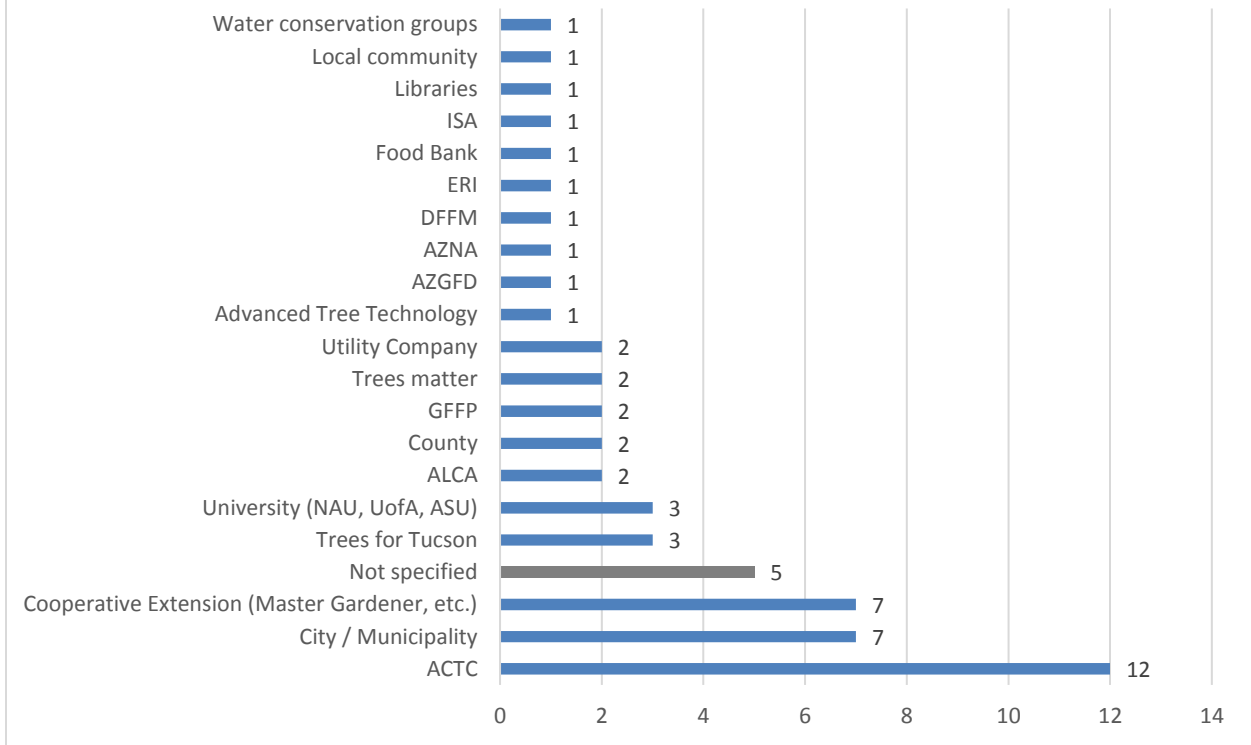
Tree-Related Trainings Opportunities

Question 6 – 88% response



48% of survey respondents replied that tree-related trainings are offered in their community, while 46% of survey respondents replied they were unsure if tree related trainings were offered in their community. In the 2015 NA, 80% of respondents said there are organizations and/or volunteer groups in their community that offer tree related activities.

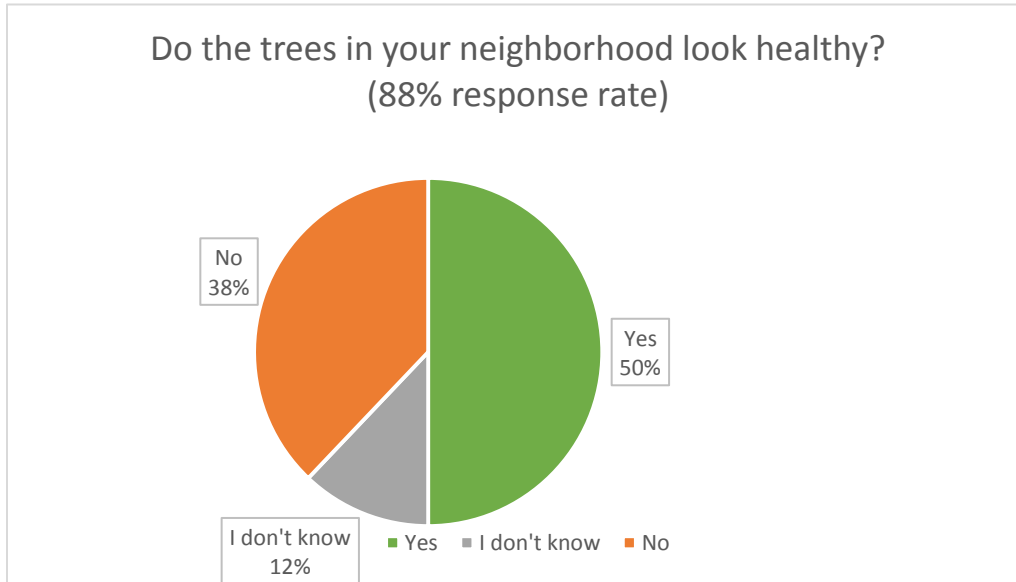
If yes, what organizations/groups conduct them and where are they held?



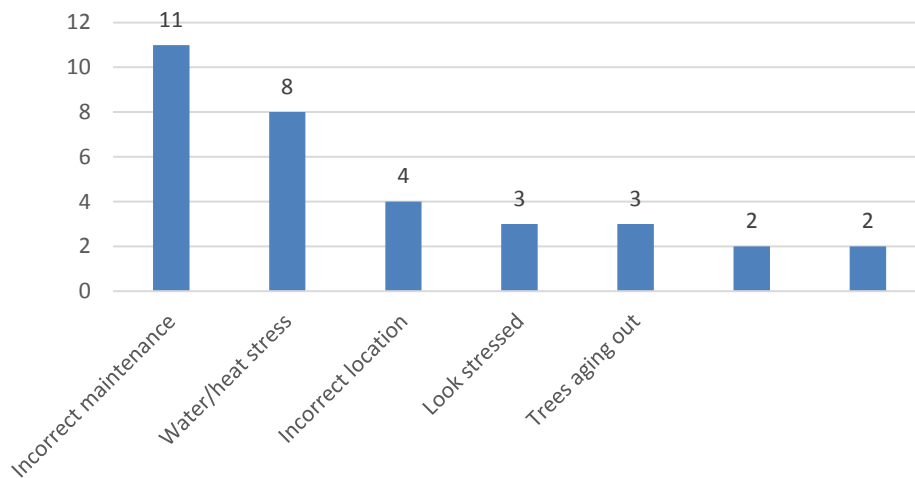
According to survey respondents, Arizona Community Tree Council is the most known organization providing tree-related training. Cities/municipalities, and Cooperative Extension are other well represented groups. In the 2015 NA, Trees for Tucson and botanical gardens were identified numerous times by survey respondents.

Tree Health

Question 7 – 88% response.



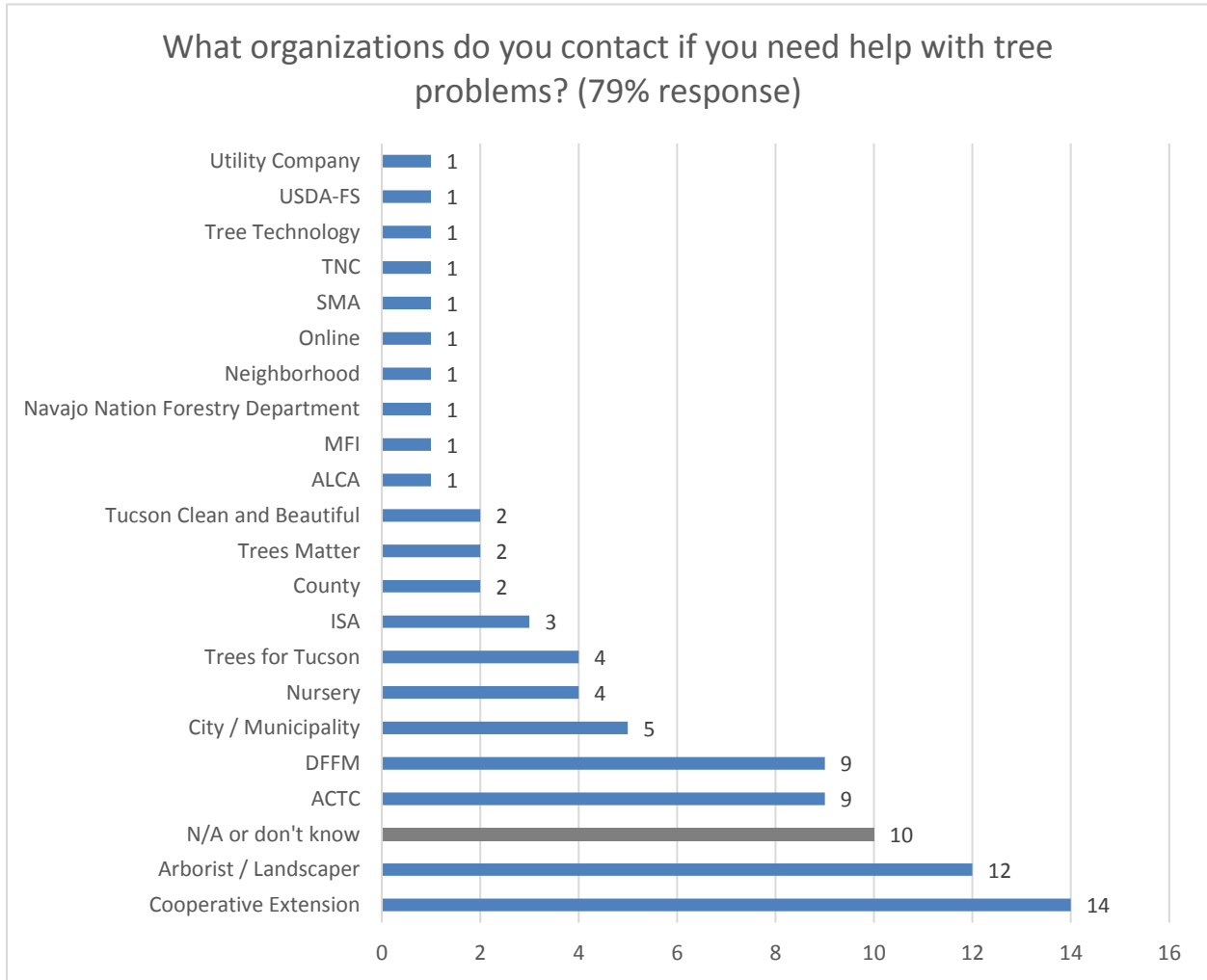
50% of survey respondents feel the trees in their neighborhood look healthy. In the 2015 NA, 58% of respondents rated the health and condition of the trees in their community as “good” or “excellent”.



Incorrect maintenance is the most mentioned problem with trees in the neighborhoods of survey respondents. Water problems and heat stress are other problems identified by respondents.

Tree Support Organizations

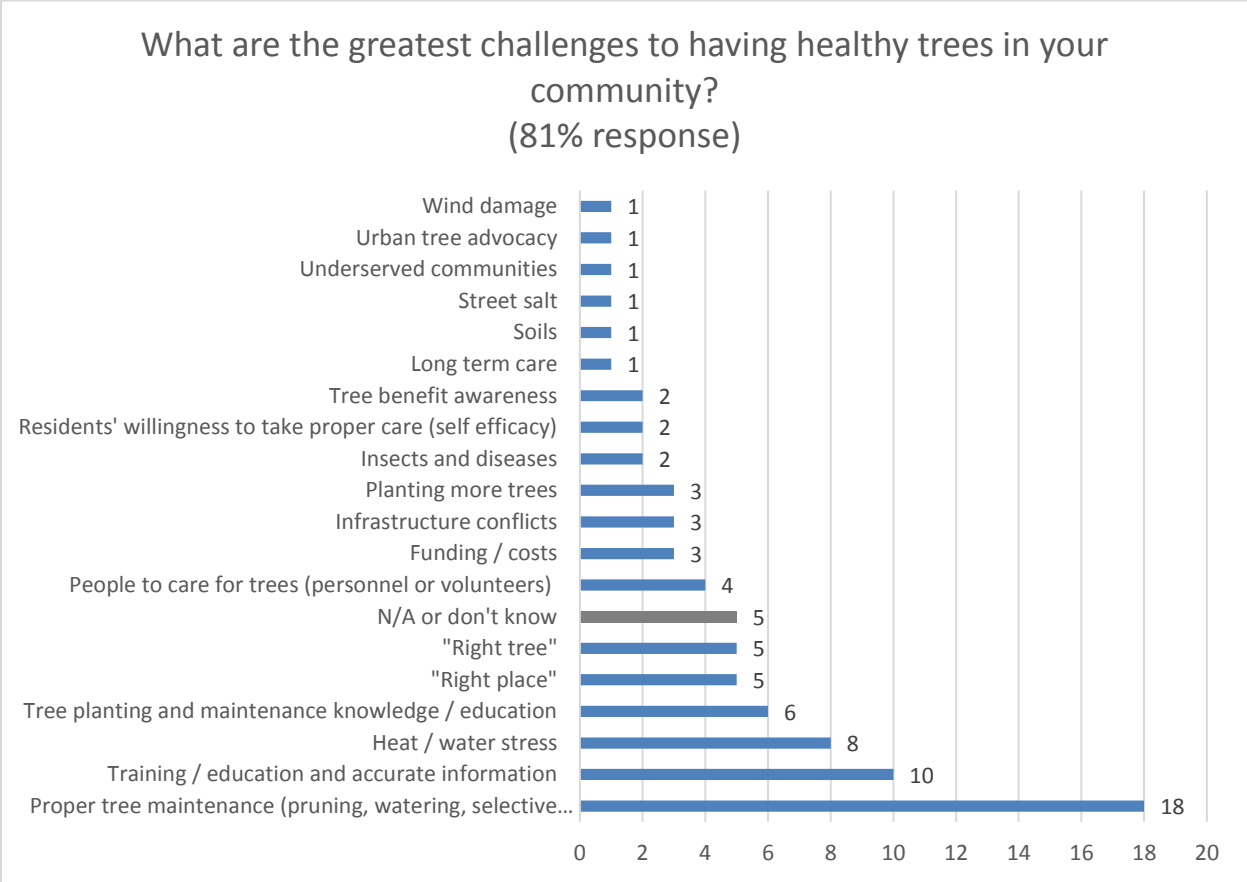
Question 8 – 79% response.



When survey respondents were asked what organizations they contact for tree problems, Cooperative Extension and arborists/landscapers were the most mentioned. ACTC and DFFM were also cited in the top 5 organizations that are contacted.

Greatest Tree Health Challenges

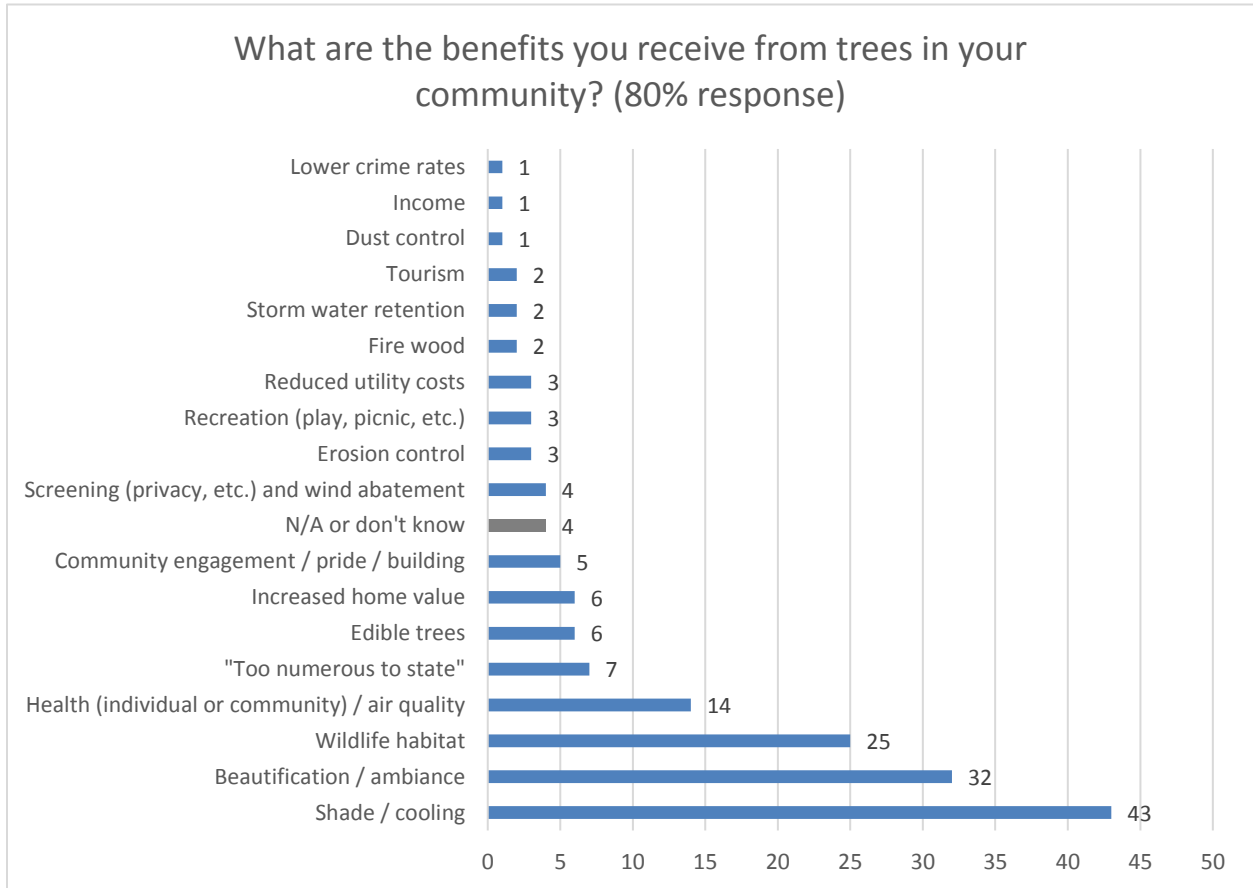
Question 9 – 81% response



Proper tree maintenance was the most listed challenge to having healthy trees in the survey respondent's communities. Training/education, heat/water stress, and "right tree, right place" are other major challenges identified by respondents. In the 2015 NA, 70% of respondents said lack of funding was their greatest challenge to build, support, or manage urban forest resources. Lack of established programs was also identified in 2015 as being a significant challenge.

Tree Benefits to Community

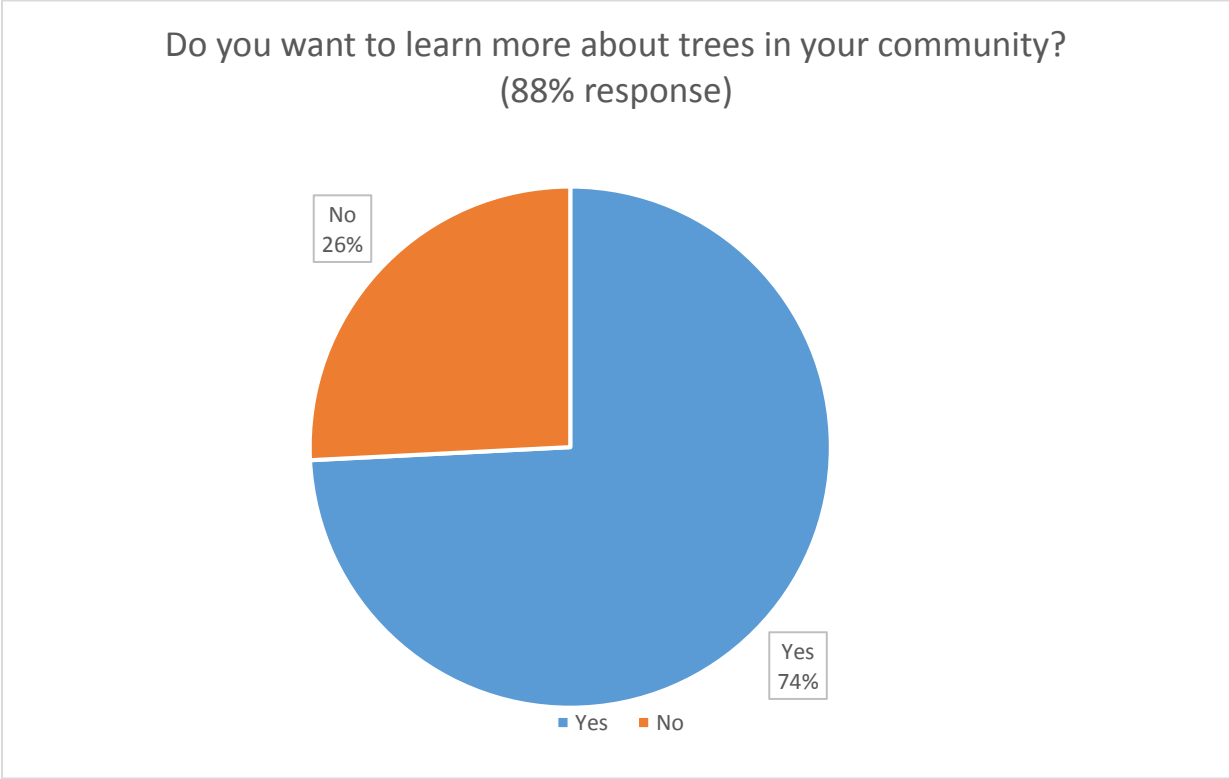
Question 10 – 80% response.



When asked what benefits are received from trees in survey respondent communities, shade was the most noted. Beautification, wildlife habitat, and health/air quality were also among the top listed benefits.

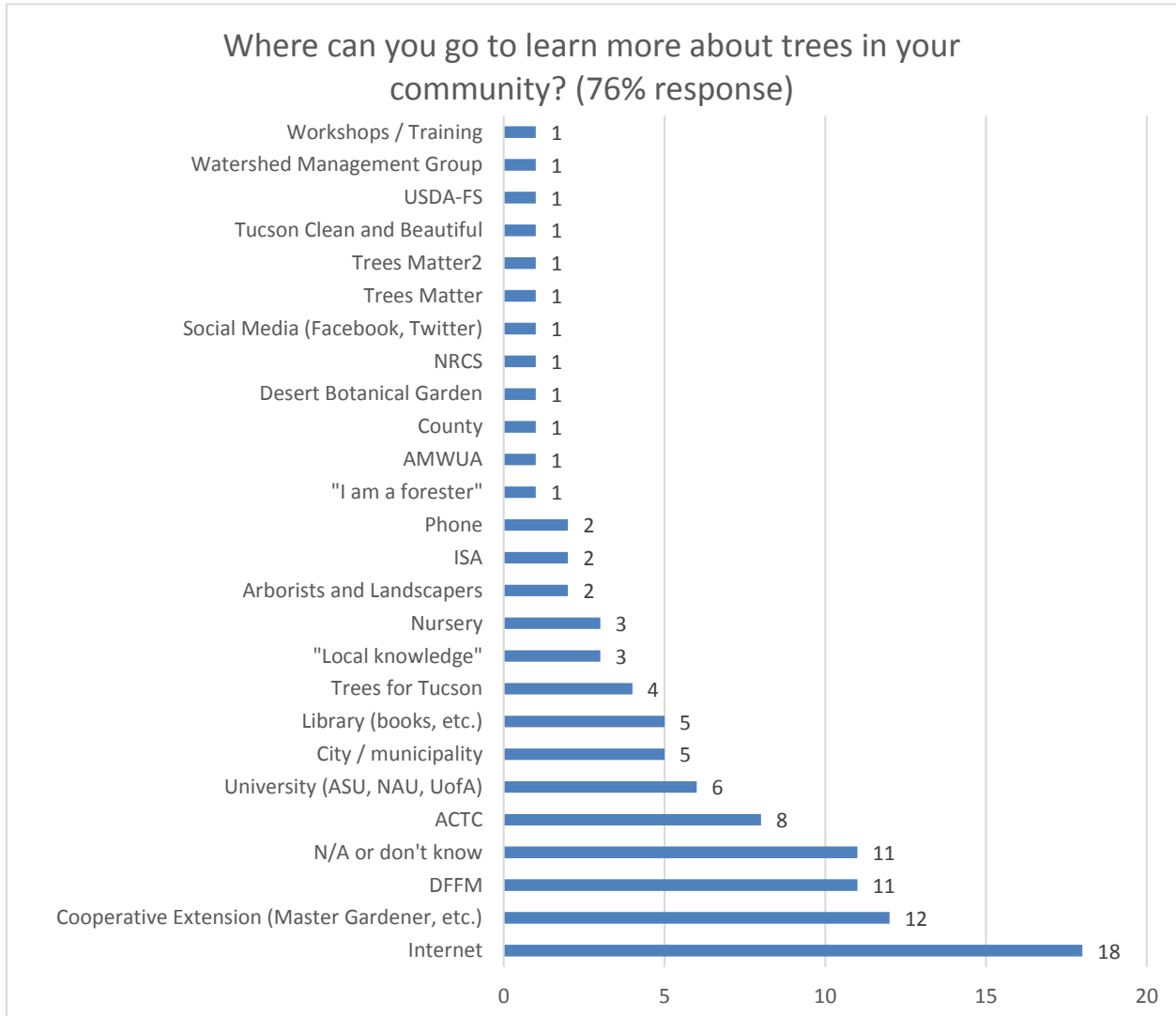
Do you want to learn more about trees in your community?

Question 11 – 88% response.



Tree Information Sources

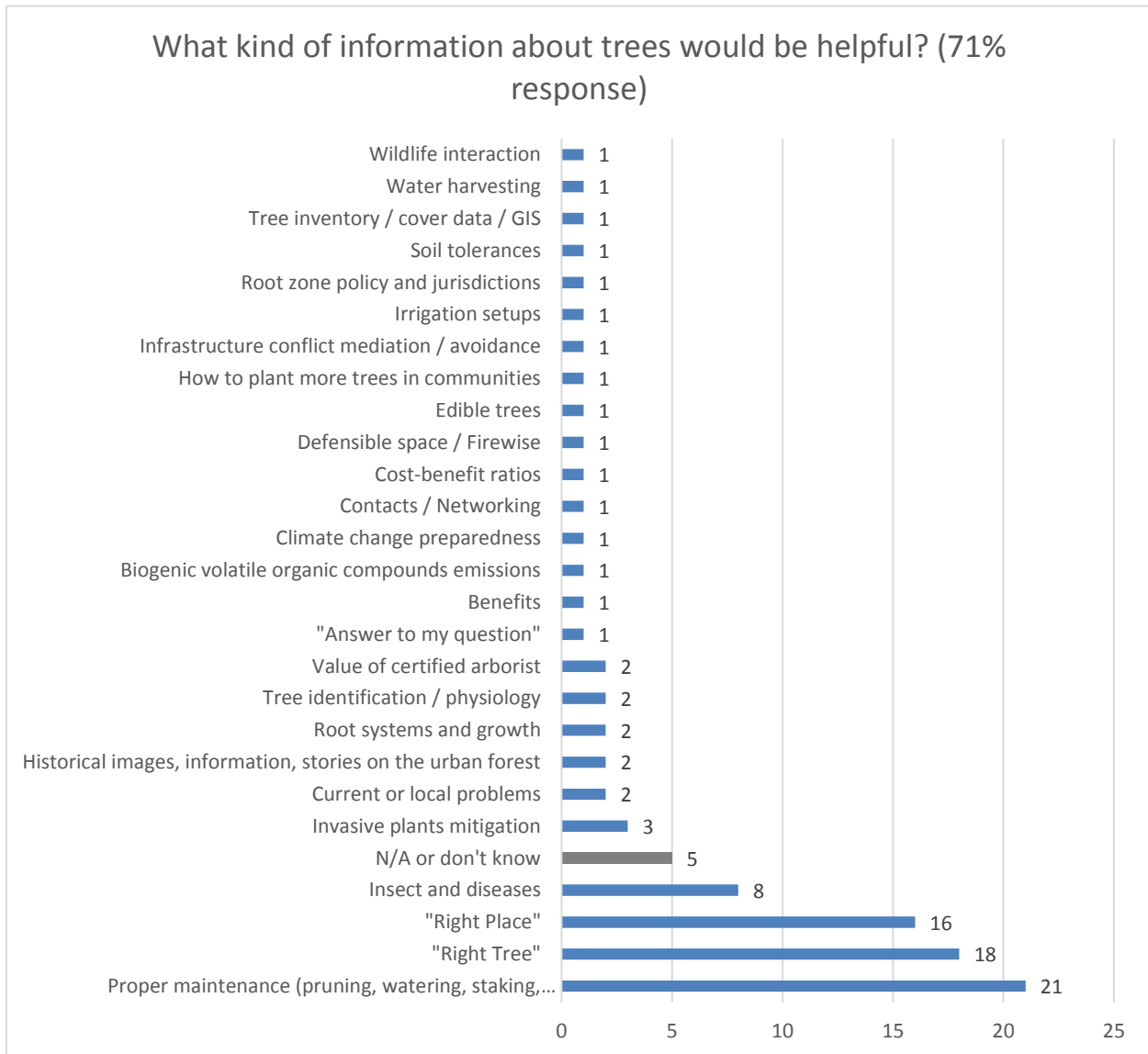
Question 12 - 76% response.



Survey respondents listed the internet, Cooperative Extension, and DFFM the most times as where they go to learn about trees. Similarly, in the 2015 NA, 80% of survey respondents said the internet is where they look for urban forestry information followed closely by Cooperative Extension and DFFM.

Information Needs

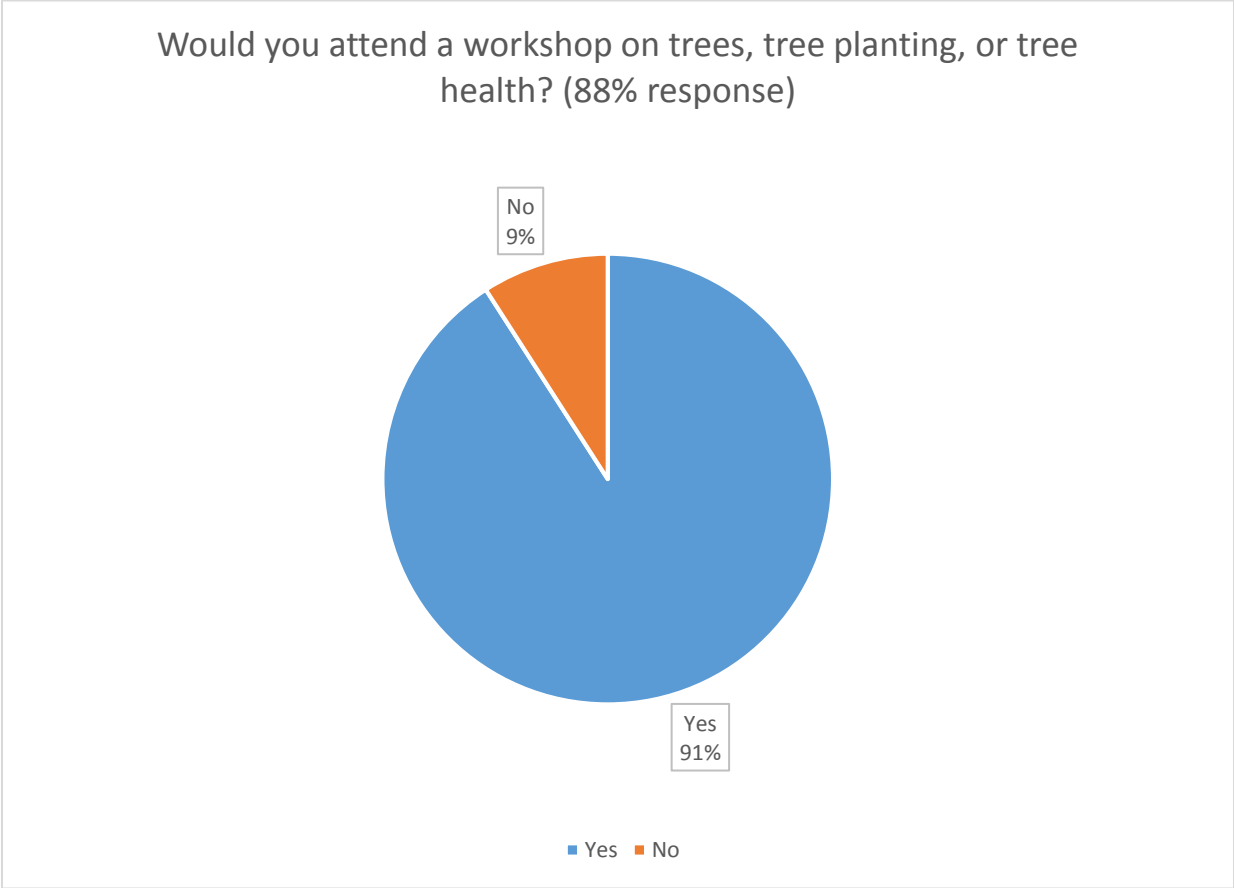
Question 13 – 71% response.



Proper tree maintenance, “right tree, right place”, and insects/diseases were the most listed type of information that survey respondents would find helpful. Invasive plant mitigation was also mentioned by three different survey respondents.

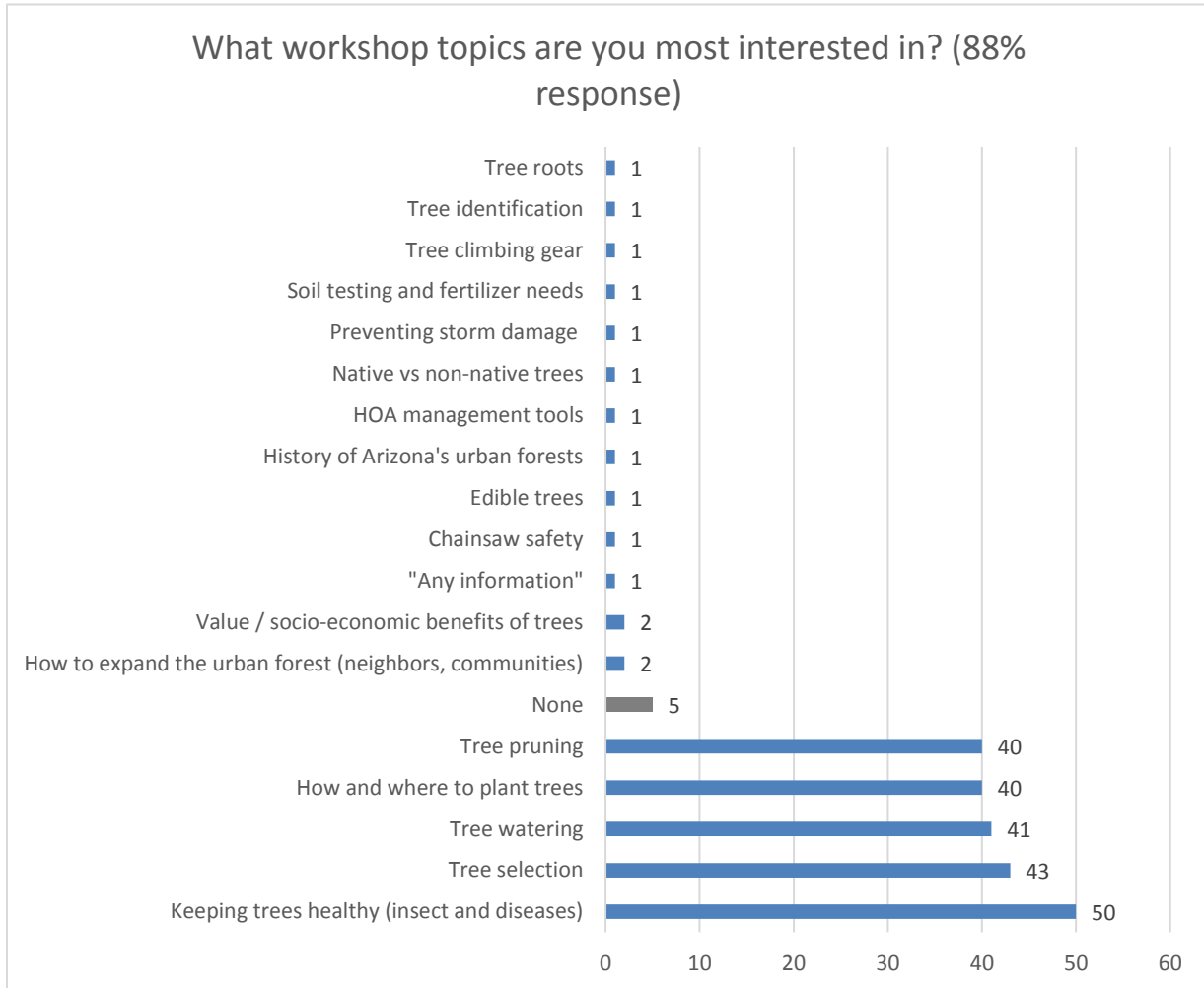
Would you attend a workshop on trees, tree planting, or tree health?

Question 14 – 88% response.



Workshop Topic of Interest

Question 15 – 88% response.

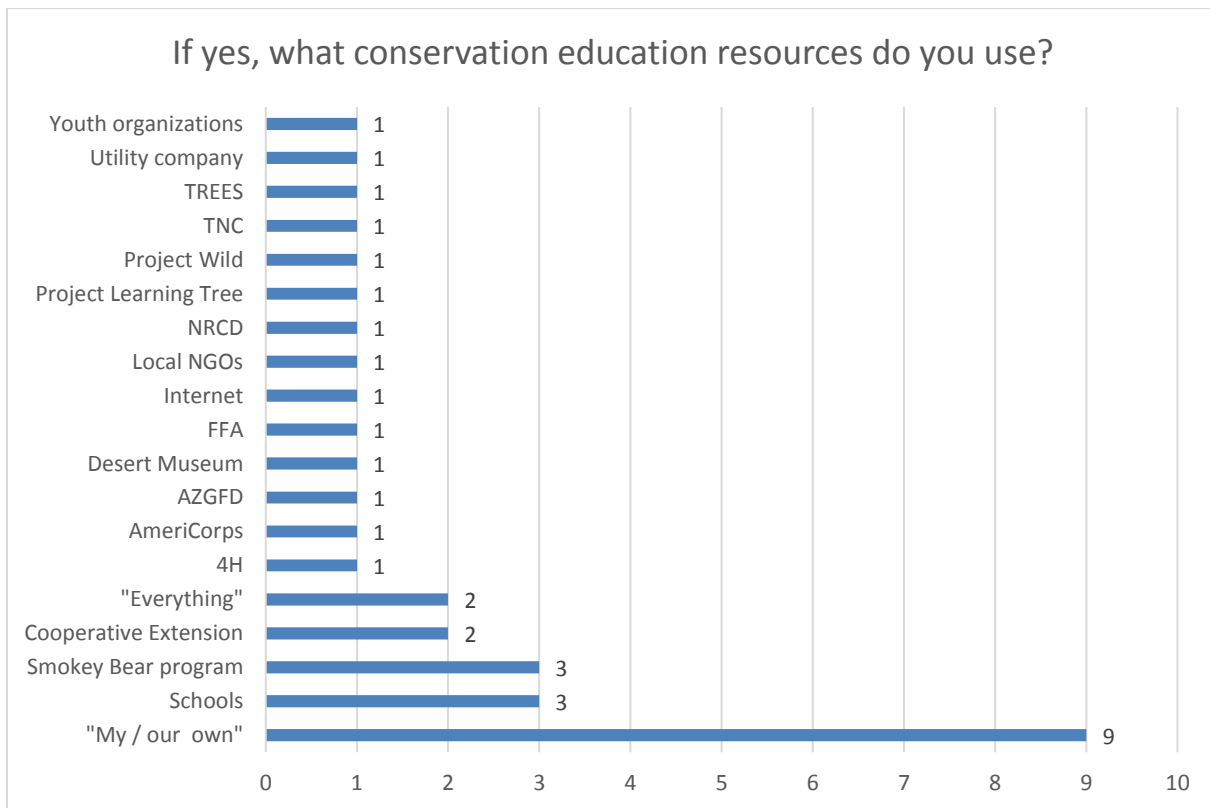
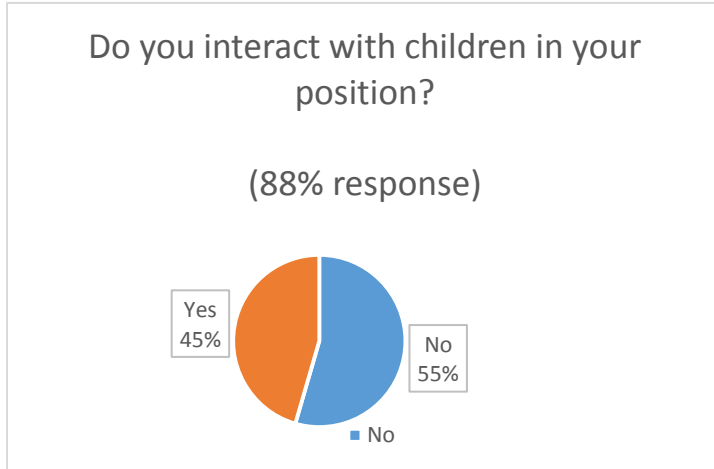


Five workshop topics rose to the top when survey respondents were asked which they would be mostly interested in. Keeping trees healthy, tree selection, tree watering, how and where to plant trees, and tree pruning dominated question responses.

Education and Outreach Questions

Child Education Involvement

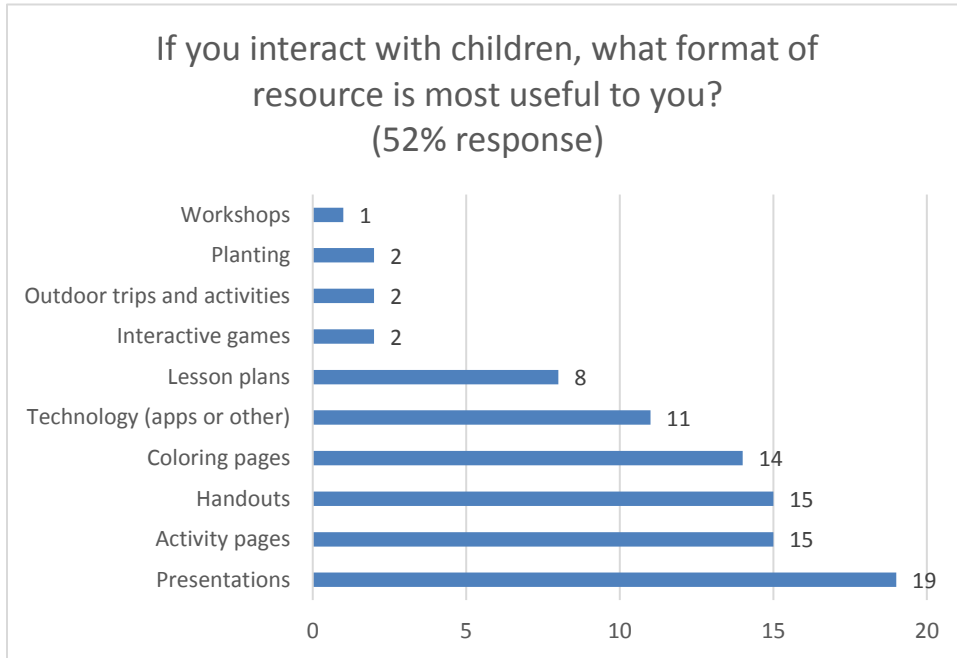
Question 16 – 88% response.



Most survey respondents replied that "my/our own" conservation education resources are used when interacting with children. Schools, the Smokey Bear program, and Cooperative Extension were also mentioned more than once by respondents.

Preferred Child Education Resources

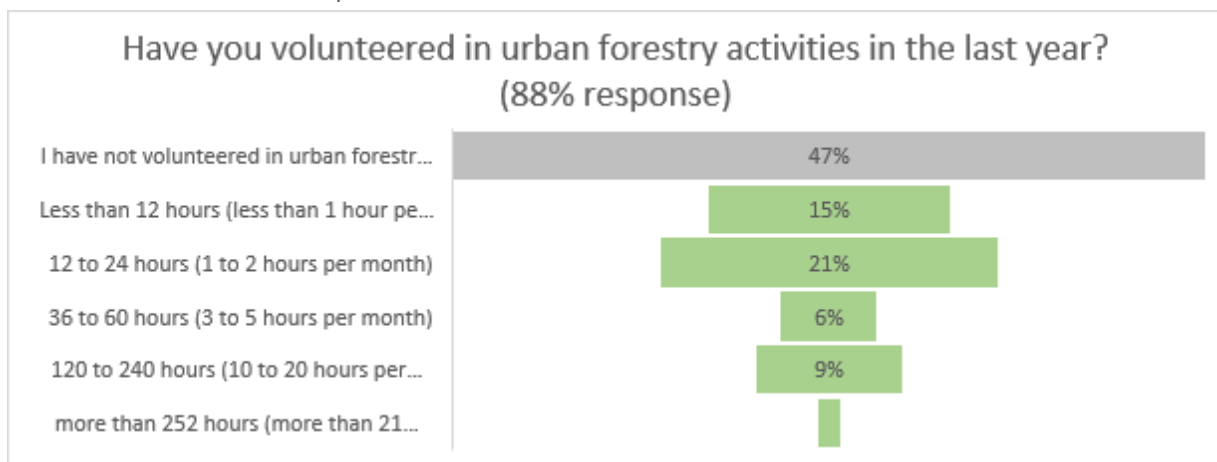
Question 17 – 52% response.



When interacting with children, survey respondents found it most useful to use presentations, activity pages, handouts, and coloring pages.

Volunteering

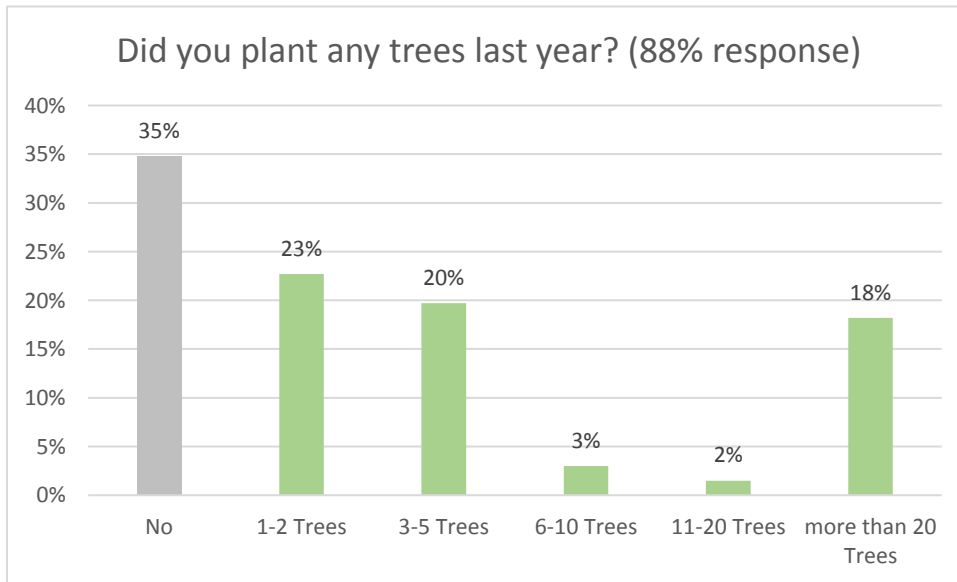
Question 18 – 88% response.



47% of survey respondents did not volunteer in urban forestry activities over the past year. However, 9% of respondents dedicated 120-240 hours.

Tree Planting

Question 19 – 88% response.



65% of survey respondents planted at least 1 tree last year. 18% of respondents planted more than 20 trees.

HISTORICAL PERSPECTIVE FOR URBAN & COMMUNITY FORESTRY IN ARIZONA

Arizona is a state of extraordinary environmental diversity created by its unique land formations and climate. At 113,900 square miles, the elevation range is significant from a few feet above sea level in the southwest corner of the state to approximately 12,600 feet on the San Francisco Peaks in northern Arizona. The vegetation is extremely varied as is the topography, altitude, soils, and climate. Nearly every life form found among North American flowering plants is represented in Arizona (Kearney et al, 1979).

Arizona's major population centers are Phoenix (and surrounding metropolitan area), Tucson, Yuma, Flagstaff, Lake Havasu City and Casa Grande. Phoenix is currently the 6th largest community in the country with a population of 1,679,243. Based on 2018 population statistics, the ten most populous communities in the state are: Phoenix, Tucson, Mesa, Chandler, Scottsdale, Glendale, Gilbert, Tempe, Peoria and Surprise. The Phoenix metropolitan area, including other communities in the Valley, is home to more than two-thirds of Arizona's total population. The other one-third of Arizona's population is distributed widely in rural areas throughout the state, including on Tribal reservations and in unincorporated communities.

Arizona's diversity (both in biotic community and population centers) presents an atypical challenge to urban forestry management unlike any other state in the nation. Predicted climate change for the Southwest Region of the country will present urban forest managers with unique challenges. Based on climate predictions for the next 50 years, the Southwest is likely to experience increased winter temperatures, less snowfall, extreme and lengthy droughts, and more unpredictable severe storms (monsoons). Some of the resulting challenges for urban forest management will include: reduced water availability for irrigation through reduced snowpack and stream flow; increased tree stress due to reduced water availability; increased heat island effects in communities; reduction of suitable species for planting; potential for the spread of invasive species that adapt quickly; and increased tree damage potential due to severe storms. Native and non-native invasive insects will continue to pose problems for Arizona's urban trees. Mediterranean pines in lower elevations of the state are

under increased stress from recently expanded bark beetle populations, blight, and poor management.

Although urban forest resources may be adversely impacted by predicted climate change, they may also help to reduce the adverse effects in communities, especially where vulnerable populations exist. Opportunities that exist for using urban forestry management to help with climate change effects, include: implementation of good arboriculture practices; expansion of public knowledge for the benefits of urban forests; and collaboration to create effective policy. Species selection and proper urban tree maintenance can also reduce the heat island effect, reduce energy consumption, reduce storm water run-off, improve air quality, and improve the well-being and health of an expanding urban population.

Potential areas for urban forestry growth include: development of water conservation and green infrastructure practices; utilization of tree products in urban areas (fruit, nuts, etc.); shade tree planting programs; incorporation of cultural heritage and knowledge into community forest management; implementation of water harvesting techniques for supplemental irrigation; collaboration with green industry for urban wood utilization; using new technology for management and maintenance; and public health programming that builds social and cultural cohesion around the natural built environment.

TABLES AND MAPS OF PROGRAM ACTIVITIES

The Arizona UCF Program is implemented statewide, and the following tables and maps identify the locations of UCF program activities and investment.

Arizona Tree City USA & Tree Campus USA – Current recognized communities and campuses.

Recognized Tree Cities (2017)

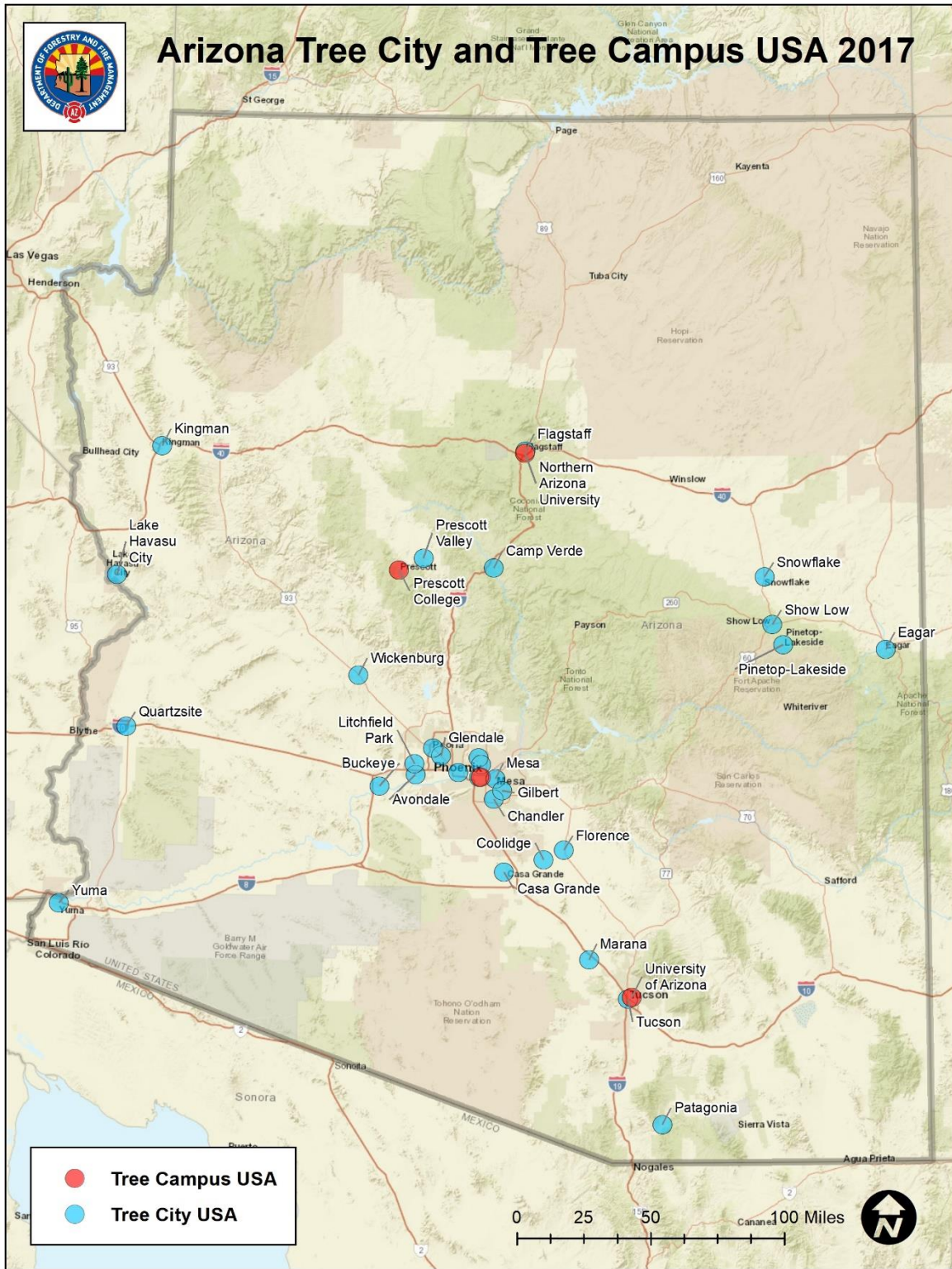
| | |
|------------------|------------------|
| Avondale | Mesa |
| Buckeye | Paradise Valley |
| Camp Verde | Patagonia |
| Casa Grande | Peoria |
| Chandler | Phoenix |
| Coolidge | Pinetop-Lakeside |
| Eagar | Prescott Valley |
| Flagstaff | Quartzsite |
| Florence | Scottsdale |
| Gilbert | Show Low |
| Glendale | Snowflake |
| Kingman | Tempe |
| Lake Havasu City | Tucson |
| Litchfield Park | Wickenburg |
| Marana | Yuma |

Recognized Tree Campuses (2017)

| |
|--|
| Arizona State University, Tempe |
| Northern Arizona University, Flagstaff |
| Prescott College, Prescott |
| University of Arizona, Tucson |



Arizona Tree City and Tree Campus USA 2017



Arizona Community Challenge Grants – Locations of funded organizations/projects for the past three years.

*Listed in tables as Organization – Project Title

Community Challenge Grants (2014)

Bullion Plaza Cultural Center & Museum – *Bullion Plaza Landscape Restoration and Rainwater Harvesting Project*

Town of Prescott Valley – *Street Tree Inventory and Homeowners Tree Care Workshop*

AZ Board of Regents, Arizona State University – *Regional Tree & Shade Summit 2:0 Branching Out One Community at a Time, Desert Arboretum Park*

City of Tempe – *City of Tempe Urban Tree & Shade Masterplan*

Arizona Nursery Association – *Tree Maintenance Track at the 2015 SHADE Conference*

Arizona Community Tree Council – *2015 Education for Industry Professionals and Community Outreach*

Town of Patagonia – *Patagonia Mock Park Planning and Improvement, Connecting Patagonia Youth to Trees*

Tucson Clean & Beautiful, Inc. / Trees for Tucson – *Tucson Tree Tenders*

Tucson Botanical Gardens – *Urban Forestry Phase Two*

City of Avondale – *Friendship Park Tree Replacement*

Trees Matter – *Tour des Trees Event*

Community Challenge Grants (2015)

Sonora Environmental Research Institute, Inc. – *Building Community Capacity for Urban Forestry*

Town of Prescott Valley – *Park Tree Inventory and Urban Forestry Youth Program*

City of Buckeye – *Sustainable Urban Forest and Arbor Day*

Arizona Community Tree Council – *Arizona Community Tree Council Professional Arborist Education*

City of Mesa – *Reed Park Urban Forest Enhancement*

Valley Permaculture Alliance – *School Tree Maintenance and Replacement Program*

University of Arizona – *Detecting and quantifying the patterns and occurrence of the six-spined Engraver Beetle (Ips*

calligraphus) that colonize Mediterranean pines in Low Elevations of the Sonoran Desert

Tucson Clean & Beautiful – Volunteer Coordination and Management: Home Owner Workshops

Community Challenge Grants (2016)

City of Glendale Water Services Department – Glendale Desert Food Forest

Arizona Board of Regents, University of Arizona – Investigating the Cause of Witches Broom in Blue Palo Verde, Arizona’s Heritage Tree

Arizona Community Tree Council – Building Capacity for the care and planting of edible trees through arborists and tree worker education

Watershed Management Group – Building a Sonoran Food Forest, Outdoor Classroom & Community Education Program

Community Food Bank, Inc. – Revitalization of Edible Heritage Trees in Tucson

Arizona Board of Regents, Arizona State University – Urban Forestry Action Project

Tucson Botanical Gardens – Frida Kahlo’s Garden Trees Matter – Tour des Trees Event

Beyond Foundation – Prescription Parks and Trails (“Park Rx”)

City of Buckeye Community Services Department – Buckeye Community Parks Tree Planting

Town of Camp Verde – Celebration Tree Project

City of Peoria – City of Peoria: Increase Canopy Coverage

Community Challenge Grants (2017)

Arizona Board of Regents, University of Arizona – Optimizing Diagnostics for Management of Witches Broom in Blue Palo Verde

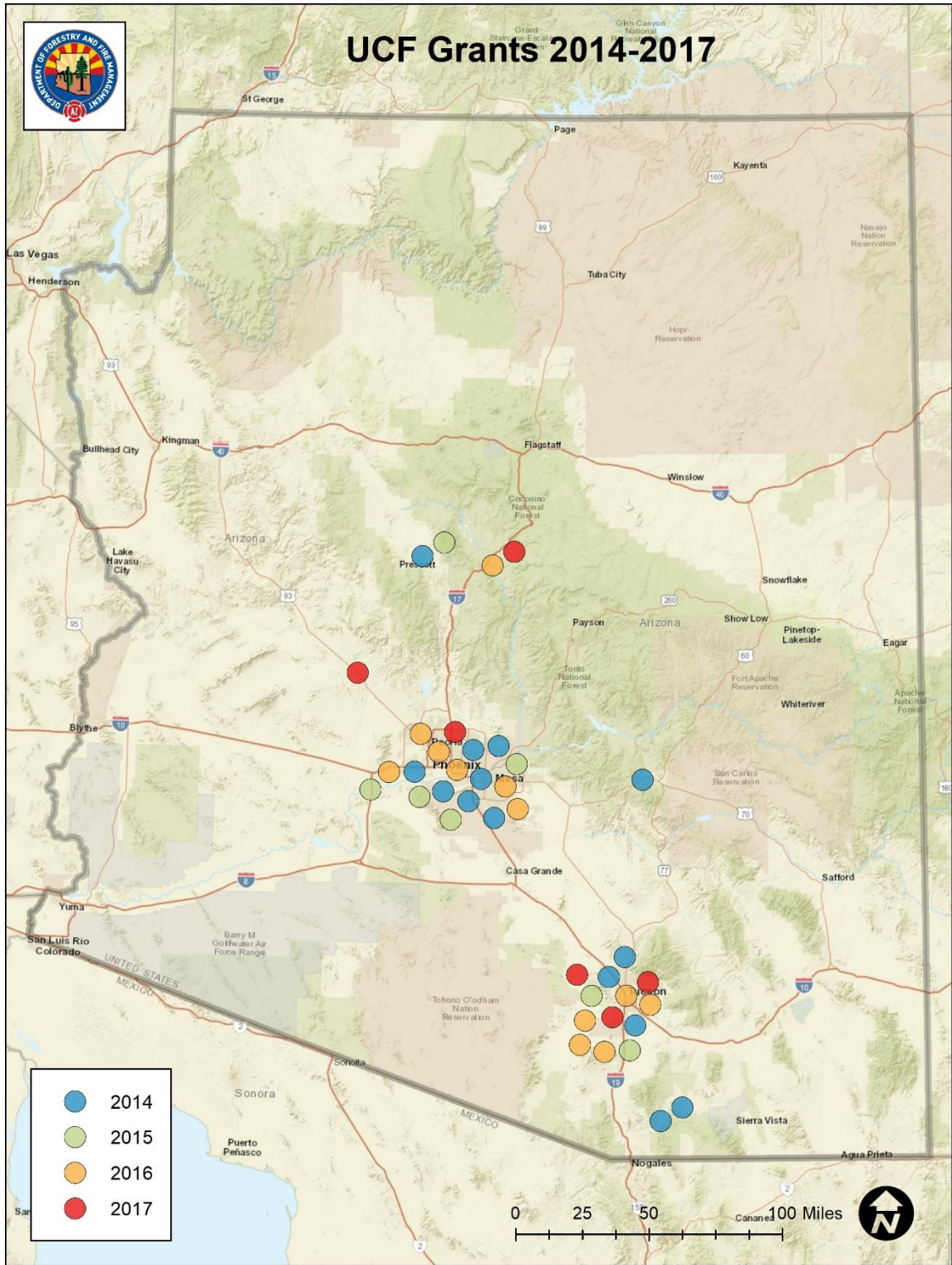
Watershed Management Group – Enhancing Outreach through Green Infrastructure Docent Program for Metro Phoenix

Iskashitaa Refugee Network – Increasing Harvest Efficacy and Tree Education through Community Involvement

Town of Camp Verde – Rezzonico Park Tree Education Center

Tucson Clean & Beautiful, Inc. / Trees for Tucson Program – The Tucson Urban Forest Map

Town of Wickenburg – Wickenburg Community Tree Program



Arizona's Magnificent Trees Program – List of state and national champion trees as well as heritage and witness trees.

*Listed in table as common name (*Scientific name*) – Designation

**Witness & Heritage trees listed Tree Name - Location

Arizona's Magnificent Trees (Champion Trees)

Corkbark Fir (*Abies lasiocarpa* var. *arizonica*) – National Champion

Gregg's Catclaw (*Acacia greggii*) – National Champion

Blackbrush Acacia (*Acacia rigidula*) – National Champion

Twisted Acacia (*Acacia tortuosa*) – National Champion

Arizona Alder (*Alnus oblongifolia*) – Co-Champion State

Utah Serviceberry (*Amelanchier utahensis*) – National Champion

Arizona Madrone (*Arbutus arizonica*) – National Champion

Pringle Manzanita (*Arctostaphylos pringlei*) – National Champion

Elephant Tree (*Bursera microphylla*) – National Champion

Crucifixion Thorn (*Canotia holacantha*) – National Champion

Saguaro (*Carnegiea gigantea*) – National Co-Champion

Pecan (*Carya illinoensis*) – Co-Champion State

Netleaf Hackberry (*Celtis reticulata*) – National Champion

Mountain Mahogany (*Cercocarpus breviflorus*) – National Champion

Desert Willow (*Chilopsis linearis*) – National Champion

Bitter Orange (*Citrus aurantium*) – National Champion

Hawthorn (*Crataegus erythropoda*) – National Champion

Arizona Cypress (*Cupress arizonica*) – National Champion

Jumping Cholla (*Cylindropuntia fulgida*) – National Champion

Longbeak Eucalyptus (*Eucalyptus camaldulensis*) – National Champion

Coolibah (*Eucalyptus microtheca*) – State Champion

Kidneywood (*Eysenhardtia orthocarpa*) – National Champion

Texas Kidneywood (*Eysenhardtia texana*) – National Champion

Lowell Ash (*Fraxinus anomala* var. *lowellii*) – National Champion

Fragrant Ash (*Fraxinus cuspidate*) – National Champion

Goodding's Ash (*Fraxinus gooddingii*) – National Champion

Wright's Silktassel (*Garrya wrightii*) – National Champion

Arizona Walnut (*Juglans major*) – National Champion

California Juniper (*Juniperus californica*) – National Champion

Alligator Juniper (*Juniperus deppeana*) – National Champion

Oneseed Juniper (*Juniperus monosperma*) – National Champion

Utah Juniper (*Juniperus osteosperma*) – National Champion

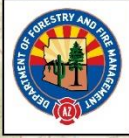
Allthorn (*Koeberlinia spinose*) – National Champion

| |
|---|
| Desert Fern (<i>Lysiloma watsonii</i>) – National Champion |
| Common Apple (<i>Malus sylvestris</i>) – State Champion |
| Texas Mulberry (<i>Morus microphylla</i>) – National Champion |
| Oleander (<i>Nerium oleander</i>) – National Co-Champion |
| Tree Tobacco (<i>Nicotiana glauca</i>) – National Champion |
| Olive (<i>Olea europaea</i>) – State Champion |
| Desert Ironwood (<i>Olneya tesota</i>) – National Champion |
| Prickly Pear (<i>Opuntia ficus-indica</i>) – National Champion |
| Knowlton Hophornbeam (<i>Ostrya knowltonii</i>) – National Champion |
| Blue Palo Verde (<i>Parkinsonia florida</i>) – National Champion |
| Yellow Palo Verde (<i>Parkinsonia microphylla</i>) – National Champion |
| Engelmann Spruce (<i>Picea engelmannii</i>) – State Champion |
| Arizona Pine (<i>Pinus arizonica</i>) – National Champion |
| Border Pinyon (<i>Pinus discolor</i>) – National Champion |
| Apache Pine (<i>Pinus engelmannii</i>) – National Co-Champion |
| Chihuahua Pine (<i>Pinus leiophylla</i> var. <i>chihuahuana</i>) – National Champion |
| Singleleaf Pinyon (<i>Pinus monophylla</i> var. <i>fallax</i>) – National Champion |
| SW Ponderosa Pine (<i>Pinus ponderosa</i> ssp. <i>brachyptera</i>) – State Champion |
| Arizona Sycamore (<i>Platanus wrightii</i>) – National Champion |
| Narrowleaf Cottonwood (<i>Populus angustifolia</i>) – State Champion |
| Fremont Cottonwood (<i>Populus fremontii</i> ssp. <i>fremontii</i>) – National Champion |
| Quaking Aspen (<i>Populus tremuloides</i>) – National Champion |
| Argentine Mesquite (<i>Prosopis alba</i>) – State Champion |
| Screwbean Mesquite (<i>Prosopis pubescens</i>) – National Champion |
| Velvet Mesquite (<i>Prosopis velutina</i>) – National Champion |
| Bitter Cherry (<i>Prunus emarginata</i>) – State Champion |
| SW Black Cherry (<i>Prunus serotina</i> var. <i>rufula</i>) – National Champion |
| Common Chokecherry (<i>Prunus virginiana</i>) – State Champion |
| Rocky Mtn. Douglas-fir (<i>Pseudotsuga menziesii</i> var. <i>glauca</i>) – State Champion |
| Mexican Cliffrose (<i>Purshia mexicana</i>) – National Champion |
| Arizona White Oak (<i>Quercus arizonica</i>) – National Champion |
| Gambel Oak (<i>Quercus gambelii</i>) – National Champion |
| Silverleaf Oak (<i>Quercus hypoleucoides</i>) – National Champion |
| Palmer Oak (<i>Quercus palmeri</i>) – National Champion |
| Sandpaper Oak (<i>Quercus pungens</i>) – National Champion |
| Netleaf Oak (<i>Quercus rugosa</i>) – National Champion |
| Toumey Oak (<i>Quercus toumeyii</i>) – National Champion |
| Sonoran Scrub Oak (<i>Quercus turbinella</i> var. <i>ajoensis</i>) – National Champion |
| California Buckthorn (<i>Rhamnus californica</i>) – National Champion |
| Redberry Buckthorn (<i>Rhamnus crocea</i>) – National Champion |

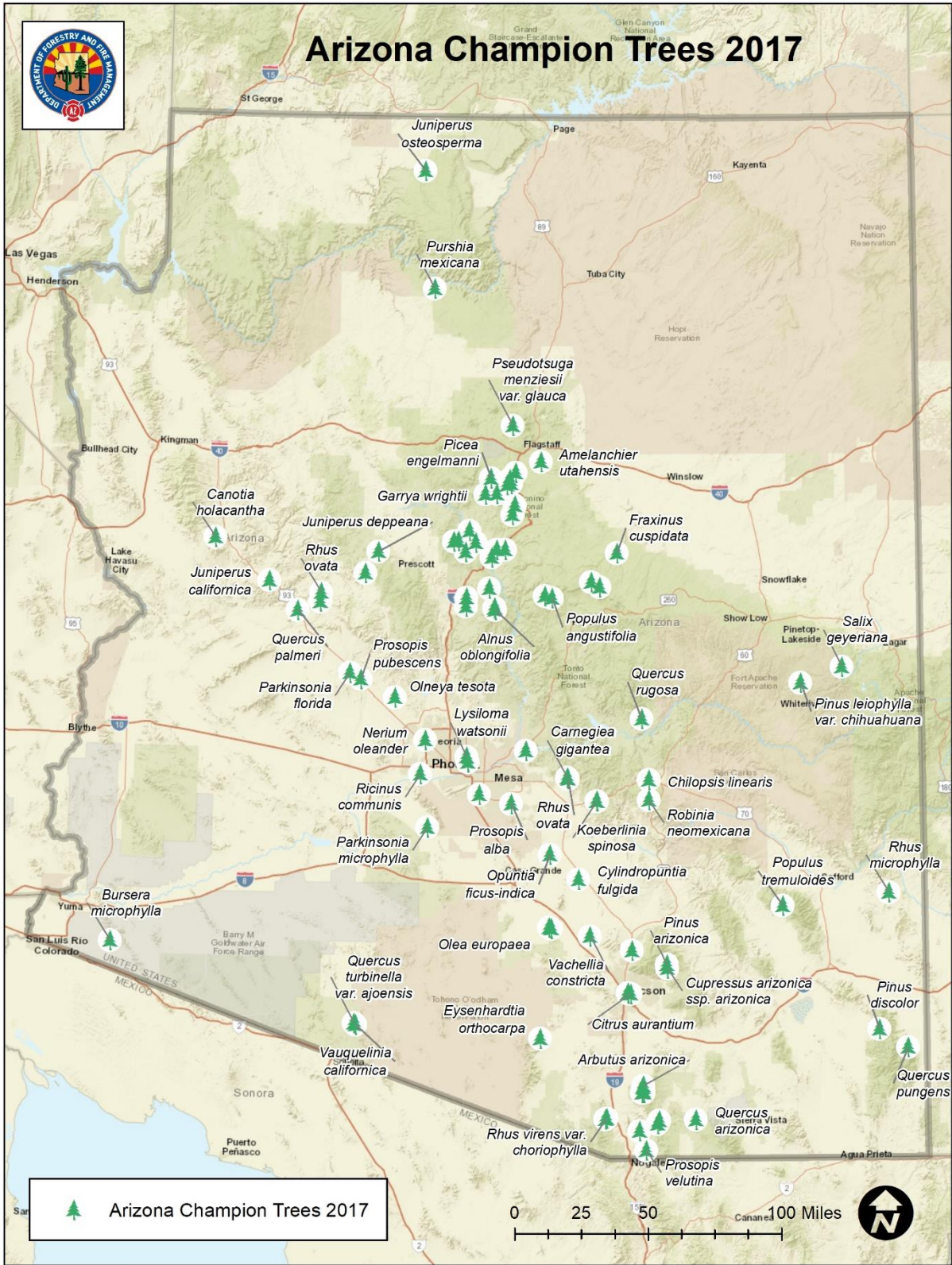
Littleleaf Sumac (*Rhus microphylla*) – National Champion
Sugar Sumac (*Rhus ovata*) – National Co-Champion
Mearns Sumac (*Rhus virens var. choriophylla*) – National Champion
Castorbean (*Ricinus communis*) – National Champion
New Mexican Locust (*Robinia neomexicana*) – National Champion
Geyer Willow (*Salix geyeriana*) – National Champion
Mexican Elderberry (*Sambucus mexicana*) – National Champion
African Sumac (*Searsia lancea*) – State Champion
Athel (*Tamarix aphylla*) – State Champion
Whitethorn Acacia (*Vachellia constricta*) – National Champion
Arizona Rosewood (*Vauquelinia californica*) – National Champion
Soaptree Yucca (*Yucca elata*) – National Champion
Lotebush (*Ziziphus obtusifolia*) – National Champion

Arizona's Magnificent Trees (Heritage & Witness Trees)

The George Washington Elm – Flagstaff, AZ
The Moon Tree – Flagstaff, AZ
The Union Pacific Palm – Maricopa, AZ
Mr. Who's Tree – Mayer, AZ
The Chaining Tree – Payson, AZ
The Mighty Ponderosa – Pinetop, AZ
The Statehood Tree – Prescott, AZ
Bicentennial Tree – Prescott, AZ
The Desert Survivor – Quartzsite, AZ
Winfield Scott's Windbreak – Scottsdale, AZ
Globe Willow – Show Low, AZ
The Gibson Homestead Tree – Snowflake, AZ
Fuller Apple – Strawberry, AZ
The Jail Tree – Wickenburg, AZ



Arizona Champion Trees 2017





Arizona Witness and Heritage Trees 2018

