



Arizona Forest Action Plan

2015 Status Report and Addendum

A report on the strategic plan to address forest-related conditions, trends, threats, and opportunities as identified in the 2010 Arizona Forest Resource Assessment and Strategy.

November 20, 2015




Arizona
State Forestry

Acknowledgements:

Arizona State Forestry would like to thank the USDA Forest Service for their ongoing support of cooperative forestry and fire programs in the State of Arizona, and for specific funding to support creation of this report.

We would also like to thank the many individuals and organizations who contributed to drafting the original 2010 Forest Resource Assessment and Resource Strategy (Arizona Forest Action Plan) and to the numerous organizations and individuals who provided input for this 2015 status report and addendum.

Special thanks go to Arizona State Forestry staff who graciously contributed many hours to collect information and data from partner organizations – and to writing, editing, and proofreading this document.



Jeff Whitney
Arizona State Forester



Granite Mountain Hotshots Memorial

On the second anniversary of the Yarnell Hill Fire, the State of Arizona purchased 320 acres of land near the site where the 19 Granite Mountain Hotshots sacrificed their lives while battling one of the most devastating fires in Arizona's history. This site is now the Granite Mountain Hotshots Memorial State Park.

"This site will serve as a lasting memorial to the brave hotshots who gave their lives to protect their community," said **Governor Ducey**. "While we can never truly repay our debt to these heroes, we can – and should – honor them every day. Arizona is proud to offer the public a space where we can pay tribute to them, their families and all of our firefighters and first responders for generations to come."

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Background

The 2010 Forest Action Plan

The development of *Arizona's Forest Resource Assessment and Strategy* (now known as *Arizona's "Forest Action Plan"*) was prompted by federal legislative requirements. The amended Cooperative Forestry Assistance Act of 2008 (commonly referred to as the Farm Bill) added new requirements for states to identify priority forest landscape areas (a statewide assessment of forest resources) and highlight work needed to address national, regional, and state forest management priorities (a statewide forest resource strategy).

States were required to complete the assessment and strategy to qualify to receive funds under the Cooperative Forestry Assistance Act (CFAA) - provided to states through the State and Private Forestry (S&PF) program of the USDA Forest Service. Currently, Arizona receives several million dollars annually to protect communities from wildfire, assist private forest landowners, promote healthy forest practices, and assist communities with their urban forests. Most CFAA funding received by Arizona State Forestry (AZSF) is given as grants to local organizations that provide matching funds and additional implementation resources. The combination of state and local efforts, along with coordination with federal, tribal and other land management agencies, provides substantial leveraging of these funds to benefit Arizona forests and citizens.

The responsibility for developing the Forest Action Plan belonged to the State Forester and Arizona State Forestry. The State Forester appointed a task group with diverse representation to work with agency staff to develop the final ***Arizona Forest Resource Assessment*** and ***Arizona Forest Resource Strategy***, and both documents were completed in June 2010.

Plan Review and Update:

Recent direction from the State and Private Forestry Board (USDA Forest Service and the National Association of State Foresters) requires that each state forestry agency:

- 1) Review and report on highlights of the state plan implementation from the past five years
- 2) Add a new "National Priorities Section" to the state plan.
- 3) Plan for completion of a state plan update at least every 10 years.

This report meets the first two requirements:

- Section One summarizes the implementation of Arizona’s Forest Action Plan since the plan development in 2010.
- Section Two provides an overview of the implementation summarized by the three National Priorities. Incorporated as an addendum to Arizona’s current Forest Action Plan, this provides the required “National Priorities Section”.

To complete the required Forest Action Plan update, Arizona State Forestry plans to begin concentrated work with partner organizations and Arizona stakeholders in early 2016. The expectation is to develop and implement appropriate work processes and complete Arizona’s plan revision by late 2016 or early 2017.

Arizona’s Forest Landscape

Arizona is a land of diverse landscapes. The diversity of Arizona forests ranges from riparian gallery forests traversing the low desert to sub-alpine and montane forests above 9,000 feet in elevation (O’Brien 2002). Forests cover roughly 27% of the state and occupy 19.4 million acres. These forests are comprised of 37 species of coniferous and hardwood trees. The majority of forestland is located above the Mogollon Rim with distinct areas scattered throughout the rest of the state. Juniper (*Juniperus* spp.) and pinyon juniper (*Pinusedulis-Juniperusspp.*) woodlands are the most abundant forest type in Arizona, occupying approximately 14.8 million acres, or 20.3% of the state. The rarest and most significant in ecological terms is riparian forest, which occupies less than one-half of 1% of Arizona’s land.

Land ownership within Arizona is also quite diverse. Federal and state agencies and Native American Tribes manage the majority of lands. Only a small portion is privately owned. *Arizona’s 2010 Forest Action Plan* is truly reflective of this diverse land base and draws on the strong relationships with many organizations and agencies. This collaborative “all lands” approach is critical for successful near-term and long-term outcomes on the landscape.

SECTION 1

Arizona Critical Issues and Collaborative Goals

Arizona’s 2010 Forest Action Plan identified 8 Critical Issues for Arizona and related collaborative goals for all Arizona stakeholders to pursue. This section provides highlights and examples of work completed to address these critical issues. Appendix I also provides a more in-depth listing of reported accomplishments related to each of the goals and objectives – and to specific actions planned for each.

Arizona Collaborative Goals

People and Forests

- People and communities receive maximum benefits from forests and trees.
- Minimized negative impacts to trees and forests.

Ecosystem Health

- Resilient and diverse forest ecosystem structures, processes, and functions.
- Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with negative impacts.

Water and Air (Reported in 2015 as separate goals)

- Improved water quality and quantity from forested watersheds.
- Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows).
- Increased public understanding of the importance of forests to Arizona’s water quality.
- Improved air quality.

Fire

- Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.
- “Fire Adapted Communities” that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.
- Enhanced wildland fire management capacity in Arizona.
- An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Economics

- Realized long-term economic potential of sustainable forest products and bioenergy (while achieving ecosystem health goals)
- Protection of areas with economic development potential related to ecosystem services.
- Community recognition of the economic importance of protecting healthy natural systems.

Climate

- Increased resilience of ecosystems to climate change.
- Reduced rate of future climate change through maximized carbon sequestration in Arizona forests and trees.
- Broad public and community understanding of climate change science – Arizona’s variable climate and current and future impacts.

Culture

- Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests, trees, and other natural resources.
- Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal organizations.

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1. PEOPLE AND FORESTS

Critical Issue Description

Arizona's population has grown for decades at a tremendous rate, and expectations are for continued growth through mid-century and beyond. This expansion brings people into ever-closer proximity to Arizona's forests – allowing us to garner a broad array of benefits from the forests, yet affecting these ecosystems in many negative ways. What were once remote forest wildlands with occasional visitors are becoming backyards and crowded playgrounds to expanding suburban neighborhoods. People migrating from urban areas are often choosing to live within or adjacent to forests and thus face new challenges such as fire, smoke, forest access, water supply, and land use issues. At the same time, distant metropolitan areas continue to increase demand for some of our forest's most precious commodities.

Goals and Objectives

Goal 1: People and communities receive maximum benefits from Forests and Trees.

Objectives:

1. *Connect people to trees and forests and improve their understanding of the benefits provided by Arizona's forests.*
2. *Enhance urban and community forests.*
3. *Improve energy conservation through tree planting and maintenance.*

Goal 2: Minimized negative human impacts to trees and forests.

Objectives:

1. *Increase awareness of threats to Arizona's forests – and awareness of available tools to mitigate those threats.*
2. *Engage people in environmental stewardship activities.*
3. *Manage recreation impacts on Forests.*
4. *Minimize forest fragmentation from development.*



Observatory Mesa Open Space

Arizona State Forestry assisted the City of Flagstaff in producing a long-term comprehensive forest management plan for 2,310 acres of city owned property. This forest land was purchased, and is to be managed as open space where recreation and public educational goals are a high priority.

Observatory Mesa is directly adjacent to the City of Flagstaff, and home to the historic Lowell Observatory, where the dwarf-planet, Pluto, was first observed in 1930.

The area provides unique opportunities for the public to connect with the forest, experience wildlife viewing opportunities, and learn about forest management. The recent Forest Stewardship plan is guiding forest management on Observatory Mesa and enabling the City of Flagstaff to reduce fire and forest health risks on over 600 acres within the wildland-urban interface. Through public interaction and effective management, the City will be able to meet multiple objectives into the future.

Plan Accomplishments

During the five years since the development of Arizona's Forest Action Plan, significant accomplishments have been documented to support the goals and objectives to address this issue. There are many projects and activities being pursued by Arizona communities and organizations. Eleven partner organizations highlighted over 100 specific accomplishments as part of this report. (See Appendix I for a full listing of reported accomplishments). Partners who provided information related to these goals include:

- Arizona Community Tree Council
- Arizona Nursery Association
- ASU – Sustainable Cities Network
- Arizona State Forestry (AZSF)
- City of Flagstaff
- City of Phoenix
- City of Tucson
- Salt River Project
- Tucson Clean and Beautiful
- Tucson Electric Power
- Watershed Management Group

GREEN STREETS
Plant the water, grow the shade

**Treat Your Feet to a Shady Street!
You can plant trees in your front yard to shade your bike boulevard!**

Through a community workshop native trees were planted to create shade for everyone.
This rain garden will harvest over 12,000 gallons of rain every year from the school roof!

Want to learn more about Green Streets and rainwater harvesting?
Visit us at watershedmg.org

Logos: Watershed Management Group, Tucson, Arizona State Forestry, Bicycle & Pedestrian Program

Treat Your Feet to a Shady Street

Watershed Management Group (WMG) worked with Robison Elementary school to develop a replicable model to create Bike Boulevard Greenways across the City of Tucson. Through this project, supported by a Community Challenge Grant from Arizona State Forestry and collaborative support of the City of Tucson's Bike and Pedestrian Program, over 40 adults and 200 children were exposed to water harvesting through hands-on activities and tours. Additional green infrastructure implementation has begun and there is considerable interest in scaling up these efforts.

2. ECOSYSTEM HEALTH

Critical Issue Description

Evidence of their declining health, function and sustainability is readily apparent throughout the forest ecosystems of Arizona. Dramatic signals of unraveling ecosystems include large, uncharacteristic crown fires; effects of prolonged drought; excessive fuel buildup; vegetative loss from insects and tree pathogens; and widespread decreases in the biodiversity of both plants and animals. Evidence-based ecological research indicates that some Arizona ecosystems are very different from historic conditions. These changes include alterations in nutrient cycling, decreases in understory species diversity, increases in exotic species, and disruption of natural fire regimes. It is essential that we accurately identify the reasons for decline in the health of forest ecosystems and respond appropriately.



Arizona Prescribed Fire Initiative

Prescribed fire is used to alter, maintain, or restore vegetation; achieve desired resource outcomes; and to protect life, property, and values that would be degraded by unplanned wildland fire. For fire-dependent ecosystems, fire is an essential ecological process.

Arizona's Prescribed Fire Initiative is being developed to provide consistent, statewide direction on how to implement prescribed fire in a safe, cost-effective manner to achieve life-safety and land management objectives.

The initiative provides direction to State Agencies and Arizona State Forestry partner organizations on achieving safe and effective prescribed fire in compliance with applicable regulations.

(Photo Credit: Arizona State Forestry)

Goals and Objectives

Goal 1: Resilient and diverse forest ecosystem structures, processes, and functions.

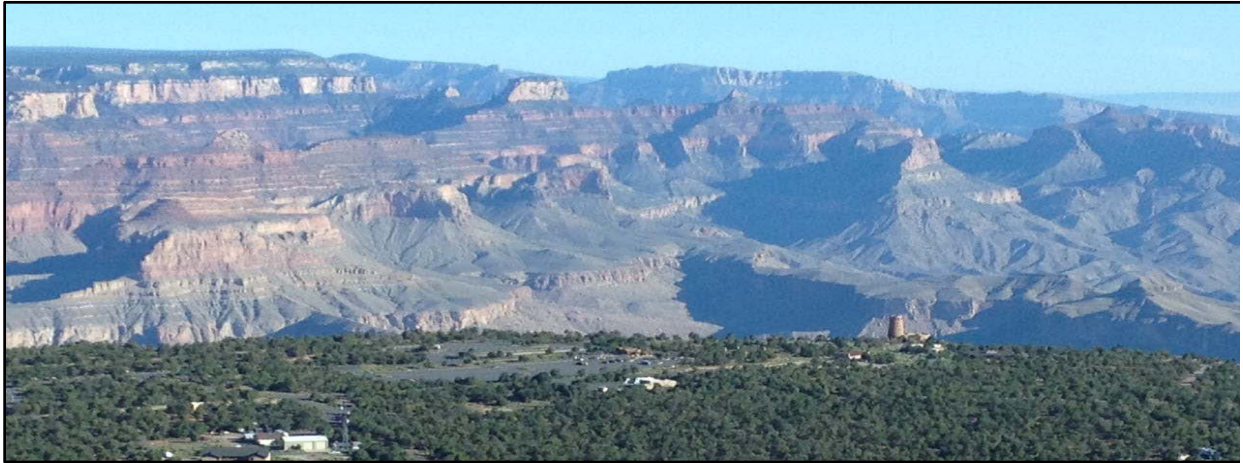
Objectives:

1. Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.
2. Protect, conserve, and enhance wildlife and fish habitat.
3. Identify and conserve unique high priority ecosystems and landscapes.
4. Identify and monitor threats to forests and ecosystem health.
5. Protect forests and other high priority ecosystems from fragmentation and conversion.

Goal 2: Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objectives:

1. Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect and disease outbreaks, land management practices/uses, and exotic invasive species.
2. Restore frequent fire regimes as part of forest restoration measures.
3. Integrate collaborative, science based, planning processes and public education into restoration treatments.



Aerial Detection Surveys

Arizona State Forestry partners with the US Forest Service to survey millions of acres of Arizona’s forest land from the air. Aerial Detection Surveys provide land managers and the public with information about landscape-level forest and woodland health conditions. When forest health issues exist, Forest Health staff offer this information to land managers locally – and data collected across the country can be accessed on the internet – allowing local land managers to take appropriate action. Arizona State Forestry staff typically survey 1-3 million acres annually, and US Forest Service personnel annually survey an additional 6-8 million acres of Arizona forest land.

Plan Accomplishments

Three organizations documented over 200 specific activities related to the 5-year Forest Action Plan (see Appendix I for a full listing.) Many of these activities included various additional partners, and some programs include support for multiple efforts in various parts of the state. Above and beyond these reported accomplishments, many local organizations are participating in activities to improve the health of Arizona’s various ecosystems. Partners who reported specific activities include:

- Arizona State Forestry (AZSF)
- Ecological Restoration Institute (ERI)
- The Nature Conservancy (TNC)

3. FIRE

Critical Issue Description

Fire in Arizona is a complex issue. Recent trends show increasing size and severity of wildland fire occurrence, and increasing costs in fighting and managing these fires. Although fire is necessary in many forest types, it can occur as desirable fire, undesirable fire, or as a managed tool for achieving and sustaining desired ecological conditions. Fire is a key process in many forest ecosystems, but reestablishing natural fire regimes where appropriate remains an ongoing challenge. At the same time, protecting the safety of citizens and other important values--communities, infrastructure, and habitat for imperiled species--are critical concerns. A fundamental challenge facing Arizona is maximizing the many benefits of fire while reducing its significant costs.



Federal Excess Property Program

From July 2010 through June 2015, Arizona State Forestry was able to acquire over \$6 million in federal excess equipment to aid state and local agencies in fire suppression efforts. Over this period, 152 pieces of equipment were acquired. Sixty-six of these were vehicles that were converted for fire response.

(Photo Credit: Arizona State Forestry)

Goals and Objectives

Goal 1: Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objectives:

1. Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona.)
2. Use appropriate application of fire to meet resource and community protection objectives.
3. Use best available science to define appropriate levels (acceptance) of fire for different ecosystems or vegetation types.

Goal 2: "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objectives:

1. Assist communities in planning for and reducing wildfire risks.
2. Design and implement effective smoke management strategies and protocols. (see AIR Strategy)
3. Develop additional fire adapted communities that meet Firewise standards and support increased local scale implementation.

Goal 3: Enhanced wildland fire management capacity in Arizona.

Objectives:

1. Increase Firefighting Response Capabilities and Efficiencies.
2. Assure adequate Wildland and Prescribed Fire Training is provided to all necessary personnel.

Goal 4: An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objectives:

1. Develop and deliver Arizona specific educational information and tools to increase citizens and community awareness of wildland fire issues and preparedness.
2. Increase government leadership awareness of wildland fire preparedness and appropriate actions.

Plan Accomplishments

Over 100 specific activities were reported by key Arizona partner organizations since development of the Forest Action Plan five years ago. In addition, we know other partners have achieved many other significant successes that have not yet been captured in this report. (See Appendix I for a full listing of reported accomplishments)

Major accomplishments were reported by the following Arizona organizations:

- Arizona State Forestry (AZSF)
- Arizona Public Service
- US Forest Service
- Ecological Restoration Institute (ERI)
- US Bureau of Land Management



Firewise Communities / Fire Prevention

The National Fire Protection Association’s Firewise Communities Program, implemented in Arizona by Arizona State Forestry, empowers neighbors to work together in reducing their wildfire risk. Using a five-step process, communities develop an action plan that guides their residential risk reduction activities, while engaging and encouraging their neighbors to become active participants in building a safer place to live.

Over the past 5 years, Arizona State Forestry has conducted 27 Firewise Assessor courses, certifying approximately 410 citizens and firefighters throughout Arizona, and presented Firewise and fire prevention principles during 75 events, reaching approximately 10,000 Arizona citizens.

(Photo Credit: Arizona State Forestry)

4. WATER

Critical Issue Description

Water is arguably Arizona's most precious resource. Because forested watersheds produce a large proportion of the state's water supplies, proper forest management is essential to protect the quantity and quality of water supply for municipal, industrial, and agricultural uses as well as for riparian ecosystems that provide habitat for the broadest diversity of species in Arizona. Natural climate variability and global climate change have resulted in persistent drought for the past decade. Temperature increases have led to earlier spring runoff and loss of water storage. The challenge of forest management going into the future will be the wise use of practices that lessen the impacts of climate change through watershed management strategies that help to ensure adequate, good-quality water supplies for agriculture, industry, people, and the environment.

Goals and Objectives

Goal 1: Improved water quality and quantity from forested watershed.

Objectives:

1. Collaboratively protect and enhance water quality and quantity of forested watersheds.
2. Maximize positive impacts of forest treatments on water quality.
3. Minimize negative impacts from wildfire in watersheds of concern.

Goal 2: Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objectives:

1. Manage impacts of forest management activities within aquatic systems.
2. Restore aquatic systems, and improve water availability.



Joint Chiefs: Prescott Basin Cross Boundary Project

A partnership between the Natural Resources Conservation Service (NRCS) and the US Forest Service (USFS) is funding a landscape restoration project to improve the health and resiliency of forest ecosystems where public and private lands meet. Prescott National Forest has partnered with the NRCS, Arizona State Forestry, the City of Prescott, the Prescott Area Wildland Urban Interface Commission, the Highlands Center for Natural History, and private landowners to develop a cross-boundary project comprising 141,000 acres to reduce the likelihood of catastrophic wildfire near Prescott, Arizona.

The group is implementing an “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde and Agua Fria River Watersheds. Federal funds in the amount of \$2.2M were set aside to complete this work over 3 years. Private, local and State resources will provide nearly \$1.5M in matching funds in the form of treatments of dense forests, woodlands and grasslands (pictured). Work across ownership boundaries will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.

Goal 3: Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objectives:

1. Collaboratively develop information and education materials on watershed and riparian issues.
2. Collaboratively develop and implement outreach and education programs on watershed and riparian issues.
3. Encourage Public involvement.



San Pedro River – The Nature Conservancy and Forest Legacy

Arizona State Forestry partnered with The Nature Conservancy to secure funding through the National Forest Legacy Program, funded from the US Forest Service, for this project along the San Pedro River. Conservation easements on 4 private properties have been secured in perpetuity - protecting critical riparian Arizona habitat. This area is host to dozens of avian species, some of which are threatened or endangered. Increasing development, changing land uses, changing climate, and habitat fragmentation in the area put these species at great risk. In national competition with other Legacy projects, Arizona’s San Pedro River Project ranked higher than all other proposals from across the country.

Plan Accomplishments

During the five years since the development of Arizona’s Forest Action plan, significant accomplishments have been documented to support all of the goals and objectives to address this issue. Though there are many other known projects and activities being pursued by Arizona communities and organizations, 9 organizations submitted over 100 specific accomplishments for this report. (See Appendix I for a full listing.) These organizations all reported major efforts to address Arizona’s Water issues:

- Arizona State Forestry (AZSF)
- US Forest Service
- Upper Verde Coalition
- Eastern Counties Organization
- The Nature Conservancy
- US Fish and Wildlife Service
- Borderlands Restoration
- Salt River Project
- Arizona Dept. of Environmental Quality

5. AIR

Critical Issue Description

Clean air, often taken for granted, is another precious resource. Arizona's forest lands play an important role in maintaining and enhancing air quality. Trees modify the atmosphere by absorbing carbon dioxide and producing oxygen; clear the air by filtering dust, ash, pollen, and smoke; intercept wind; provide shade; and moderate air temperature. However, forest management activities and fires can have negative effects on air quality by producing excessive smoke and releasing other particulates into the atmosphere. Careful planning and coordination are needed to improve forest management activities to limit smoke impacts and improve air quality.

Goals and Objectives

Goal 1: Improved air quality.

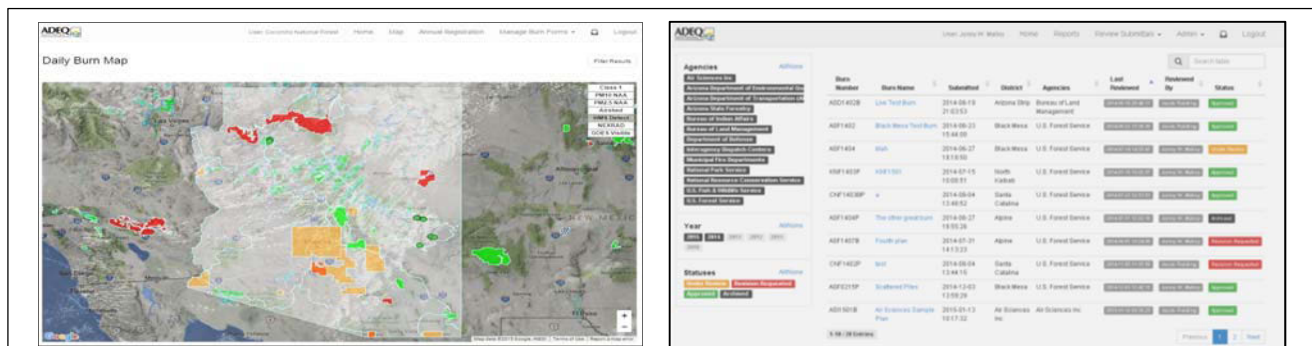
Objectives:

1. Enhance urban and community forests (see People & Forests Strategy).
2. Maintain or Improve health of existing forest lands (see Ecosystem Health Strategy).
3. Improve coordination of smoke management related to wildland fire and forest restoration treatments (Arizona Enhanced Smoke Management Program).
4. Reduce negative impacts of forest treatments on air quality.

Goal 2: Increased public understanding of the importance and effects of fire on Arizona's air quality.

Objectives:

1. Enhance public outreach and education regarding fire management and air quality.



Arizona Smoke Management Program

Identified as a priority in Arizona's 2010 Forest Action Plan, a new online database will streamline the prescribed fire permit request, approval, and management processes while promoting better coordination and improved efficiencies. The Arizona Smoke Management Program is coordinated by Arizona Department of Environmental Quality with additional resources from the US Forest Service and Department of Interior agencies. They will be testing the new database and user interface during the 2015 prescribed fire season.

Plan Accomplishments

The Arizona Department of Environmental Quality leads the work to address Air Quality in Arizona. To strengthen efforts to mitigate impacts of smoke from wildland and prescribed fires, strong partnerships have developed with Arizona State Forestry, the US Forest Service, and US Department of Interior agencies. More than 25 specific actions have been identified to support Arizona's Forest Action Plan over the past five years. Other state agencies and local organizations are also taking steps to support these efforts, though specifics have not been captured within this report. (See Appendix I for a full listing of reported accomplishments.)

Organizations who contributed to this report include:

- Arizona State Forestry (AZSF)
- Arizona Department of Environmental Quality
- US Forest Service
- US Bureau of Indian Affairs



Southwest Air Quality and Beyond

This multi-state project was funded by a competitive grant from the USDA Forest Service to conduct urban forestry ecosystem services assessments in partnering communities. The project utilized i-Tree Eco to capture urban forestry data to assist communities in developing municipal and regional air quality goals. Partners in Arizona included Arizona State Forestry, Arizona Department of Environmental Quality, Maricopa County Air Quality, and the City of Phoenix. Data generated was summarized for Phoenix, AZ; El Paso TX; Las Cruces, NM; and Albuquerque, NM - with the goal to improve the urban forest, environmental health and community livability. Results of this project included 4 community summary reports, a website (www.desertcanopy.org), brochures, factsheets, tree posters, and public outreach materials in English and Spanish.

6. ECONOMICS

Critical Issue Description

Forests have always contributed to Arizona’s economy and quality of life. Historically, forests provided an abundance of natural resources--forage for cattle and sheep, trees for lumber, firewood, mine timbers and railroad ties, game for consumption, and water for irrigation and municipal uses. Arizona’s forests sustained a timber industry that helped fuel a century of rural development. Although tourism, watershed protection, and evolving forest management goals have more recently provided new challenges for rural and state economies, the importance of forests to Arizona’s economy has not changed. Forests remain the economic and aesthetic foundation of many rural communities. Today, Arizonans demand more goods and services from our forests than ever before, and balancing these demands presents ongoing management challenges as we strive to ensure long-term forest sustainability.

Goals and Objectives

Goal 1: Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objectives:

1. Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.
2. Federal, state, and local units of government should identify and enhance the use of small-diameter wood and biomass generated from forest treatments wherever possible.
3. Expand and support the coordination of multi-agency, collaborative, large landscape scale forest treatment projects that will be conducive to the development and support of a wood products industry.

Goal 2: Protection of areas with economic development potential related to ecosystem services.

Objectives:

1. Develop and maintain land use change and ecosystem services data for Arizona.
2. Focus and prioritize programs on communities that will experience significant urban growth, to assist local leaders in devising effective ways to grow, develop, and protect their communities while also integrating important economic contributions made by forest ecosystems and natural areas that will be impacted.
3. Prioritize / focus program delivery and agency resources into high priority landscapes where resource threats (wildfire, insect / diseases, land conversion) will most likely threaten /negatively impact critical forest landscapes across Arizona.
4. Recognizing the diversity of federal, tribal, state and private landownership in Arizona, maintain and enhance the economic benefits and values of natural resources.



AZ Commerce Authority – Healthy Forest Incentive Program

This Waratah Processing head and John Deere tracked excavator were purchased under the Arizona Commerce Authority’s Healthy Forest Enterprises Incentives Program, allowing the owner to invest in equipment and expand his business. Arizona State Forestry works collaboratively with the Arizona Commerce Authority to promote and assist businesses with program enrollment.

Goal 3: Community recognition of the economic importance to protecting healthy natural systems.

Objectives:

1. Develop and maintain information about available programs, suitability of lands, and recommendations for greatest benefits and efficiencies.
2. Promote economic value of urban and community forests and provide capacity to develop sustainable leadership and programs.
3. Provide comprehensive program leadership, for a variety of programs to address land management issues associated with the high priority landscapes.
4. Recognize and promote the economic benefits of "avoided costs" on state and local budgets through enhancing ecosystem health and community and urban forests.

Plan Accomplishments

Governmental and non-governmental organizations reported more than 90 specific actions taken over the five years since completion of Arizona's Forest Action Plan in 2010.

There are numerous other examples of activities by local organizations and communities to improve the economics of forest related products and industry. Organizations that provided data for this report are listed below. For a full listing of reported activities, see Appendix I.

- Arizona State Forestry
- US Forest Service
- The Nature Conservancy
- Eastern Counties Organization
- Arizona Department of Transportation
- US Bureau of Indian Affairs
- Arizona Commerce Authority
- USDA Farm Service Agency
- Salt River Project
- Western Forestry Leadership Coalition



Arizona Department of Transportation – Healthy Forest Initiative

In an effort to promote a healthy forest, improve commerce and protect the state's infrastructure following the devastating Wallow Fire, the Arizona Department of Transportation (ADOT) partnered with the Arizona State Forestry Division and the Eastern Arizona Counties Organization to launch the "Healthy Forest Initiative."

The recently launched two-year ADOT pilot project allows timber industry trucks to carry additional weight on several state highways in the White Mountains region. The higher truck weight limit will greatly enhance the ability of the wood industry to clear forests in the White Mountains and transport wood materials to saw mills, pellet plants and energy-generating plants in the region - while reducing the risk of further catastrophic forest fires.

7. CLIMATE

Critical Issue Description

Arizona's climate has experienced wide swings in temperature and precipitation for thousands of years. A naturally variable climate has given rise to changes in fire frequency, wide variation in flood and drought severity, and has influenced native population shifts throughout the region. Recent changes in temperature and precipitation over several decades, caused in part by human activity, have increased the severity of forest insect outbreaks and have contributed to some of the largest wildfires in Arizona's history. While climate has always been variable over time, rapid climate change creates cascading effects of tree mortality, increased disturbance frequency and severity, and shifting zones of suitable habitat that could dramatically alter Arizona's forested landscapes.

Goals and Objectives

Goal 1: Increased resilience of ecosystems to climate change.

Objectives:

1. Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information.
2. Develop adaptation plans for Arizona's forests and other high priority ecosystems to increase resilience to climate change.
3. Manage and restore trees, forests, and high priority ecosystems to mitigate effects and adapt to global climate change.
4. Support urban and community forestry programs to increase resiliency to climate change (see People and Forests strategies).

Goal 2: Reduced rate of future climate change through maximized carbon sequestration in Arizona forests and trees.

Objectives:

1. Support landowners and land management practices which implement high quality mitigation practices that reduce carbon loss.
2. Support achievement of appropriate fire regimes to maintain health and resiliency of natural vegetation (see Fire strategies).
3. Support continued research to understand the effects of forest management on sequestration.

Legend

Reclamation Offices	DOI Landscape Conservation Cooperatives	Reclamation Regions
Area Office	1. Appalachian	5. Great Basin
Region Office	2. California	6. Great Northern
Reclamation Regions	3. Desert	7. Great Plains
State Boundaries	4. Eastern Tallgrass Prairie and Big Rivers	8. Gulf Coast Prairie
	5. Gulf Coastal Plains and Ozarks	9. Gulf Coastal Plains and Ozarks
		10. Upper Midwest and Great Lakes
		11. North Pacific
		12. Plains and Prairie Potholes
		13. Southern Rockies
		14. Chihuahuan Desert

Landscape Conservation Cooperatives

Two Landscape Conservation Cooperatives encompass Arizona. The **Southern Rockies LCC** includes the northern part of the state and the **Desert LCC** includes the central and southern areas of Arizona. These two cooperatives currently include cooperators from 53 federal, state, tribal, and private organizations that provide scientific and technical support, coordination, and communication to inform resource management decisions that address climate change and other stressors.

Goal 3: Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

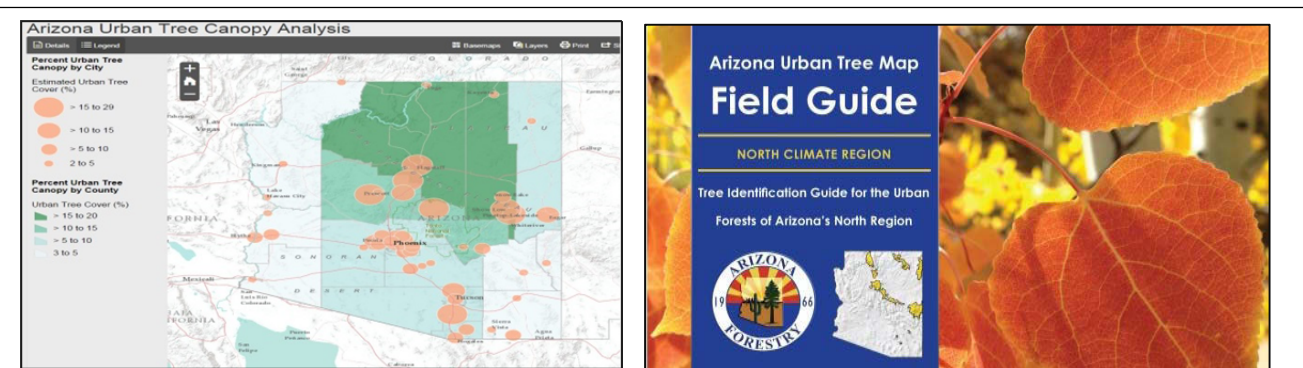
Objectives:

1. Develop and maintain science based reports and materials specific to Arizona that document the state of knowledge for climate exposure; species, community and watershed vulnerability; forest adaptation strategies and their effectiveness, as well as effectiveness of strategies focused on increasing carbon sequestration.
2. Develop outreach and education programs to disseminate information about climate change science to the public and community leaders.

Plan Accomplishments

More than 60 actions have been reported by multiple partners to support work toward these goals. State Universities, major non-profit organizations, and state and federal agencies are all contributing to this work. A full list of reported activities is available in Appendix I. Specific activities were reported from these organizations:

- US Forest Service
- Arizona State Forestry
- Northern Arizona University
- University of Arizona
- Landscape Conservation Cooperatives
- Sonoran Joint Venture
- Arizona State University
- Sky Island Alliance
- US Geological Survey
- The Nature Conservancy



Supporting Resilient Communities

Because forests must be understood before they can be properly managed for resiliency to climate change, Arizona State Forestry collaboratively implemented a statewide Integrated Urban Forest Resource Inventories (UFRI) project. Partners included the University of Arizona School of Natural Resources and the Environment, the Advanced Resource Technology Group, and six pilot communities across the state. The purpose was to (1) compile existing urban forest inventory and resource information from communities, towns, and rural areas; (2) implement a pilot project for gathering data in multiple Arizona communities while developing a GIS-enabled database to maintain statewide data; and (3) develop protocols for program sustainability and growth.

The overall goals were to encourage sustainably managed urban forests that are more resilient to the impacts of climate change. Project accomplishments included the completion of a needs assessment, a range of field and inventory guides, online tools, analysis reports and maps, tree inventory databases, and an analysis service to support urban tree inventories across Arizona.

8. CULTURE

Critical Issue Description

Human cultures and Arizona’s forests have been interdependent for more than 10,000 years. During this time, forests have provided human cultures with a variety of resources including shelter, building materials, wild game, water, seasonal fruits and seeds, ceremonial plants, medicines, minerals, land for farming and grazing, and a place of spiritual renewal. Human interaction with, and dependence on, forests will continue to be influenced by the specific set of values, norms, and beliefs held by different cultural groups. While there are many shared beliefs, values and uses across cultural groups, there are also distinct differences that require a balance among competing interests. While challenging, the integration of an array of cultural values in the management of our forests represents a more holistic approach and helps increase the interaction and collaboration between groups.



Iskashitaa Refugee Network

Iskashitaa Refugee Network (IRN) is a non-profit organization that works with refugees from 20 countries who have been resettled to Tucson. Their mission and programs have always had the feeding of families at their core. IRN is a leader in demonstrating sustainable options by identifying, harvesting and educating the community on edible forest products within the community. Working with refugees, they identify and record locations of urban edible trees (both native and cultivated) predominantly growing on private property. IRN programs assist in the acculturation of United Nations refugees using food as the common denominator, allowing for rich opportunities for cross-culture exchange, education and volunteerism. IRN conducts harvest and gleaned events, food preparation workshops using gleaned fruit, and documents food preservation techniques and multiethnic fruit uses.

Goals and Objectives

Goal 1: Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests, trees, and other natural resources.

Objectives:

1. Build trust, communication networks, and problem solving strategies between land management agencies, communities, and stakeholders about the diverse cultural perspectives of forest users and Indigenous Tribes.
2. Improve broader understanding of various cultural perspectives as they relate to forest resources, fire management, and other natural resource issues.
3. Educate the public, government officials, and community leaders about the role and importance of cultural perspectives in restoration sustainable forest and wood products businesses, fire management, and community protection needs and responsibilities.

Goal 2: Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal organizations.

Objectives:

1. Where appropriate, share data and implementation strategies to leverage successful outcomes on tribal and adjacent lands with similar management objectives.
2. Improve information sharing about available resources to address needs of indigenous tribes and other cultural groups in Arizona.

Plan Accomplishments

Work by Arizona State Forestry and the US Forest Service have been focused on achieving these identified Forest Action Plan goals (Appendix I has a full list of reported activities.) Other national, state, and local organizations are also furthering these efforts through day-to-day operations, collaborative agreements, and project-specific efforts.

In 2010, Arizona State Forestry hired a time-limited Tribal Outreach Specialist to improve communications with all Arizona Tribes, and the US Forest Service currently has designated tribal relations staff on each National Forest in Arizona.

Though there are other activities occurring on a regular basis, these two organizations reported specific accomplishments toward these Forest Action Plan goals:

- Arizona State Forestry
- US Forest Service



Arizona State Forestry Tribal Outreach

Arizona State Forestry's Tribal Outreach Specialist helped organize multiple events and meetings to share information.

A riparian restoration workshop organized by the Colorado River Indian Tribes and Arizona State Forestry highlighted riparian restoration work done on the 'Ahakkav Tribal Preserve and also enabled the Colorado River Indian Tribes to learn more about Arizona's Cooperative Forestry programs.



Arizona State Forestry Provides Technical Support for Tribal Saw Mills

Arizona State Forestry staff provides Tribes with technical expertise on saw mill setup, operation, and maintenance.

State Forestry's Utilization Forester provided information to the Navajo Nation Forestry Department who recently acquired a portable saw mill. State Forestry staff also provided local contacts to help the White Mountain Apache Timber Company restart the saw mill on the Fort Apache Reservation. Reopening of the mill provided employment for tribal members and a market to offset the costs of forest treatment projects for Fort Apache foresters.

SECTION 2

National Priorities

The US Forest Service and State Foresters developed three national priorities and 11 objectives that were incorporated into Arizona’s original 2010 Forest Action Plan. This section provides an overview and selected highlights of Arizona activities that align with these national priorities. Appendix II provides a detailed list of reported activities and how they align with these national themes.

This section will be included as an addendum to Arizona’s Forest Action Plan and meets the requirement of a “National Priorities Section” to be incorporated into state action plans.

National Priorities and Objectives:

1. Conserve Working Forest Landscapes

- 1.1. Identify and conserve high priority forest ecosystems and landscapes.
- 1.2. Actively and sustainably manage forests.

2. Protect Forests from Harm

- 2.1. Restore fire-adapted lands and reduce risk of wildfire impacts.
- 2.2. Identify, manage, and reduce threats to forest and ecosystem health.

3. Enhance Public Benefits from Trees and Forests

- 3.1. Protect and enhance water quality and quantity.
- 3.2. Improve air quality and conserve energy.
- 3.3. Assist communities in planning for and reducing forest health risks.
- 3.4. Maintain and enhance the economic benefits and values of trees and forests.
- 3.5. Protect, conserve, and enhance wildlife and fish habitat.
- 3.6. Connect people to trees and forests, and engage them in environmental stewardship activities.
- 3.7. Manage trees and forests to mitigate and adapt to global climate change.

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CONSERVE WORKING FOREST LANDS

Priority Overview

Across the state of Arizona, forests and other open space landscapes are being fragmented and converted for development. Placing an emphasis on understanding and preserving the economic values of working forest lands and integrating them into planning efforts will help in the identification, protection, and maintenance of important forest landscapes.

Appendix II identifies over 100 reported activities since completion of Arizona’s Forest Action plan that align with the national theme of Conserving Working Forest Lands. A few Arizona projects are highlighted here.



Four Forests Restoration Initiative (4-FRI)

The City of Williams, Arizona is home to two newly commissioned saw mills that are tooled specifically for the processing of small diameter ponderosa pine. These businesses were attracted to northern Arizona by the Four Forest Restoration Initiative (4FRI), a collaborative effort to restore forest ecosystems on portions of four National Forests - Coconino, Kaibab, Apache-Sitgreaves, and Tonto - along the Mogollon Rim in northern Arizona.

The vision of 4FRI is restored forest ecosystems that support natural fire regimes, functioning populations of native plants and animals, and forests that pose little threat of destructive wildfire to thriving forest communities, as well as support sustainable forest industries that strengthen local economies while conserving natural resources and aesthetic values. Collectively this influx of forest enterprises has also helped ensure that private landowners have a financial incentive to conserve their forested lands and maintain them as working forests. (Photo credit: Andrew Owen)



Flagstaff Watershed Protection Project (FWPP)

The first area thinned as part of the Flagstaff Watershed Protection Project (FWPP) generated this log deck on Arizona State Trust Land near Flagstaff, Arizona. The FWPP – a partnership effort between the State, City, and Coconino National Forest to help reduce the risk of devastating wildfire and post-fire flooding in the Rio de Flag and Lake Mary watersheds – was approved by Flagstaff voters in a \$10M bond vote in 2012.

There are only a handful of examples in the country where forest restoration work on the National Forests is being funded by a municipality, and this is the only known instance where such an effort is funded from municipal bonds. Projections indicate that a wildfire on the steep slopes above Flagstaff could have major impacts on large portions of the City of Flagstaff, and that a wildfire and subsequent erosion on the steep slopes of Mormon Mountain could render 50% of the city’s water supply unsuitable.

Work on this State Trust Lands parcel, called Equestrian Estates, was completed by hand crews and mechanical thinning operations. Log decks from the mechanical thinning were marketed to local sawmills and by-products from the hand thinning work were left for fuelwood gathering by local residents.

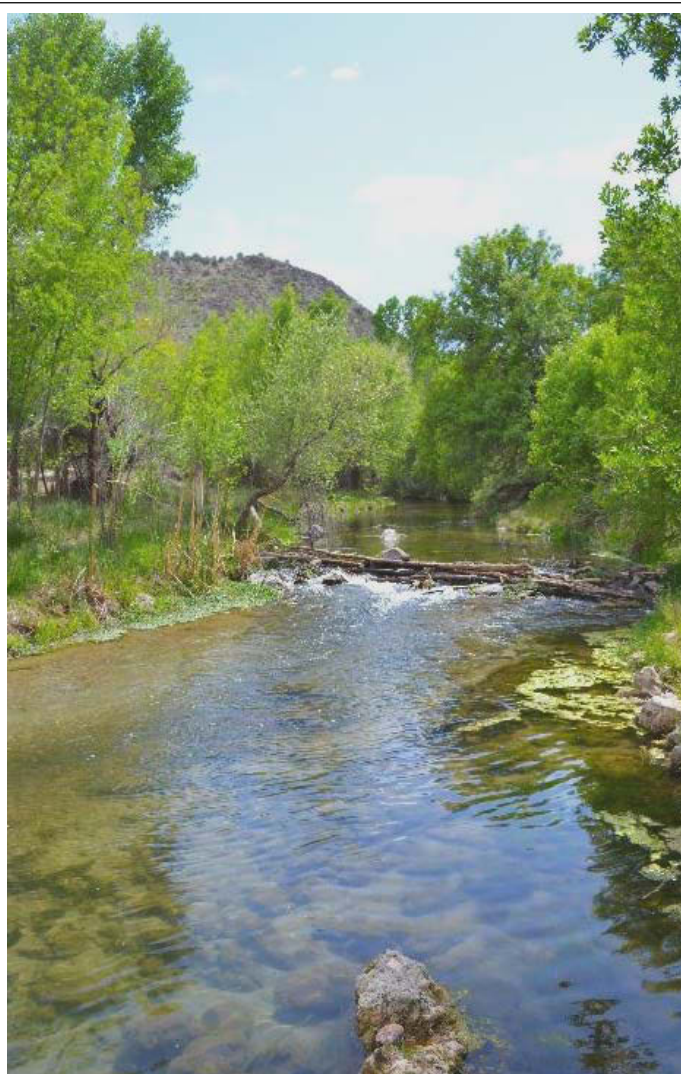
The proximity to private residences tested local acceptance in preparation for larger scale forest thinning treatments slated for other areas of the watershed protection project. Overall, the majority of residents were happy to see the hazardous fuels reduction projects being implemented and they support the ongoing efforts. (Photo credit: AZ State Forestry)

PROTECT FORESTS FROM HARM

Priority Overview

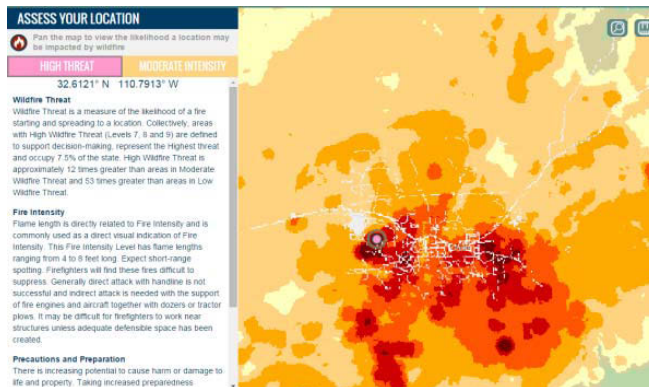
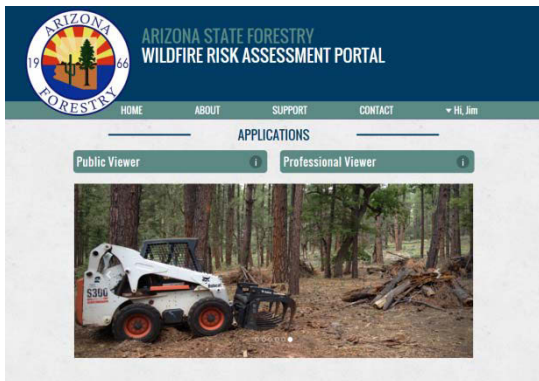
A healthy landscape has the capacity for renewal and for recovery from a wide range of disturbances while continuing to provide public benefits and ecosystem services. Providing economically viable solutions to forest restoration and management actions will help protect, restore, and sustain forest resources. Two critical aspects of this will be: 1) restoring healthy forest landscapes to achieve acceptable fuel loads that reduce threats to resources and communities from uncharacteristic wildfire, and 2) support existing, and develop new, sustainable wood products industries that can provide the resources necessary to accomplish landscape-scale forest restoration.

Appendix II identifies over 500 reported activities since completion of Arizona’s Forest Action plan that align with the national theme of Protecting Forests from Harm. A few Arizona projects are highlighted here.



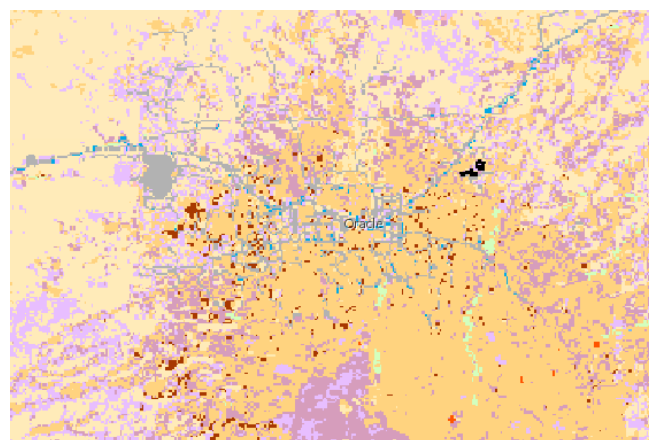
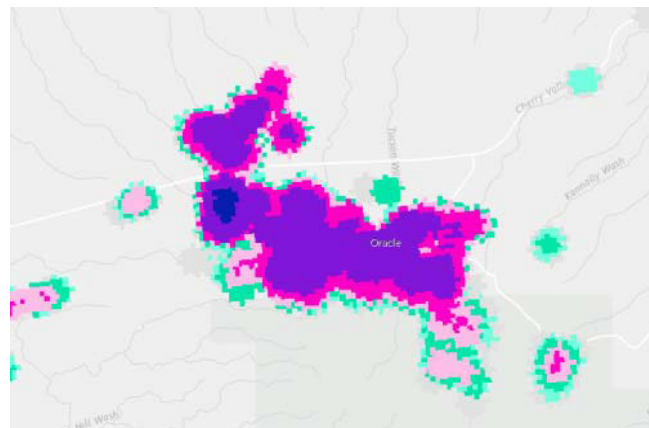
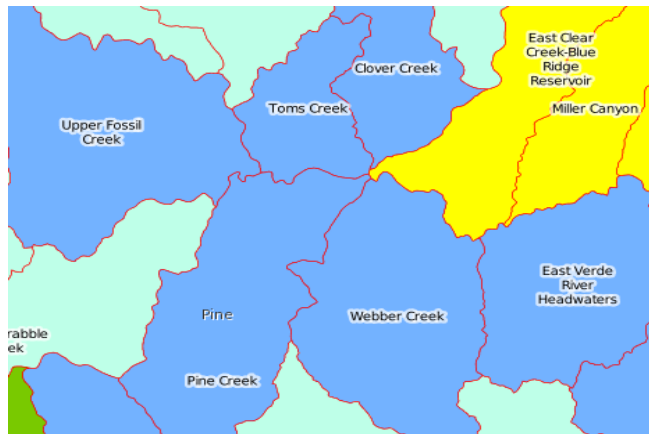
Verde River Watershed Protection

The Verde River watershed of central and northern Arizona is identified as a priority landscape and sustains the Verde River and its riparian forest. In Arizona, riparian forest is extremely rare at less than 0.5% of all land. Numerous Arizona State Forestry projects have been implemented within this valuable and threatened landscape to control invasive plants and support riparian forest restoration. Investment and collaboration from numerous partners such as the USDA Forest Service, Verde Watershed Restoration Coalition, Friends of Verde River Greenway, Walton Family Foundation, The Nature Conservancy, US Fish and Wildlife Service, Northern Arizona University, Tamarisk Coalition, Arizona State Parks, Arizona Game and Fish Department, and over 200 private land owners utilize their collective knowledge to ensure a successful partnership.



Arizona Wildfire Risk Assessment Portal (AzWRAP)

Wildfire continues to threaten people, property, and natural resources across Arizona. Rapid population growth into Wildland Urban Interface areas and increasing effects of long term drought and increased fuel loading conditions represent major concerns moving forward into the future. Heightened awareness of wildfire threat, prevention and mitigation are becoming increasingly important to ensure safety. The Arizona Wildfire Risk Assessment Portal is the primary mechanism for Arizona State Forestry to deploy wildfire risk information (Westwide Wildfire Risk Assessment data) and create awareness about wildfire issues across the state. It is comprised of a suite of applications tailored to support specific workflow and information requirements for the public, local community groups, private landowners, government officials, hazard-mitigation planners, and wildland fire managers. Collectively these applications will provide the baseline information needed to support mitigation and prevention efforts across the state.



ENHANCE PUBLIC BENEFITS FROM TREES AND FORESTS

Priority Overview

Restoration, conservation, and protection of forest resources will enhance the economic, environmental, and social benefits from trees and forests. This includes urban forestry as well as the management of all forested lands to provide a multitude of benefits to the people of Arizona. This goal recognizes that our nation's federal, state, urban and private forests are the natural backyards for many communities and serve as society's connection to nature. Forest management strategies will conserve and enhance a green infrastructure that effectively connects people and their cultures with the natural environment.

Appendix II identifies over 150 reported activities since completion of Arizona's Forest Action plan that align with the national theme of Enhancing Public Benefits from Trees and Forests. A few Arizona projects are highlighted here.



Tucson Bark Beetle Response

Most pine trees planted in lower elevations of central and southern Arizona are Mediterranean species which are known to survive in dry climates in their native range. Many of these pines were planted over 50 years ago and have reached maturity in the southern Arizona climate. However, following years of drought and inadequate irrigation practices, many have become stressed and susceptible to insects. Recently, many pines in the Tucson area, mostly Aleppo pines (*Pinus halepensis*), have succumbed to a native bark beetle, *Ips calligraphus* (six-spined engraver), though that insect has not previously been reported to thrive in the upper Sonoran Desert. These beetles are now infesting a significant number of trees and threaten many more. It is not known if its lifecycle will mimic that of beetles in the higher elevations where they are commonly found, or if there will be a difference because of the lack of cold temperatures in the Tucson desert. Funding from the US Forest Service is enabling a partnership between Arizona State Forestry and the University of Arizona to study the extent and lifecycle of the six-spined engraver in the Tucson area.



Diversifying Urban Forests with Edible Trees

The Southwest urban forest contains a variety of tree species – native and nonnative – some of which produce edible seeds, nuts, fruits and pods. Edible trees are under-used resources that provide a wide range of environmental services and meet important community food and sustainability needs. Use of historically, culturally and genetically significant edible heritage tree species increases diverse public engagement in urban forest stewardship. Specific project deliverables include: 1) synthesis of water use by edible trees; 2) development of criteria for selecting climate-appropriate edible tree species and providing guidance for site design, planting, water provision, maintenance, and harvesting of edible trees; and 3) conducting broad outreach to actively engage people with forests. (Photo credit: Barbara Rose/Bean Tree Farm)



APPENDIX I

Stakeholder Accomplishments

Arizona Collaborative Goals

People and Forests

- People and communities receive maximum benefits from forests and trees.
- Minimized negative impacts to trees and forests.

Ecosystem Health

- Resilient and diverse forest ecosystem structures, processes, and functions.
- Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with negative impacts.

Water and Air

- Improved water quality and quantity from forested watersheds.
- Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows).
- Increased public understanding of the importance of forests to Arizona’s water quality.
- Improved air quality.

Fire

- Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.
- “Fire Adapted Communities” that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.
- Enhanced wildland fire management capacity in Arizona.
- An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Economics

- Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem health goals).
- Protection of areas with economic development potential related to ecosystem services.
- Community recognition of the economic importance to protecting healthy natural systems.

Climate

- Increased resilience of ecosystems to climate change.
- Reduced rate of future climate change through maximized carbon sequestration in Arizona forests and trees.
- Broad public and community understanding of climate change science – Arizona’s variable climate and current and future impacts.

Culture

- Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests, trees, and other natural resources.
- Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal organizations.

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Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.01

Develop and implement educational programs for county and community leaders, schools, and civic groups to increase public awareness regarding the benefits of sustainable trees and forest ecosystems, and impacts of urban heat islands, impervious surfaces, and other forest resource issues.

Reported Accomplishments:

<i>AZSF</i>	<i>AZ Arbor Day - Annual (5 events hosted); 2015 Tour des Trees; 10 UTT Newsletters; approximately 750 technical assists to landowners for more than 2,000 acres; 5 Southwest Vegetation Management conferences. Presented AZUTM resources to 7 communities as part of hands-on inventory workshops; Surveyed 7 communities on AZUTM resources and workshops</i>
<i>ASU-SCN</i>	<i>2011 Regional Tree & Shade Summit – March 9, 2011. One day event drew 225 professionals (public officials, municipal staff, NGOs, companies and professional associations) to educate on benefits of trees and shade, and identify strategies for increasing tree & shade, urban forestry, green infrastructure in communities creating more livable and healthier communities. SCN awarded a number of scholarships to municipal and nonprofit professionals to obtain certified arborist training and certification.</i>
<i>City of Phoenix</i>	<i>Developed and provided educational workshops for citizen groups pertaining to proper tree selection, planting, and care.</i>
<i>ANA</i>	<i>Through our "Plant Something" campaign, ANA strives to educate community leaders and civic groups about the economic, monetary and environmental benefits of trees.</i>
<i>City of Flagstaff</i>	<i>Annual: 25-35 public events, 10-20 Development project reviews, 400-600 acres thinning and debris disposal, 150-250 acres prescribed burning (broadcast),</i>
<i>City of Flagstaff</i>	<i>Engagement with Greater Flagstaff Forests Partnership; Leadership within Four Forests Restoration Initiative; Flagstaff Watershed Protection Project</i>
<i>SRP</i>	<i>SRP has developed videos, brochures, K-12 curriculum, and integrated messaging into teacher workshops, and presents to a variety of interest groups on the importance of forest health, ecosystem services, water supplies, and resiliency.</i>
<i>AZSF</i>	<i>Approximately 75 Homeowner workshops hosted throughout state in 5 years; 60 Forest Health community programs in 5 years; More than 80 presentations to municipalities (all workshops provided technical information about forest resources/benefits); Developed Arizona urban tree inventory, tree ID and tree insect/disease guides for community managers and the public; Presented AZUTM resources to 7 communities as part of hands-on tree inventory workshops</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.01

Develop and implement educational programs for county and community leaders, schools, and civic groups to increase public awareness regarding the benefits of sustainable trees and forest ecosystems, and impacts of urban heat islands, impervious surfaces, and other forest resource issues.

Reported Accomplishments:

AZSF	Collaborated in conducting 4 Arizona Community Tree Council (ACTC) Conferences...
City of Phoenix	Developed posters , fact sheets, brochures detailing i-eco study information for the city; distribution to citizens and policy makers; developed a series of presentations Local, regional, and national) to distribute the information.
City of Phoenix	Improved web page to provide information to citizens.
AZSF	AZ Forestry supported 5 ACTC Conferences; 5 ANA Conferences; Also supported 36 Urban/Community project grants to local organizations over the period of 2010 to 2014. 35 AZSF staff have been trained in Forest Health in 5 years
City of Tucson	Developed written materials: Street Landscape Maintenance Guidelines - 2011; annual Urban Heat Island Workshops - 2006-2014; assist with programming Desert Horticulture Conference - 2006-2015; Sponsor and part of program development team for regional Green Infrastructure-Low Impact Development Workshop 2011 & 2015; assist and present at international Border Environmental Green Infrastructure conference - 2014 & 2015; complete and place on-line Green Infrastructure Maintenance Video 2015;
TCB-Trees For Tucson	Urban forestry outreach to schools has expanded dramatically over the last three years. Trees for Tucson leverages its electric utility-sponsored energy efficiency tree programs (through TEP and Trico) with various public and private resources to provide 400+ trees per year to schools. TFT engages with upwards of 30 schools each year each year with hands-on tree education, sometimes planting as many as 35 trees at a time. This year TFT led 30 middle school youth in stewardship and environmental education activities over the course of a seven week summer camp in conjunction with City of Tucson Parks and Recreation.
WMG	In the first half of 2015, Watershed Management Group reached 1,184 members of the public and professionals through presentations and volunteers contributed almost 2,500 hours toward implementing water harvesting and forestry projects that created over \$100K of community benefits.
WMG	Watershed Management Group, as a non-profit, leads a significant number of educational programs every year focused on the benefits of water harvesting and urban forests for urban heat island reductions, flood mitigation, habitat creation, water conservation, property value increases, improved stormwater quality, reduced heating and cooling needs, air quality improvements and reduced groundwater pumping needs.

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.01

Develop and implement educational programs for county and community leaders, schools, and civic groups to increase public awareness regarding the benefits of sustainable trees and forest ecosystems, and impacts of urban heat islands, impervious surfaces, and other forest resource issues.

Reported Accomplishments:

City of Flagstaff *Flagstaff WUI Code w/emphasis on forest treatment of entire property (prior to construction); Firewise and Fire Adapted Communities efforts;*

Planned Action: 1.1.1.02

Improve access to forests and trees for recreation, education, and other uses.

Reported Accomplishments:

City of Phoenix *Ranger programming and trail improvement for city Preserve system.*

AZSF *Developed and managed Arizona's Magnificent Trees Program*

City of Flagstaff *150-250 hazard tree removals, website updates; 3-5 City Council briefings, 8-11 4FRI Stakeholder group meetings + 20+ Steering Committee conference calls, subject of 4-7 outside articles and studies/reports, 15+ GFFP meetings, etc.*

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.03

Develop and maintain data such as street-tree & canopy-cover inventories, as well as research on the interaction of people with forests, to improve knowledge of the benefits provided by forests and trees.

Reported Accomplishments:

City of Phoenix Complete tree inventory of municipal maintained trees

ASU-SCN 2013 Green Infrastructure Workshop Series. Conducted 3 workshops for municipal and professionals educating green infrastructure design, municipal regional tree & shade plan development, and low impact development trends, particularly with the incorporation of trees, plants, etc.... and the benefits to human health, urban heat island mitigation, stormwater management and water reuse, beautification, and community health. Workshops included Cultivating Green Infrastructure: Challenge to Action – Codes, Community & Collaboration (2/20/13); LID Basics & Beyond: Low Impact Development Trends in the Southwest (2/5/13); and Trees for People: Developing a Tree & Shade Plan for your Community (3/27/13). See attached documents for program and speaker details.

City of Phoenix Developed application for citizens to utilize tree inventory

AZSF Supported 10 Urban/Community project grants to local communities.
Assisted 9 communities in urban tree inventories;
Completed urban tree inventories in 7 communities;
Surveyed 7 communities on AZUTM resources and workshops

WMG With funding from AZSF WMG conducted a tree inventory in an underserved area of Tucson along a bike boulevard. Water harvesting urban forestry projects were implemented at three sites where tree canopy was minimal: a traffic circle, residence and school.

City of Tucson Major Streets & Routes sample tree survey completed utilizing i-Tree Streets - 2007; Complete Street Tree survey (i-Tree) done for downtown area 2009; Complete Street Tree Survey (i-Tree) done for Univ. of AZ campus -2006; Complete Street Tree Survey done for Civano 1 neighborhood - 2013; Transportation Dept compiling street trees removed and replaced under utility lines - 2014-ongoing

AZSF Developed statewide interactive maps for submitted urban tree inventories;
Completed estimated urban tree cover analysis results;
Made all inventory and cover analysis reports available for download

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.04

Expand collaborative efforts with academic organizations and schools to strengthen environmental education of Arizona youth.

Reported Accomplishments:

<i>City of Phoenix</i>	<i>Developed and presented urban forest management information for Arizona Envirothon.</i>
<i>WMG</i>	<i>WMG has a school yard program to partner with K-12 schools throughout AZ. We've done many public presentations and education sessions as well as implemented 24 projects in Nogales (Mexico), Sierra Vista, the Tucson area, Phoenix and Flagstaff.</i>
<i>ACTC</i>	<i>Planted trees with numerous Girl Scout troops in local parks. During the plantings the participants were taught the benefits of urban trees and their proper care. Planted trees in AZ as part of a grant from Freeport McMoRan. Created a career poster and supporting website for high school students to encourage understanding of the arboriculture profession and its importance to the environment. Invited the schools of sustainability at Arizona's universities to participate in the annual conference and tree climbing championship (TCC). Northern Arizona University attending the TCC as part of their work to become a tree campus and distributed maps of their campus tree walk. Arizona State University attended the annual conference. Provided Certified Arborists to support the Hands On Phoenix work day at the Brooks Community School Greenhouse. Supported Annual Arbor Day poster contest for school children in Arizona.</i>
<i>SRP</i>	<i>SRP supports youth education related to watershed function and forest health through development of curriculum and integration of lesson planning with teacher workshops (project WET, STEM, etc.). Check out Arizona Water Story and Yellow Belly Ponderosa.</i>
<i>AZSF</i>	<i>Supported 15 Urban/Community project grants over 5 year period. AZ Arbor Day - Annual (5 events hosted); 2010 - 2 Invasive Plants grants supported; 2012 - 1 Western Bark Beetle grant supported; UA bark beetle trapping in 2015</i>
<i>WMG</i>	<i>WMG is working in partnership with UofA to develop a robust internship program: WaterWRLD. In our first year we have 8 interns from a diverse background in environmental sciences, biology and hydrology.</i>
<i>City of Tucson</i>	<i>Collaborate with Univ. of AZ Institute for the Environment - studies and presentations; Univ. of AZ School of Geography and Univ. of AZ College of Architecture, Planning & Landscape Architecture; mentor for middle school in Sunnyside School District for Future Cities Competition</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.01

Maintain and update the Urban & Community Forestry one- and five-year plans to increase benefits from urban forests.

Reported Accomplishments:

AZSF Urban Community Forestry Program - Completed 2014

TEP has partnered with the City of Tucson for a "right tree right place" program. TEP is removing the City owned trees that are growing into the power lines causing a hazardous condition. These trees are usually pruned with a V or side cut which remedies the hazard, but leaves an unsightly tree. This new program will allow us to remove the hazardous tree and plant 2 trees for every one removed. The new tree will be a species that will not grow into the lines. This not only adds to the tree count, but also creates a more appealing landscape.

City of Phoenix Development of the city's Tree and Shade Master Plan.

TCB-Trees For Tucson Trees for Tucson engages partners across multiple sectors in the preservation and expansion of the urban forest. Working across jurisdictions, with multiple departments such as transportation, parks and recreation, environmental service, flood control and political appointees, with support and participation from corporations, non-profits and volunteer groups, TCB's work expanding and protecting the urban forest is broad-based and engaging. TCB works with neighborhoods and HOAs engaged in street tree planting and reforestation efforts and provides technical assistance and high quality trees to approximately 25 communities a year.

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.02

Engage communities, tree organizations, conservation groups, and green industry groups to identify local community needs and build local capacity.

Reported Accomplishments:

<i>ACTC</i>	<i>Met with local industry professionals during the SHADE Conference to facilitate a conversation around engaging communities and local needs. Provided education for tree professionals serving communities and industry and supported their work to meet community needs and build capacity. Expanded the ACTC website to provide support for communities seeking information to meet local needs. Produce a monthly newsletter to keep our community of members and subscribers connected and engaged. Provided planting support with volunteers during the Earth Day celebration at Phoenix Renews.</i>
<i>WMG</i>	<i>Through our public presentations, technical trainings and co-op workshops, WMG is a leader in building local capacity for stewardship of our urban forests through appropriate care and water harvesting infrastructure.</i>
<i>ANA</i>	<i>Through our Plant Something campaign, ANA strives to educate community leaders and civic groups about the economic, monetary and environmental benefits of trees.</i>
<i>City of Tucson</i>	<i>Teach session of Tucson Clean & Beautiful's Y.A.R.D.S program for past 3 years; teach tree inventory and urban heat island module of Tucson Botanical Garden's Urban Forestry Program; collaborate with Tucson Clean & Beautiful's Trees for Tucson program; work with AZ Nursery Association S.H.A.D.E. conference program development</i>
<i>AZSF</i>	<i>Distributed 10 Urban Tree Newsletters; Supported 30 Urban/Community project grants over 5 year period. Sponsored volunteer-driven urban tree inventories in 7 communities</i>
<i>City of Phoenix</i>	<i>Development of the Citizen Forester training program; Planting programs with community and business groups.</i>
<i>TEP</i>	<i>The yearly goal is to remove 100 hazardous trees and replace them with 200 trees that are a better fit.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.03

Identify, fund, and encourage partnerships to facilitate stewardship in urban tree protection and planting programs.

Reported Accomplishments:

<i>WMG</i>	<i>WMG is a leader in appropriate care for water harvesting landscapes and urban trees. In the first half of 2015 volunteers logged over 200 hours caring for public water harvesting sites at Tucson Ward Offices.</i>
<i>AZSF</i>	<i>Supported 69 Urban/Community project grants.</i>
<i>ACTC</i>	<i>Facilitated three ceremonial plantings in Sedona with national groups during their annual conferences. Funded the plantings and during the presentation, encouraged partnership and support across Arizona and the US for tree stewardship from the groups: REI, Mountain Khaki, National Plant Board. Collaborated with the UofA Cooperative Extension office to encourage members to observe and report issues related to tree insects and threats such as engraver beetles, ficus white fly, and witches broom. Held classes for homeowners and industry professionals related to pest and threat issues.</i>

Planned Action: 1.1.2.04

Promote and support Tree City USA , Tree Campus USA, Tree Line USA and similar programs.

Reported Accomplishments:

<i>AZSF</i>	<i>Distributed 10 Urban Tree Newsletters Arizona currently 27 Tree City USA; 2 Tree Campus USA; 2 Tree Line USA Supported 11 Urban/Community project grants</i>
<i>City of Phoenix</i>	<i>Tree city USA 29 Years; Sterling Growth Award 19 years.</i>
<i>ANA</i>	<i>Through our Plant Something campaign, ANA strives to educate community leaders and civic groups about the economic, monetary and environmental benefits of trees. Our SHADE educational conference tree track also fulfills this goal.</i>
<i>City of Tucson</i>	<i>Past Board member of Univ. of AZ Arboretum (assisted developing proposal for Tree Campus; put together annual renewal for City of Tucson's Tree City designation</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.05

Encourage and conduct educational outreach that empowers communities and schools to sustain and enhance forests and urban canopy programs.

Reported Accomplishments:

<i>ACTC</i>	<i>Supported numerous school plantings. Created a career poster and supporting website for high school students to encourage understanding of arboriculture profession and its importance to the environment.</i>
<i>City of Phoenix</i>	<i>Community presentations regarding the benefit and value of trees. Banners in downtown and signs on Public Works vehicles emphasizing the benefits of trees.</i>
<i>AZSF</i>	<i>Supported 33 Urban/Community project grants across Arizona. Held 7 urban tree inventory workshops for volunteers and community managers as part of the AZUTM project. Published AZUTM urban tree inventory, tree ID, and tree insect/disease guides for community managers and the public</i>
<i>WMG</i>	<i>WMG's fall 2014 newsletter focused on rain garden and urban forestry care. Development of this Field Guide was supported by funding from ASF.</i>

Planned Action: 1.1.2.06

Educate community leaders on urban forest issues, including tree ordinances, development standards, and the need to support urban forest infrastructure.

Reported Accomplishments:

<i>AZSF</i>	<i>Organized 3 Tree Risk Assessment Workshops and approximately 60 ACTC Homeowner Workshops. Supported 19 Urban/Community project grants. Held 7 urban tree inventory workshops for volunteers and community managers as part of the AZUTM project.</i>
<i>City of Tucson</i>	<i>Regularly conduct talks to service organizations, garden clubs, HOA's and neighborhood associations about city of Tucson's tree canopy goals</i>
<i>WMG</i>	<i>WMG has led the creation/revision of development codes and ordinances to promote urban forestry and water harvesting in Tucson (Green Streets Policy) and Sierra Vista (Development Code revisions).</i>
<i>City of Phoenix</i>	<i>Participation in the Sustainable cities Network Green Infrastructure Work Group on the development of a countywide Tree and Shade Plan. Developed a presentation to share with industry leaders and policy makers regarding the importance of establishing tree ordinances. Initiated a Tree Ordinance Review Task Force with numerous city departments to review, enhance and develop new ordinances.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.07

Work with the Arizona Community Tree Council and communities to plant area-specific, drought-tolerant trees.

Reported Accomplishments:

AZSF Supported 6 Urban/Community Forestry project grants over 5 year period.

City of Phoenix Cooperate to provide educational programs to both citizens and industry, including planting projects.

ACTC Provided numerous Homeowner's Workshops around the state to educate communities on planting the right tree in the right place, including species selection for drought tolerant landscapes. Supporting the Linking Edible Arizona Forests Network in their efforts to educate Arizona on planting area-specific trees and managing water appropriately. Maintain a relevant list of low-water use plants for Arizona Municipal Water Users Association.

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 3 Improve energy conservation through tree planting and maintenance.

Planned Action: 1.1.3.01

Promote and facilitate development of urban forestry policies, ordinances, development standards, tree canopy standards, and best management practices to protect and maintain valuable tree assets.

Reported Accomplishments:

<i>City of Tucson</i>	<i>Have organized an annual Urban Heat Island workshop since 2006; presentations at various conferences, workshops and seminars</i>
<i>AZSF</i>	<i>Supported 19 Urban/Community Forestry project grants over last 5 years.</i>
<i>ANA</i>	<i>Our SHADE educational conference tree track fulfills this goal.</i>
<i>WMG</i>	<i>WMG conducted the first watershed scale cost benefit analysis measuring the financial benefits of trees and water harvesting including the energy conservation in Tucson.</i>
<i>City of Phoenix</i>	<i>Established BMP's to facilitate maintenance activities; established Tree Protection maintenance activities within the Parks and Recreation Department; established tree canopy goals; reviewed options for establishing Carbon offset credits.</i>
<i>TCB-Trees For Tucson</i>	<i>Planting trees for the energy savings they provide is at the heart of our major Residential Energy Efficiency program funded by TEP and Trico. TEP's tree program has expanded each of the last three years, currently at 6.00 trees per year. TFT provides ongoing outreach and education around the energy conservation benefits of trees.</i>
<i>TEP</i>	<i>TEP has a partnership with the ACTC that provides homeowner workshops in and around the Tucson area. In these workshops, homeowners are given proper planting and pruning techniques along with knowledge of right tree right place and where to plant to get the most shade for the home. Trees planted in the south and west of the house can drastically cut energy costs. TEP currently performs 3 workshops in the Tucson area each year. This year, TEP partnered with ACTC, Trees for Tucson, and Sahuaro High School to educate students about tree planting and maintenance. There were over 70 trees planted at the school and over 200 volunteers (students and faculty) participating in this program</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 3 Improve energy conservation through tree planting and maintenance.

Planned Action: 1.1.3.02

Increase tree planting aimed at energy conservation in accordance with the American Forests tree canopy recommendations.

Reported Accomplishments:

<i>City of Tucson</i>	<i>Participate in work with Trees for Tucson for private and public tree plantings within City of Tucson</i>
<i>AZSF</i>	<i>Supported 13 Urban/Community Forestry project grants over 5 year period.</i>
<i>ANA</i>	<i>Through our "Plant Something" campaign, ANA strives to educate communities about the economic, monetary and environmental benefits of trees.</i>
<i>TEP</i>	<i>TEP has a partnership with "Trees for Tucson" to supply TEP customers with low cost trees. The plan requires the homeowner to plant the trees away from power lines and in areas where they will provide the most shade to the house (South and West). There are several thousand trees planted each year with this program.</i>

Planned Action: 1.1.3.03

Promote Tree City USA and similar programs to communities and continue to expand collaborative efforts with groups like Arizona Community Tree Council to educate communities on the energy benefits that trees provide.

Reported Accomplishments:

<i>City of Phoenix</i>	<i>Presentations to other communities in the county regarding the benefits of Tree City USA status.</i>
<i>AZSF</i>	<i>Funded 11 Urban and Community Forestry project grants.</i>
<i>City of Tucson</i>	<i>Yes.</i>
<i>AZSF</i>	<i>Updated the state's Tree City USA website</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 2 Minimized negative human impacts to trees and forests.

Objective: 1 Increase awareness of threats to Arizona's forests - and awareness of available tools to mitigate those threats.

Planned Action: 1.2.1.01

Engage state and federal agencies, land trusts, and other conservation partners to increase awareness about threats to Arizona forests and trees.

Reported Accomplishments:

<i>SRP</i>	<i>SRP is involved at federal, state, and local levels to increase awareness about threats to Arizona's forests, in particular with respect to creating resilient watersheds that protect long term water supplies.</i>
<i>City of Tucson</i>	<i>Currently working with Southern AZ Buffelgrass Coordination Center to remove invasives and threats to the Sonoran Desert</i>
<i>AZSF</i>	<i>Funded 8 Urban/Community Challenge Grants. Delivered more than 60 Forest Health programs to communities (in 5 years); Approximately 80 presentations to municipalities (technical information about forest resource benefits/threats)</i>

Planned Action: 1.2.1.02

Develop and maintain education materials, programs, and outreach to increase awareness of available tools to address forest threats.

Reported Accomplishments:

<i>SRP</i>	<i>SRP Hosted: Healthy Forest, Vibrant Economy Conference – this event is a convergence of business leaders, government partners, scientists, researchers and those with an interest in forest health.</i>
<i>AZSF</i>	<i>10 Urban Tree Newsletters. Funded 33 Urban and Community project grants. Provided more than 760 technical assists to landowners on more than 2K acres (5 years); Annual Forest Health Conditions Reports have been developed (5); ~35 Forest Health Alerts (5 years) 89 unique webpage views for Jan-Aug 2015 (UCF)</i>

Planned Action: 1.2.1.03

(See Ecosystem Health Strategies)

Reported Accomplishments:

- *See Ecosystem Health Accomplishments*

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 2 Minimized negative human impacts to trees and forests.

Objective: 2 Engage people in environmental stewardship activities.

Planned Action: 1.2.2.01

Increase awareness, coordination, and landowner participation in technical & financial assistance programs.

Reported Accomplishments:

AZSF 5 RFPs out - providing financial assistance opportunities to landowners through WBB and IPG; Project Grant IPG 10-702 (5 landowner properties assessed); Project Grant IPG 14-701 (3 educational presentations); 2010 - 2 Western Bark Beetle Initiative grants - improving forest health conditions Reorganized, redesigned and updated Urban and Community Forestry and sub-category websites. Reorganized, redesigned and updated Forest Health and sub-category websites.

AZSF Funded Invasive Plants grant IPG 11-101 (211 private landowner agreements)

WVG WVG conducts 1-2 sessions per month to educate citizens about the Water Harvesting rebates from Tucson Water. The rebate enables Tucson Water customers to receive up to \$2,000 back on projects that implement water harvesting for responsible irrigation of our urban forest.

Planned Action: 1.2.2.02

Implement reforestation, afforestation, and forest health improvement projects to enhance forested ecosystems.

Reported Accomplishments:

SRP SRP, along with the National Forest Foundation is implementing the Northern Arizona Forest Fund, a partnered effort to gain participation and financial support from businesses, private corporations, philanthropic groups, and individuals that benefit from protecting the watersheds that serve our community. These projects occur on Forest Service lands, but would also benefit the private and tribal lands in proximity.

AZSF More than 90,000 acres of forested lands monitored (5 years); 5 Western Bark Beetle Initiative grant projects and multi-state land projects for forest health concerns

AZSF WCG 14-501 (LEAF Network)
Funded 17 Urban/Community Forestry project grants.
Funded 6 Invasive Plants project grants.
Funded 6 Western Bark Beetle project grants.

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 2 Minimized negative human impacts to trees and forests.

Objective: 3 Manage recreation impacts on forests

Planned Action: 1.2.3.01

Participate in and support public land travel management planning and implementation and other efforts to manage impacts of outdoor recreation.

Reported Accomplishments:

City of Flagstaff *Participate as a partner in the Four Forest Restoration Initiative (4FRI)*

AZSF *Support project grant CCG 12-304 (Bicycle Boulevards)*

Planned Action: 1.2.3.02

Strengthen Off-Highway Vehicle (OHV) education and enforcement efforts.

Reported Accomplishments:

- *Reported improvements to local websites support this effort. Both the US Forest Service and the Arizona Game and Fish Department are providing increased information through their respective websites. Arizona Game and Fish Department also offers online OHV safety courses.*

Stakeholder Accomplishments - Arizona Collaborative Goals

People and Forests (1)

Goal: 2 Minimized negative human impacts to trees and forests.

Objective: 4 Minimize forest fragmentation from development.

Planned Action: 1.2.4.01

Work with state and local governments on policy development and program implementation to protect forest ecosystems from fragmentation.

Reported Accomplishments:

City of Tucson Work with Pima Association of Governments and Pima County Regional Flood Control District to promote Green Infrastructure and adding trees in water harvesting basins to increase city-wide canopy coverage

AZSF Funded 9 Urban/Community Forestry project grants.
4 Forest Health planning inputs completed for urban areas

Planned Action: 1.2.4.02

Utilize land exchange, conservation easements and fee title purchase programs (i.e. Land & Water Conservation Fund, Wetlands Reserve Program, Farm & Ranchlands Protection Program, Forest Legacy Program, etc.) to consolidate ownership and prevent fragmentation of forest lands.

Reported Accomplishments:

AZSF Working with The Nature Conservancy, and utilizing national Forest Legacy funding, completed conservation easements on 4 important riparian parcels along the San Pedro River corridor in southern Arizona.

City of Flagstaff City Open Space program

AZSF Was awarded funding and began work on the Turkey Creek Canyon Forest Legacy project to protect critical lands.

Planned Action: 1.2.4.03

(See Ecosystem Health Strategy - Goal 1, Objective 5)

Reported Accomplishments:

- See Ecosystem Health Accomplishments - Goal 1, Objective 5

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.01

Continue to develop strong collaborative support for focused management practices, such as forest restoration, fuel reduction, wildlife habitat and population management, and treatments to control exotic pests and invasive plants, across integrated landscapes.

Reported Accomplishments:

<i>USFS</i>	<i>The Coronado NF works with several partners and collaborators across the forest on these actions.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments.</i>
<i>AZSF</i>	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>
<i>USFS</i>	<i>Kaibab NF - Four national forests are actively engaged in a collaborative, landscape-scale initiative designed to restore fire-adapted ecosystems in the Southwestern Region. Those forests are the Kaibab, Coconino, Apache-Sitgreaves and Tonto. In ongoing collaboration with a diverse group of stakeholders, the four forests are working to plan and carry out landscape-scale restoration of the ponderosa pine forests in northern Arizona.</i> <i>The overall goals of the Four Forest Restoration Initiative (4FRI) is to restore the structure, pattern, composition, and health of fire-adapted ponderosa pine ecosystems; reduce fuels and the risk of unnaturally severe wildfires; and provide for wildlife and plant diversity. Doing so will involve a variety of restoration projects and rely on Forest Service personnel, partners and volunteers, and contractors to see these goals through.</i>
<i>USFS</i>	<i>Kaibab NF - The Williams Ranger District is conducting environmental analysis via the Bill Williams Mountain Restoration Project. The purpose of the project is to improve the health and sustainability of forested conditions on and surrounding Bill Williams Mountain (adjacent to the City of Williams) by reducing hazardous fuels and moving vegetative conditions toward desired conditions.</i>
<i>ERI</i>	<i>Science, technical and monitoring support for the "Bridge Projects and final monitoring summary of the White Mountain Stewardship monitoring on the Apache Sitgreaves National Forest.</i>
<i>AZSF</i>	<i>Partner in development of the Rural Communities Fuels Management Partnership (RCFMP)</i>
<i>TNC</i>	<i>The four properties protected as a part of the San Pedro River Riparian Ecosystem project helped to connect larger protected areas to the Rincon Mountains on the west and the Galiuro Mountains to the east. The project protects important riparian forest habitat and prevents excessive water withdrawal for residential and agricultural use that could damage the river and surrounding ecosystem.</i>
<i>AZSF</i>	<i>Collaborated with partners and leverage state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.01

Continue to develop strong collaborative support for focused management practices, such as forest restoration, fuel reduction, wildlife habitat and population management, and treatments to control exotic pests and invasive plants, across integrated landscapes.

Reported Accomplishments:

USFS Coronado NF participates with the Southern Arizona Buffelgrass Coordination Center to develop new approaches to combat the ever encroaching buffelgrass and other non native species. This group has the knowledge to help reduce the spread of non-native species in southern Arizona. This group is a way for information sharing, training and project implementation to support the continued development of strong collaborative invasive plant management practices.

AZSF Partner in development of the Greater Flagstaff Forests Partnership (GFFP).

USFS Kaibab NF - The forest's plan was revised and signed in February 2014. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment. Primary indicators were related to high risk and high value such as those with closed canopies containing large trees. These areas were identified as high priority for restoration because they already contain many components of the desired condition and a single treatment may come close to meeting the desired condition, but if lost, would take centuries to replace.

USFS ASNF: Working with ranching permittees to complete Environmental Assessments to develop Allotment Management Plans (AMP). Several planning processes also include prescriptions for restoration of historic grasslands in the pinyon-juniper ecosystems which also contribute to fuels treatment and mechanical treatment acres. In addition the Forest, in coordination with permittees, completes rangeland monitoring as part of AMP implementation and adaptive management for livestock operations.

USFS PNF: Bradshaw Vegetation Management Project EA (2013); Black Hills Vegetation Management Project EA (2011); Integrated Treatment of Noxious or Invasive Weeds EIS (2004). PNF worked with National Wild Turkey Federation, Verde Watershed Restoration Coalition (VWRC), Highlands Center for Natural History (HCNH), Mule Deer Foundation, Ecological Restoration Institute (ERI), and other partners in developing and implementing these Forest Restoration and wildlife habitat improvement projects.

USFS TNF: Stakeholder and participant in Four Forest Restoration Initiative (4FRI). Prepare project areas for task orders across rim integrated landscape with stand density control and fuel reduction as objectives while improving wildlife habitat, reducing risk of insect attack and disease infestation to trees, and controlling invasive plants when found.

USFS ASNF: Stakeholder and participant in the Four-Forest Restoration Initiative (4FRI). Complete Environmental Assessments on "bridge" projects that are within the 4FRI footprint; providing additional mechanical and fire treatment acres that are also responsive to restoration goals within Ponderosa Pine ecosystems above the Mogollon Rim.

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.01

Continue to develop strong collaborative support for focused management practices, such as forest restoration, fuel reduction, wildlife habitat and population management, and treatments to control exotic pests and invasive plants, across integrated landscapes.

Reported Accomplishments:

USFS Coronado NF - FireScape is a response to the need for landscape-scale fire and ecosystem management. FireScape is a framework for expanding safe, ecologically sound, large-scale fire management across multiple land ownerships in the mountains of southeastern Arizona. The FireScape leadership team includes representatives from the Forest Service, The Nature Conservancy, the University of Arizona (UA), Bureau of Land Management, National Park Service, and other southeastern Arizona land managers.

ERI Ongoing administrative, science, technical and leadership support for the Four Forest Restoration Initiative (4FRI) - including managing the website.

USFS TNF: Partnered with ranching members who operate their allotments to agency standards as determined by "Reading the Range Monitoring" and utilization monitoring. These standards include reducing fine fuels across landscape while protecting wildlife habitat and controlling invasive plant species.

AZSF Funded 7 Invasive Plants Grant projects which treated 1077 acres and assessed another 34 acres. Funded 6 Western Bark Beetle Initiative grant projects via partners to increase forest resiliency which treated 605 acres.

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.02

Develop and implement effective training, education and outreach programs to inform landowners, government officials and the general public about the benefits of resilient ecosystem process and functions. Develop and utilize a well educated cadre of natural resource professionals in Arizona, to address forest threats across all lands in the state.

Reported Accomplishments:

<i>AZSF</i>	<i>Hosted 3 Tree Risk Workshops in 2014/2015 and supported over 25 ACTC Homeowner Workshops; Distributed 10 Urban Tree Newsletters; Funded 21 Urban/Community Forestry project grants; Conducted approximately 60 community presentations for the public on Forest Health issues; Conducted 80 presentations to municipalities with technical information for Forest Health issues; ~35 AZSF staff have received training in Forest Health topics (2010-2015)</i>
<i>USFS</i>	<i>Kaibab NF - 4FRI Thinning project on Williams Ranger District. Tree removal has begun on the Williams Ranger District as a result of the Four Forest Restoration Initiative (4FRI). Objectives are to reduce the fuel loading and potential for future high-density wildfires, improve wildlife habitat, and overall improvement of forest health. This action has received several field trips by U.S. Senators McCain and Flake staff. The cities of Williams and Tusayan have Community Wildfire Protection Plans to aid in prioritizing funding for hazardous fuel reduction projects, including where and how federal agencies implement fuel reduction projects on federal lands.</i>
<i>AZSF</i>	<i>Partner in development of the Rural Communities Fuels Management Partnership (RCFMP).</i>
<i>USFS</i>	<i>Kaibab NF - We have a long standing commitment to conducting meaningful government consultations with our tribal neighbors. This is done by building strong partnerships that stress collaborative planning and a shared stewardship approach to management of public lands.</i>
<i>AZSF</i>	<i>Partner in development of the Greater Flagstaff Forests Partnership (GFFP).</i>
<i>ERI</i>	<i>Since 2010 the ERI has conducted 17 Rapid Assessments to inform environmental impact states and treatment design; conducted 27 workshop for land managers, stakeholders and elected officials; Produced 36 Fact Sheets that summarize scientific literature for land managers; conducted 131 presentations; and produced 6 Systematic reviews, 7 White Papers and 15 Working Papers</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>TNF: Effective forestry, range, wildlife, soil, hydrology training is provided through in-state natural resource universities (i.e., ASU, UA, NAU), professional societies (i.e., SAF, SRM, TWS, ESA, SER, etc.), and agencies.</i>
<i>USFS</i>	<i>ASNF: All ranger districts identify areas of invasive plant populations. The Forest supports employment of temporary employees to treat targeted areas, including invasive salt cedar treatments within the Blue Range.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.02

Develop and implement effective training, education and outreach programs to inform landowners, government officials and the general public about the benefits of resilient ecosystem process and functions. Develop and utilize a well educated cadre of natural resource professionals in Arizona, to address forest threats across all lands in the state.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>USFS</i> | <i>The Coronado NF is part of an informal group called the Sky Island Restoration Cooperative (SIRC) which is a bi-national community-based collaboration of government and non-governmental organizations, private landowners, ranchers, students, volunteers, scientists, and restoration practitioners. This group has combined energy and knowledge to improve restoration activities, outcomes and awareness across the Madrean Archipelago and nurture an understanding of the importance of biodiversity. SIRC is a vehicle for information sharing, training, and project implementation through the identification of restoration research and resource needs. This cooperative also builds bridges across institutional, administrative, and cultural boundaries to create effective regional restoration strategies.</i> |
| <i>USFS</i> | <i>PNF: Worked with the Highland Center for Natural History (HCNH) to make a presentation on the benefits of Forest Restoration to the general public, their Board of Directors, and their cadre of Naturalists that lead public nature walks at the Center for audiences of all ages. PNF partnered with HCNH on a RAC Grant to develop demonstration projects, including: hands-on implementation, opportunities for observing treatments (such as timber sales), long-term interpretive signs and citizen-science monitoring opportunities.</i> |
| <i>USFS</i> | <i>TNF: All ranger districts identify invasive species and take immediate action to control herbaceous plant population. Actions include manual extraction, and/or herbicide application.</i> |
| <i>USFS</i> | <i>Coronado NF - The Coronado has partnered with the University of Arizona to maintain a public website providing information for the FireScope planning efforts</i> |

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.03

Provide adequate levels of funding allocated to vegetation and fuel treatments.

Reported Accomplishments:

<i>AZSF</i>	<i>Collaborated with partners and leveraged state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments</i>
<i>USFS</i>	<i>ASNF: Funding is available for vegetation and fuel treatments for both 4FRI and ASNF "bridge" projects.</i>
<i>USFS</i>	<i>TNF: Presently, adequate funding is available for vegetation and fuel treatments for both 4FRI and TNF projects.</i>
<i>AZSF</i>	<i>5 RFPs have been released to the public for forest health opportunities (WBI); Forest Health research projects have been funded (UA bark beetle trapping)</i>
<i>USFS</i>	<i>Kaibab NF: Presently, adequate funding is being made available for restoration (vegetation and fuel treatments) for both 4FRI and KNF projects.</i>
<i>USFS</i>	<i>PNF: The PNF successfully competed for the #1 priority Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and a substantial RAC Grant for the Bradshaw Vegetation Management Project.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.01

Coordinate with the Arizona Game and Fish Department, US Fish and Wildlife Service, and others to identify and implement best management practices related to wildlife and fish habitat.

Reported Accomplishments:

<i>USFS</i>	<i>TNF: Arizona Game and Fish Department (AGFD) was cooperated with TNF for Travel Management Environmental Impact Statement (EIS). AGFD also partnered with TNF to complete a minimum tool environmental assessment for using helicopters in wilderness areas to relocate big horn sheep. US Fish and Wildlife Service (FWS) is consulted on every proposed action.</i>
<i>TNC</i>	<i>Forest Legacy project conservation easements protected primarily predominately mesquite bosque and Fremont cottonwood-Goooding willow riparian forest habitats which provide nesting habitat for southwestern willow flycatcher and yellow-billed cuckoo.</i>
<i>USFS</i>	<i>PNF: The PNF is a signatory authority for the Central Arizona Grassland Conservation Strategy (2010). The PNF, AFGD, and other partners have coordinated on identifying priority areas and projects for implementation and have cooperatively funded projects. The CAZGCS team meets regularly to discuss project outcomes and refinement of the decision making process for future activities. The PNF is a core member of the Verde Watershed Restoration Coalition in implementing the Verde River Cooperative Invasive Plant Management Plan (2011). The plan targets invasive plant species along aquatic/riparian habitat of the Verde River and major tributaries and incorporates required protection measures for herbicide application related to fish and wildlife species of concern. The Prescott NF has been coordinating with the AGFD to implement the Mule Deer Habitat Enhancement Initiative in forested areas within Game Management Unit 21. The PNF maintains an excellent working relationship with the USFWS and regularly coordinates and consults on our annual program of work.</i>
<i>USFS</i>	<i>Kaibab NF: The Kaibab NF works closely with the U.S. Fish and Wildlife Service to address the habitat needs of the Mexican Spotted owl. The Kaibab NF signed a Candidate Conservation Agreement in September 2015 along with the Bureau of Land Management (Arizona Strip), and the U.S. Fish and Wildlife Service for the Paradine plains cactus to aid in managing this species. Population trends of management indicator species and/or species of conservation concern are monitored in cooperation with the Arizona Game and Fish Department.</i>
<i>AZSF</i>	<i>Funded 4 Invasive Plants Grants (flycatcher, cuckoo, garter snake surveys pre-treatment);</i>
<i>USFS</i>	<i>Pinaleno Ecosystem Management Project, FEIS completed in 2011, plan to protect and restore important habitat mixed-conifer habitat for multiple species. Partnered with both AZG&F and USFSW in project design. The Project is being Implemented under a Stewardship Agreement with the National Wild Turkey Federation.</i>
<i>ERI</i>	<i>Partnership with Arizona Game and Fish to understand tassel-eared squirrel and mule deer responses to restoration and thinning.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.01

Coordinate with the Arizona Game and Fish Department, US Fish and Wildlife Service, and others to identify and implement best management practices related to wildlife and fish habitat.

Reported Accomplishments:

USFS

ASNF: Arizona Game and Fish Department (AGFD) is a cooperating agency on the Heber Wild Horse Territory Plan, Planning for Outfitter-Guide Term Permits, Travel Management, and the Black River Ecosystem Restoration NEPA planning processes. AGFD is also a cooperater with the Forest, USFWS, and Bureau of Reclamation on construction of the West Fork of the Black River Fish Barrier on the Alpine Ranger District.

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.02

Encourage adoption of collaborative Wildlife Principals developed by the Arizona Forest Health Council for integrating wildlife habitat and biodiversity conservation with restoration, community protection, and fire management activities. (see SS 2.5.1)

Reported Accomplishments:

<i>USFS</i>	<i>TNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and the on-the-ground activities they represent are used to integrate wildlife habitat, conserve biodiversity, and protect communities. Collaborative wildlife principals are also considered and applied to wildland fuel treatments and use of fire.</i>
<i>USFS</i>	<i>ASNF: Emergency consultation and coordination with the USFWS is conducted on wildland fire management activities in occupied and critical habitats for listed species.</i>
<i>USFS</i>	<i>TNF: FWS is asked to provide emergency consultation when wildland fire encroaches into critical habitats.</i>
<i>USFS</i>	<i>PNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and the on-the-ground activities they represent are used to integrate wildlife habitat, conserve biodiversity, and protect communities. Collaborative wildlife principals are also considered and applied to wildland fuel treatments and use of fire.</i>
<i>ERI</i>	<i>Partnership with US Fish and Wildlife Service to understand Mexican Spotted Owl responses to thinning as a part of the Flagstaff Watershed Protection Project</i>
<i>USFS</i>	<i>PNF: The PNF initiates emergency consultation with the USFWS early during the incident management process when wildland fire suppression activities have any potential to impact T&E species or their habitats.</i>
<i>TNC</i>	<i>Cost-share agreement with Kaibab National Forest in collaboration with RMRS and USFS-RSAC to collect field data for LiDAR model development to analyze Northern Goshawk habitat on the North Kaibab Ranger District.</i>
<i>USFS</i>	<i>ASNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and implementation of the on-the-ground project activities are designed to support restoration of ecosystem functionality; including integrating wildlife habitat and biodiversity conservation, watershed restoration, community protection and fire management activities.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.03

Support implementation of Arizona's State Wildlife Action Plan wherever possible.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded 1 Invasive Plants grant in 2010.</i>
<i>USFS</i>	<i>The Prescott NF has supported implementation of the AZ SWAP through numerous projects including prescribed fire, tree thinning, and noxious weed treatments in forested areas.</i>
<i>USFS</i>	<i>TNF: Species listed in Arizona's State Wildlife Plan are considered when evaluating proposed activities and their potential impacts, when appropriate.</i>
<i>USFS</i>	<i>ASNF: Species listed in Arizona's State Wildlife Plan are considered when evaluating proposed activities and their potential impacts, when appropriate. AGFD, ASNF biologists and line officers participate in annual coordination meetings.</i>
<i>USFS</i>	<i>Species listed in Arizona's State Wildlife Action Plan are considered when evaluating potential impacts of proposed actions, when possible.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.01

Identify and refine understanding of unique high priority Arizona ecosystems that are interrelated with Arizona forest resource issues and programs. These include aquatic systems, urban and community forest systems, deserts, grasslands, areas threatened by conversion by invasive plants, and other mixed-vegetation systems .

Reported Accomplishments:

<i>ERI</i>	<i>Research and publications linked directly to unique Arizona ecosystems. Specific ecosystems include: ponderosa pine; pinyon/juniper; grasslands; dry mixed conifer. ERI has 389 peer reviewed publications in its on-line library</i>
<i>AZSF</i>	<i>Urban forestry information/education provided by UCF program; Funded 4 Invasive Plants project grants which trained 94 people.</i>
<i>AZSF</i>	<i>Partner with Friends of the Verde River Greenway.</i>
<i>AZSF</i>	<i>Partnership with The Nature Conservancy (TNC) and Arizona Game and Fish (AZGF), performed as project Administrator for the San Pedro River Forest Legacy conservation easement – 4 easement tracts.</i>
<i>AZSF</i>	<i>Partner/Stakeholder of Verde Watershed Restoration Coalition.</i>
<i>USFS</i>	<i>PNF: The PNF recently completed our forest plan revision (2015) where many of these unique areas were identified by community and state members in assessment phase of planning process. NEPA processes related to on-the-ground activities also identify and study these unique ecosystems.</i>
<i>USFS</i>	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Many unique areas were identified for management area direction within the plan; including wildlife quiet areas, community-forest intermix areas, and research natural areas.</i>
<i>TNC</i>	<i>Obtained Shield Ranch at the confluence of West Clear Creek and the Verde River. In addition purchase and transfer of Rockin River Ranch to AZ State Parks was completed. Together these two properties form a critical linkage of healthy cottonwood-willow riparian forest along the river corridor, connecting the Coconino and Prescott National Forests.</i>
<i>USFS</i>	<i>TNF: TNF is in process of revising 30-year old forest plan where many of these unique areas were identified by community and state members in assessment phase of planning process. NEPA processes related to on-the-ground activities also identify and study these unique ecosystems.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.02

Identify and encourage collaborative partnerships between agencies and organizations with overlapping or coincident responsibilities and interests.

Reported Accomplishments:

<i>ERI</i>	<i>Participate on the board of directors for Greater Flagstaff Forest Partnership; Monitoring and technical support to the Natural Resources Working Group; 2011-2013 Collaborative and administrative support for the Parashant Partnership; Arizona Prescribed Fire Council leadership, participation and we support the website</i>
<i>USFS</i>	<i>The Kaibab National Forest and Grand Canyon National Park collaborate and coordinate in their fuels reduction programs.</i>
<i>AZSF</i>	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>
<i>AZSF</i>	<i>Partner in development of the Greater Flagstaff Forests Partnership (GFFP).</i>
<i>AZSF</i>	<i>Partner in development of the Rural Communities Fuels Management Partnership (RCFMP)</i>
<i>AZSF</i>	<i>Collaborated with partners and leverage state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i>
<i>USFS</i>	<i>The Coronado NF is in the process of developing a tri-agency (with the Bureau of Land Management and National Park Service) botany crew to conduct surveys for rare, native, and non-native plant species and collect seeds for rare and native plant species across all three land management boundaries in southeastern Arizona.</i>
<i>AZSF</i>	<i>Provided urban forestry information/education by UCF program in collaboration with NGOs, municipalities and others; Conducted Aerial Detection Surveys - 1M-3M forested acres surveyed annually by State staff; Funded 1 Invasive Plants grant project -2010; Funded 1 Western Bark Beetle grant project - 2012.</i>
<i>USFS</i>	<i>ASNF: A diverse group of community stakeholders in collaboration with the Forest formed the Natural Resources Working Group to build consensus on forest restoration efforts. Collaboration with citizens, other agencies, academics, communities and conservation groups has resulted in progress toward shared forest health and community protection goals.</i>
<i>AZSF</i>	<i>Partner/Stakeholder of Verde Watershed Restoration Coalition.</i>
<i>USFS</i>	<i>PNF: The PNF coordinates its land management responsibilities with adjacent federal and state land managers, including BLM and AZGFD. The PNF also coordinates with AZGFD and USFWS on management of wildlife and plant populations that occur on NFS lands.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.02

Identify and encourage collaborative partnerships between agencies and organizations with overlapping or coincident responsibilities and interests.

Reported Accomplishments:

<i>USFS</i>	<i>TNF: TNF is in process of developing a collaborative partnership with San Carlos Apache Tribe (SCAT) for the purpose of protecting tribal interests such as wildlife habitats, water quantity and quality, and cultural plants for food and medicine etc. which are present on national forest land.</i>
<i>AZSF</i>	<i>Partner with Friends of the Verde River Greenway.</i>

Planned Action: 2.1.3.03

Develop and implement collaborative action plans to address needs of unique high priority Arizona ecosystems.

Reported Accomplishments:

<i>ERI</i>	<i>Active involvement with 1st EIS for the 4FRI. Provide science support for national forest plan revisions on the Kaibab, Tonto, Coconino National Forests.</i>
<i>USFS</i>	<i>TNF: The result of collaborative partnership with SCAT will be NEPA products which will address needs of unique high priority Arizona ecosystems related to use by native American populations.</i>
<i>AZSF</i>	<i>Partnered with and collaborated with the Friends of the Verde River Greenway and the Verde Watershed Restoration Coalition.</i>
<i>USFS</i>	<i>PNF: The PNF has been involved in developing and implementing the Central Arizona Grassland Conservation Strategy (2010), which includes management of woodland vegetation types within the project assessment boundary. The PNF has been involved in implementing the Verde River Cooperative Invasive Plant Management Plan (2011).</i>
<i>USFS</i>	<i>The Coronado NF works with several partners and collaborators across the forest on these actions.</i>
<i>USFS</i>	<i>Kaibab NF - Assisted in development of the Kanab Watershed Coordinated Resource Management Plan of Northern Arizona and Southern Utah. This plan has provided the Kaibab NF with coordinated direction and an ability to leverage funding to complete watershed improvement projects with a great number of partner within the Kanab Watershed (Arizona Department of Water Resources, Bureau of Land Management, Arizona State Lands, Arizona Game and Fish Department, Natural Resources Conservation Service, City of Fredonia, Paiute Tribe, Kane County, Garfield County, and other Utah government agencies).</i>
<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 2 CCG grants; 2013 - 2 CCG grants; 2012 - 1 CCG grant</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.04

Support implementation of action plans to address unique high priority ecosystems.

Reported Accomplishments:

<i>USFS</i>	<i>TNF: The result of collaborative partnership with SCAT will be NEPA products which will address needs of unique high priority Arizona ecosystems related to use by native American populations.</i>
<i>USFS</i>	<i>The Kaibab National Forest, U.S. Fish and Wildlife Service, and Bureau of Land Management (Arizona Strip) signed the Candidate Conservation Agreement for the Paradine (Kaibab) Plains Cactus in September 2015. The Kaibab NF provided funding and technical support to the Springs Stewardship Institute in 2015 to complete spring survey monitoring for approximately 75 springs.</i>
<i>USFS</i>	<i>ASNf: The Black River Restoration planning project will not be underway until 2017. However, data collection for the project has begun. Because of the size and complexity of the project, the Forest is in the process of working with a new stakeholder group similar to that of the Natural Resources Working Group to support data collection and the NEPA Planning Process.</i>
<i>USFS</i>	<i>Galiuro FireScape</i>
<i>USFS</i>	<i>PNF: The PNF has been an active member of the Central Arizona Grassland Conservation Strategy since 2010.</i>
<i>ERI</i>	<i>Technical and science support on request for the 6 national forests in Arizona, Hopi Tribal lands, and state lands</i>
<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 2 CCG grants; 2013 - 2 CCG grants; 2012 - 1 CCG grant; Developed 3-year Invasive Plant program strategic plan (2015-2017); Technical assistance provided to partners for ~35 plans since 2014 regarding insect and disease management</i>
<i>AZSF</i>	<i>Managing Landscape Scale Restoration (LSR) grant for \$300,000 for the Tri-Forest Verde Watershed Riparian Forest Restoration Project for removal of invasive plants for riparian plant restoration. Funding has been identified for a Riparian Forest Stewardship Plan development.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.05

Develop and implement practices to limit the spread of exotic invasive species such as Buffelgrass and others.

Reported Accomplishments:

USFS	<i>PNF: The 3 Forest Integrated Treatment of Noxious or Invasive Weeds EIS includes best management practices to limit the spread of invasive species on the forest.</i>
USFS	<i>Coronado NF - Southern AZ Buffelgrass Coordination Center developed the Southern AZ Buffelgrass Strategic Plan; Aimed at mitigating wildfire risks to life and property in areas where control is no longer feasible supporting the Pima County CWPP.</i>
ERI	<i>The ERI investigates exotic species responses to restoration in ponderosa pine. It produces working papers and peer reviewed publications to assist land managers make decisions relevant to avoiding the spread of exotic species.</i>
USFS	<i>ASNF: Noxious and invasive species mitigation measures are part of implementation for all ground disturbing projects.</i>
USFS	<i>TNF: TNF is aggressively trying to control exotic invasive species through manual and herbicide treatments. TNF invites public members, including students from natural resource universities, to assist in control efforts.</i>
AZSF	<i>Developed 3-year Invasive Plant program strategic plan (2015-2017); Funded multiple Invasive Plants project grants: 2010 - 4 IPG grants; 2011 - 2 IPG grants; 2012 - 2 IPG grant; 2014 - 1 IPG grant</i>
USFS	<i>Kaibab NF - Signed the Record of Decision for Integrated Treatment of Noxious or Invasive Weeds for the Coconino, Kaibab, and Prescott National Forests within Coconino, Gila, Mojave, and Yavapai Counties, AZ in November 2004.</i>
AZSF	<i>Partner with Friends of the Verde River Greenway.</i>
AZSF	<i>Managing Landscape Scale Restoration (LSR) grant for \$300,000 for the Tri-Forest Verde Watershed Riparian Forest Restoration Project for removal of invasive plants for riparian plant restoration. Funding has been identified for a Riparian Forest Stewardship Plan development.</i>
AZSF	<i>Partner/Stakeholder of Verde Watershed Restoration Coalition.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 4 Identify and monitor threats to forests and ecosystem health.

Planned Action: 2.1.4.01

Support development and maintenance of ongoing inventory, monitoring, and detection efforts on all Arizona forestlands and other high priority ecosystems.

Reported Accomplishments:

<i>USFS</i>	<i>Forest is surveyed annually by the FS Forest Health Office for forest insect and diseases. Follow up ground surveys and monitoring traps are utilized as needed.</i>
<i>USFS</i>	<i>Forest is surveyed annually by the FS Forest Health Office for forest insect and diseases. Follow up ground surveys and monitoring traps are utilized as needed.</i>
<i>USFS</i>	<i>PNF: The PNF is a core member of the VWRC in implementing the Verde River Cooperative Invasive Plant Management Plan (2011). The plan targets invasive plant species along aquatic/riparian habitat of the Verde River and major tributaries and incorporates required protection measures for herbicide application related to fish and wildlife species of concern.</i>
<i>USFS</i>	<i>TNF: TNF personnel are constantly monitoring landscapes for detection of threats to Arizona's forestlands and other high priority ecosystems found on national forest land.</i>
<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2011 - 2 TREE grants; 2014 - 3 CCG grants; 2013 - 2 CCG grants; 2012 - 2 CCG grants; 2011 - 2 CCG grants; Funded multiple Invasive Plants project grants - 2010 - 2 IPG grants (5 properties monitored); 2011 - 1 IPG grant (211 properties monitored along 37.4mi riparian); Aerial Detection Survey - 1M-3M forested acres surveyed annually; ~10K forested acres (on the ground) surveyed annually; ~100 technical assists provided to private landowners annually</i>
<i>USFS</i>	<i>ASNF: The personnel in all resource specialties are constantly monitoring landscapes for detection of threats to Arizona's forestlands and other high priority ecosystems found on national forest land.</i>
<i>ERI</i>	<i>The ERI maintains a network of Long-term Ecological Assessment and Research Network throughout the Southwest. Remeasurements help understand long-term vegetation responses to restoration, climate and other variables</i>
<i>TNC</i>	<i>Assisted in development of Monitoring and Adaptive Management Plan for the Four Forest Restoration Initiative.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 4 Identify and monitor threats to forests and ecosystem health.

Planned Action: 2.1.4.02

Integrate federal, state, university and other diagnostic/research resources to support surveillance, and detection efforts focused on delineating priority treatment areas and identifying science based treatment needs.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Urban/Community Forestry Community Challenge Grant: 2012 - 1 CCG grant; Implemented 2012-2015 WCG UFRI Project and all AZUTM products/materials and trainings; Funded 1 Invasive Plants project grant: 2010 2015; - Conducting project w/ UA to trap bark beetles in Tucson</i>
<i>USFS</i>	<i>PNF: The PNF cooperates with other federal agencies (i.e., NRCS, FWS, etc.), state agencies (i.e., ADEQ, AZGFD, etc.), and in-state natural resource universities (Prescott College) to detect and delineate treatment areas where science-based treatments are applied.</i>
<i>ERI</i>	<i>The ERI, in partnership with the Salt River Project and NAU hydrologist Abe Springer have launched a long-term paired watershed study of 4FRI treatments on surface and ground water</i>
<i>ERI</i>	<i>The ERI is a leader in the 4FRI Multi-party monitoring effort that is designed to guide long-term adaptive management. The ERI will produce the final summary of 10 Years of monitoring data resulting from the White Mountain Stewardship Contract</i>
<i>USFS</i>	<i>TNF: TNF cooperates with other federal agencies (i.e., NRCS, FWS, etc.), state agencies (i.e., ADEQ, AGFD, etc.), and in-state natural resource universities to detect and delineate treatment areas where science-based treatments are applied.</i>
<i>USFS</i>	<i>ASNF: The Forest along with the multi-party monitoring board (including the Nature Conservancy and the Northern Arizona University Ecological Restoration Institute) are in the process of evaluating the impacts of forest treatments from the 10-year White Mountain Stewardship Projects. The University of Arizona and NAU are active participants in conducting species surveys and habitat assessments for threatened and endangered species on the Forest. UofA conducted post Wallow Fire recovery assessments of herbaceous ecosystems on the Forest.</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>Kaibab NF - worked with range professionals from the University of Arizona, Natural Resources Conservation Service, Arizona Game and Fish Department, Natural Resources Conservation Districts, State Land Department, Bureau of Indian Affairs, and range permittees on cooperative rangeland monitoring efforts. This work has improved our working relationship with these professionals.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 4 Identify and monitor threats to forests and ecosystem health.

Planned Action: 2.1.4.03

Develop a contingency plan for the potential ecological impacts of climate change.

Reported Accomplishments:

<i>USFS</i>	<i>The Land and Resource Management Plan for the Kaibab National Forest addresses climate change indirectly through desired conditions in the form of functional ecosystems and resilient landscapes, and directly in management approaches and the monitoring plan where appropriate. The Kaibab NF, in collaboration with our partners at Northern Arizona University and Grand Canyon Trust, is addressing these concerns by developing landscape-scale, spatially explicit models of occupancy for several species.</i>
<i>USFS</i>	<i>The Coronado NF includes climate change in our NEPA analysis and it may lead to mitigation measures.</i>
<i>USFS</i>	<i>ASNF: The Forest Plan Revision team are developing monitoring elements to be incorporated into the Monitoring Plan associated with ecological impacts of climate change on forest management activities.</i>
<i>USFS</i>	<i>PNF: The PNF assessed and incorporated climate change variables and modeling in or 2015 Forest Plan revision. We developed our desired conditions to provide for ecosystem resilience that is responsive to climate change.</i>
<i>USFS</i>	<i>TNF: Contingency plans are identified in NEPA documents.</i>
<i>ERI</i>	<i>The ERI has 17 publications measuring or modeling vegetation or insect responses to climate change.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 5 Protect forests and other high priority ecosystems from fragmentation and conversion.

Planned Action: 2.1.5.01

Identify and utilize resources to work with state and local governments on policy development and program implementation to protect ecosystems from fragmentation.

Reported Accomplishments:

<i>USFS</i>	<i>PNF: The PNF incorporated wildlife and habitat associated travel corridors (i.e., the AZGFD linkages study) into the desired condition for terrestrial wildlife to address fragmentation.</i>
<i>TNC</i>	<i>The San Pedro Riparian Ecosystem Project was a partnership between TNC, private landowners near Cascabel, AZ, U.S. Forest Service, Arizona State Forestry and Arizona Game & Fish Department. The project ranked number one on a national priority list for Forest Legacy funding to protect 613 acres of private land and a 4-mile stretch of riparian forest habitat along the San Pedro river from conversion to residential development.</i>
<i>ERI</i>	<i>The ERI partnered with the Rural Policy Institute to demonstrate the full cost of the Schultz Fire and Flood. This publication made it all the way to Office of Management Budget. It demonstrated the cost of damage in the WUI as well as the importance of preventing catastrophic fire.</i>
<i>USFS</i>	<i>ASNF: The Forest works closely with Arizona Game and Fish Department to identify known migration corridors and incorporate habitat considerations into all landscape scale planning processes.</i>
<i>USFS</i>	<i>TNF: Forest planning collaborative NEPA efforts with several partners and stakeholders, including state and local governments are employed to identify and protect ecosystems from fragmentation</i>
<i>USFS</i>	<i>On the Kaibab NF, existing collaborations between the Arizona Game and Fish Department and Coconino County generally encourage the protection of open lands and the preservation of the land's natural character within local and regional contexts. These collaborative strategies should decrease the potential for future land fragmentation while improving the overall integrity of the landscape. This should also provide for more resilience with regard to climate change for those wildlife species that may need to adjust migration routes, foraging corridors, or breeding grounds.</i>
<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2011 - 2 TREE grants; 2014 - 3 CCG grants; 2013 - 1 CCG grant; 2012 - 2 CCG grants; 2011 - 1 CCG grant</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 5 Protect forests and other high priority ecosystems from fragmentation and conversion.

Planned Action: 2.1.5.02

Identify opportunities for Land exchanges with federal agencies and other groups.

Reported Accomplishments:

USFS	<i>PNF: The PNF identified opportunities for land exchange and legal access in the objectives of the 2015 Forest Plan revision.</i>
USFS	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
AZSF	<i>Partnership with TNC and Arizona Game and Fish, performed as project Administrator for the San Pedro River Forest Legacy conservation easement – 4 easement tracts.</i>
TNC	<i>The Arizona State Forestry Department administers and coordinates the Forest Legacy Program in the State of Arizona, which is funded by the USFS. The Forest Legacy program provides funding for conservation easements to protect private forests.</i>

Planned Action: 2.1.5.03

Identify/develop and disseminate developmental guidelines/ policies for forested areas.

Reported Accomplishments:

USFS	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
AZSF	<i>Implementing 2012-2015 - WCG Urban Forest Resource Inventory (UFRI) Project. Hosted 7 urban tree inventory workshops for volunteers and community managers as part of the AZUTM (UFRI) project. Published AZ Urban Tree Monitoring (AZUTM) urban tree inventory, tree identification, and tree insect and disease guides for community managers and the general public.; Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 2 CCG grants; 2013 - 2 CCG grants; 2011 - 3 CCG grants</i>
USFS	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Many unique areas were identified for management area direction within the plan; including wildlife quiet areas and research natural areas.</i>
USFS	<i>PNF: The PNF developed desired conditions and guidelines for management in our 2015 Forest Plan revision, based on habitat conditions and community input.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 5 Protect forests and other high priority ecosystems from fragmentation and conversion.

Planned Action: 2.1.5.04

Work with non-traditional partners to identify policy needs and bridge identified gaps.

Reported Accomplishments:

<i>USFS</i>	<i>PNF: The PNF invested a substantial amount of time and effort to reach out to the communities in and around the PNF, to solicit their input in managing the diverse resources on the PNF.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>ERI</i>	<i>The Society of American Foresters is in the process of revising its policy statement on loss of private forest land. ERI has provided support to this effort.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.01

Use science-based approaches to evaluate, understand and protect against the negative impacts of existing and emerging threats such as climate change, insect and disease outbreaks or land use changes on forest health and public safety, including the build up of hazardous fuel conditions and resulting fire behavior.

Reported Accomplishments:

<i>ERI</i>	<i>The ERI has an extensive library with almost 400 publications that provide science-based understanding on forest health, the ecological consequences of excess fuels. Etc.</i>
<i>AZSF</i>	<i>2011 - WCG Air Quality Project - surveyed Phx urban forest and produced outreach materials (poster, factsheets, pole banners, etc.); Implemented 2012 - WCG Urban Forest Resource Inventory (UFRI) Project; Funded multiple Urban/Community Forestry Community Challenge Grants -2013 - 1 CCG grant; 2012 - 2 CCG grants; Provided technical assistance on ~35 plans since 2014 regarding insect and disease management</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>USFS</i>	<i>TNF: These are expected outcomes from forest plan and 4FRI efforts.</i>
<i>TNC</i>	<i>Hart Prairie Preserve meadow and forest restoration activates on 40 acres. Development of grant and NEPA for Hart Prairie 70 acre meadow restoration on USFS land.</i>
<i>USFS</i>	<i>ASNF: Science-based approaches are used in all landscape scale planning efforts on the Forest, including Forest Plan Revision and 4FRI NEPA planning efforts.</i>
<i>USFS</i>	<i>ASNF: Many trees that survived the Wallow Fire are still at risk to bark beetle attack. Pheromone capsule tags are annually placed in key locations to protect Douglas Fir and Spruce trees from attack. Protection of the remaining trees also maintains critical wildlife habitat and helps stabilize soils. The Forest Service in conjunction with the Rocky Mountain Research Station annually survey forested areas for insect and disease outbreaks.</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>PNF: The PNF incorporated climate change, insect & disease, and the natural disturbance regime in our 2015 Forest Plan revision. We developed our desired conditions to provide for ecosystem resilience that is responsive to climate change, insects & disease and wildland fire.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.01

Use science-based approaches to evaluate, understand and protect against the negative impacts of existing and emerging threats such as climate change, insect and disease outbreaks or land use changes on forest health and public safety, including the build up of hazardous fuel conditions and resulting fire behavior.

Reported Accomplishments:

USFS Coronado NF - FireScape is a collaboration of land managers, scientists, stakeholders, and the public. One of the main components of FireScape is science based information. The goals of the FireScape science group are to provide technical support and scientific data for planning, compliance, public engagement and implementation.

TNC Assisted in FIRESCAPE evaluations for the Huachuclas, Catalinas, Rincons, Galiuros, Chiricahuas and adjacent lands.

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.02

Reduce hazardous fuels and reduce stand densities of unsustainable post-settlement trees, to prevent catastrophic losses from bark beetles and wildfire.

Reported Accomplishments:

USFS	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
USFS	<i>TNF: These are two main objectives for 4FRI planning and execution.</i>
AZSF	<i>Western Bark Beetle Initiative grant program: 605 acres treated (2010-2015)</i>
AZSF	<i>Collaborated with partners and leverage state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i>
USFS	<i>Coronado NF - Forest thinning and restoration projects in the upper elevations of the Sky Islands have been ongoing. One example is the Pinaleno Ecosystem Restoration Program (PERP) project in the Pinaleno Mountains. The purpose of this project is to reduce fuel loading, encourage return of the natural fire cycle, increasing resiliency of mixed-conifer stands in the project area to insect and disease, and protect and restore habitat of the Mt Graham red Squirrel.</i>
USFS	<i>PNF: The Bradshaw Vegetation Management Project EA (2013) and Black Hills Vegetation Management Project EA (2011) were designed specifically to reduce the risk of catastrophic fire through mastication and prescribed burning.</i>
AZSF	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i>
USFS	<i>ASNF: The forest is analyzing approximately 110,000 acres of the Wallow West Fire Salvage project area for prescribed fire treatments. A contract has been awarded to Geomorphic to complete the NEPA process in 2016. The West Escudilla and Black River Restoration Planning projects also include projects for prescribed fire treatments.</i>
AZSF	<i>Implemented program to award state and federally funded hazardous fuels reduction grants. Wildland Fire Hazardous Fuels (WFHF) - 58 projects from 2010-2015 for approximately \$6 million. State Fire Assistance (SFA-WUI) - 16 projects for approximately \$2.3 million.</i>
AZSF	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.03

Encourage adoption of collaborative Wildlife Principals developed by the Arizona Forest Health Council for integrating wildlife habitat and biodiversity conservation with restoration, community protection, and fire management activities. (see SS 2.5.1)

Reported Accomplishments:

USFS TNF: This is also a product of forest planning which the forest is now conducting. It will be followed with specific NEPA documents which outline specific treatment plans designed to integrate wildlife habitat and biodiversity conservation with restoration, community protection, and wildland fire management activities.

USFS PNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and the on-the-ground activities they represent are used to integrate wildlife habitat, conserve biodiversity, and protect communities. Collaborative wildlife principals are also considered and applied to wildland fuel treatments and use of fire.

USFS ASNF: Site specific and landscape scale NEPA planning efforts outline specific treatment plans to integrate wildlife habitat and biodiversity conservation with restoration, community protection, and wildland fire management activities.

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.04

Develop and implement integrated landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies for forests across the state.

Reported Accomplishments:

AZSF	<i>Partner in development of the Greater Flagstaff Forests Partnership (GFFP).</i>
USFS	<i>Coronado NF - FireScape planning efforts have been underway on the Coronado, with the first Record of Decision being signed in 2009 for the Huachuca FireScape Project (400,000 acres). The Galiuro FireScape EA was completed in 2014, with implementation expected to begin in FY 2016.</i>
AZSF	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
USFS	<i>ASNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. The four forest restoration initiative along with the other landscape scale "bridge" planning efforts on the ASNF are designed to integrate landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies.</i>
ERI	<i>The ERI has helped develop numerous plans and EIS's related to landscape scale restoration. Activities include the 4FRI EIS#1; Forest Plan revisions on the Coconino, Kaibab and Tonto national forest. Science support for numerous information requests related to EIS preparation and treatment implementation across Arizona</i>
USFS	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
AZSF	<i>Funding/Implementing multiple project grants: 2015 - Landscape Scale Restoration Verde project; 2011 - 2 Invasive Plants grant projects (838ac treated over 37.4mi of riparian; 184ac treated over Greenlee, Cochise and Graham counties); 2011/2013 - 2 Western Bark Beetle Initiative projects funded. Western Bark Beetle program - 500ac treated (2014-2015)</i>
USFS	<i>PNF: The Bradshaw Vegetation Management Project EA (2013), Black Hills Vegetation Management Project EA (2011), and CAGCS are examples of the PNF's commitment and investment in collaborative and integrated landscape-scale restoration.</i>
AZSF	<i>Encourage and support Community Wildfire Protection Plan development (30 CWPP finalized).</i>
AZSF	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.04

Develop and implement integrated landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies for forests across the state.

Reported Accomplishments:

AZSF Partner in development of the Rural Communities Fuels Management Partnership (RCFMP)

USFS TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is designed to integrate landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies.

AZSF Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.05

Develop land-use policies and practices that support restoration, community protection, and fire management efforts.

Reported Accomplishments:

<i>ERI</i>	<i>ERI provides technical support for preparation of Community Wildfire Protection Plans.</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>USFS</i>	<i>The Coronado NF works with several partners and collaborators across the forest on these actions. Also, see response to goal 1, objective 1 above re: SIRC</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>USFS</i>	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Plan direction supports restoration, community protection and fire management efforts.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF forestry hand crews.</i>
<i>USFS</i>	<i>PNF: Restoration and community protection are integral facets of our 2015 Forest Plan revision.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.06

Federal and state land management agencies should collaboratively develop an integrated process to design and strategically place treatments in order to increase efficiency, maximize benefits and limit negative impacts of insect & disease outbreaks, invasive plants & wildfire.

Reported Accomplishments:

<i>USFS</i>	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Site specific NEPA planning will outline specific treatment projects designed to increase efficiency, maximize benefits, and limit impacts of insect and disease outbreaks, invasive plant species, and wildland fire.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>USFS</i>	<i>PNF: The PNF collaborated with adjacent land managers on both the Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and the CAGCS projects.</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants project grants: 2010 - 3 IPG grants (20ac high priority riparian treated); 2011 - 2 IPG grants (1022ac treated); 2012 - 1 IPG grant (15ac high priority riparian treated); 2014 - 1 IPG grant (20ac treated); Implemented Western bark Beetle Initiative projects: 605ac treated in/around Flagstaff, Prescott and Greer</i>
<i>USFS</i>	<i>Coronado NF - The Coronado has been working collaboratively with partners to assist in the completion and implementation of CWPP's (Pinal, Pima, Graham and Cochise County CWPP's).</i>
<i>ERI</i>	<i>The ERI is involved in implementation of the 1st 4FRI EIS. The goal is to encourage treatment timing and placement to maximize benefits.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF forestry hand crews.</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting. It will be followed with specific NEPA documents which outline specific treatment plans designed to strategically place treatments in order to increase efficiency, maximize benefits, and limit impacts of insect and disease outbreaks, invasive plant species, and wildland fire.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.07

Best Management practices should be implemented to limit the spread of exotic invasive species during restoration and fire management activities.

Reported Accomplishments:

- USFS TNF: This is also a product of forest planning which the forest is now conducting. It will be followed with specific NEPA documents which outline specific treatment plans designed to strategically place treatments in order to increase efficiency, maximize benefits, and limit impacts of insect and disease outbreaks, invasive plant species, and wildland fire.*
- USFS Coronado NF- The Coronado uses several BMPs to help limit the spread of exotic invasive species during restoration and fire management activities. We use the inspection and Cleaning Manual for equipment and vehicles to prevent the spread of invasive species (Technical Memo No.86-68220-07-05). The use of preventing the spread of Invasive Plants: Best Management Practices for Land managers is also used. For ground disturbing projects: Weed Prevention Best Management Practices for Ground-Disturbing Projects
Adapted from: Clark, J. 2003. Invasive Plant Prevention Guidelines. Center for Invasive Plant Management. Bozeman, MT is used.*
- USFS For PERP activities, inspection of equipment for exotic invasive species is required prior to entering the forest.*
- USFS PNF: Best-Known Practices (BKPs) are part of the Forest Plan Amendment to implement the integrated treatment of noxious weeds and are applicable to all resource programs.*
- USFS ASNF: Design and implementation of BMP's are mitigation measures incorporated into planning for forest management activities. BMP's are also monitored post-project implementation to evaluate resource impacts and support adaptive management.*
- USFS Kaibab NF - An example of Best Management Practices prescribed and analyzed are in the Bill Williams Mountain Project, BMP #8, Clean all equipment prior to leaving the project area with a high pressure washer to remove mud, debris, and vegetative material from the equipment. This will minimize the spread of invasive or noxious weeds into the project area.*
- AZSF Funded multiple Invasive Plants Program project grants: 2010 - 3 IPG grants;
2011 - 2 IPG grants;
2012 - 1 IPG grant;
2014 - 1 IPG grant;
Provided technical assistance on ~35 mgmt plans since 2014 regarding insects/disease mgmt.*

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.08

Develop incentives and an ethic of personal safety to support sustainable maintenance of fuel treatments.

Reported Accomplishments:

<i>AZSF</i>	<i>In process of developing Job Hazard Analysis program. Daily safety briefing. Annual operational readiness review program has been implemented and is in progress.</i>
<i>USFS</i>	<i>PNF: Personal safety is a fundamental component of the Forest Service culture.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>ERI</i>	<i>Involvement with AZ Prescribed Fire Council</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.09

Increase coordination of forest restoration, fire management, and community protection planning and implementation across jurisdictional boundaries.

Reported Accomplishments:

<i>USFS</i>	<i>ASNF: The West Escudilla Restoration planning project is coordinated across state line boundaries with the East Escudilla Restoration planning project on the Gila NF in New Mexico. Both projects include vegetation management, forest products, fuels treatments and watershed management along the common boundary. Watershed Restoration Action Plans are being developed for all 6th code HUCs (watersheds) within the Escudilla planning area (4 in AZ and 8 in NM).</i>
<i>USFS</i>	<i>Coronado NF - The Coronado has taken on a landscape planning approach (FireScape) to plan for treatments across agency boundaries. FireScape plans are developed collaboratively, by multiple land managers and other stakeholders.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>ERI</i>	<i>The ERI Outreach team works with land managers and stakeholders to help coordinate restoration across multiple jurisdictions including tribal, state, federal and municipal lands.</i>
<i>USFS</i>	<i>PNF: The PNF collaborated with adjacent land managers on both the Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and the CAGCS projects. Coordination is an integral part of our project planning (NEPA) process, through scoping, proposed action development, and identifying alternatives.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.10

Encourage development of integrated long-term restoration, wildlife management, and fire management plans for all federal, state, and tribal lands. (see SS 2.2.8)

Reported Accomplishments:

<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>USFS</i>	<i>Kaibab NF - Activities support this objective. See Ecosystem Goal 1 - Objectives 1 and 3.</i>
<i>USFS</i>	<i>PNF: The PNF developed the desired conditions in our Forest Plan revision to provide for integrated long-term restoration of wildlife habitat and natural disturbance regimes.</i>
<i>AZSF</i>	<i>Developed 3-year Invasive Plant program strategic plan (2015-2017); provided technical assistance on ~35 mgmt plans since 2014 re: insects/disease mgmt</i>
<i>USFS</i>	<i>The Coronado NF is part of an informal group called the Sky Island Restoration Cooperative (SIRC) which is a bi-national community based collaboration of government and non-governmental organizations, private landowners, ranchers, students, volunteers, scientists, and restoration practitioners. This group has combined energy and knowledge to improve restoration activities, outcomes and awareness across the Madrean Archipelago and nurture an understanding of the importance of biodiversity. SIRC is a vehicle for information sharing, training, and project implementation through the identification of restoration research and resource needs. This cooperative also builds bridges across institutional, administrative, and cultural boundaries to create effective regional restoration strategies.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 2 Restore frequent fire regimes as part of forest restoration measures.

Planned Action: 2.2.2.01

Adequately restore forest structures through mechanical or prescribed fire treatments to ensure landscapes are compatible with frequent fire regimes.

Reported Accomplishments:

USFS	<i>TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is designed to restore forest structures through mechanical and prescribed burning to ensure landscapes are compatible with frequent fire regimes..</i>
AZSF	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
USFS	<i>PNF: The PNF considers the full complement of available tools to manage vegetation in order to move toward desired conditions identified in our Forest Plan revision.</i>
AZSF	<i>Funded multiple Invasive Plants Program project grants: 2010 - 1 IPG grant (20ac treated); 2011 - 2 IPG grants (1022ac treated); 2012 - 1 IPG grant (15ac high priority riparian treated); Western Bark Beetle Initiative Program: 605ac treated in/around Flagstaff, Prescott, Greer</i>
AZSF	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i>
TNC	<i>Four Forest Restoration Collaborative stakeholders and USFS completed EIS to restore fire to over 600,000 acres. In addition USFS has treated 290, 612 acres as of 2014.</i>
USFS	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
USFS	<i>ASNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. The four forest restoration initiative along with the other landscape scale "bridge" planning efforts on the ASNF are designed to restore forest structures through mechanical and prescribed burning to ensure landscapes are compatible with frequent fire regimes.</i>
AZSF	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 2 Restore frequent fire regimes as part of forest restoration measures.

Planned Action: 2.2.2.02

Implement forest management activities that will allow for reestablishment of frequent, low-severity fire as a key process in forested ecosystems, including increased use of prescribed fire following mechanical thinning and increased management of wildland fires for restoration objectives on appropriate lands.

Reported Accomplishments:

<i>USFS</i>	<i>Coronado NF - The Coronado Forest Plan was amended in 2005 to allow for the management of lightning-caused fires to restore fire's natural role in maintaining a healthy, diverse, and resilient ecosystem resistant to natural disturbances. As of 2014, over 86, 000 acres have been treated with natural ignitions.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i>
<i>USFS</i>	<i>ASNF: 4FRI includes restoration efforts across the Apache-Sitgreaves, Coconino, Kaibab and Tonto National Forests. The four forest restoration initiative along with the other landscape scale "bridge" planning efforts on the ASNF will support implementation of forest management activities that allow for reestablishment of frequent, low-severity fire as a key process in fire adapted ecosystems, including increased use of prescribed fire following mechanical thinning and increased management of wildland fires for restoration objectives on appropriate lands.</i>
<i>USFS</i>	<i>TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is implementing forest management activities that will allow for reestablishment of frequent, low-severity fire as a key process in forested ecosystems, including increased use of prescribed fire following mechanical thinning and increased management of wildland fires for restoration objectives on appropriate lands.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>USFS</i>	<i>PNF: The PNF developed the desired conditions in our Forest Plan revision to provide for integrated long-term restoration of natural disturbance regimes.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 2 Restore frequent fire regimes as part of forest restoration measures.

Planned Action: 2.2.2.03

Planners should work with developers to incorporate appropriate buffer zones, based on anticipated fire hazard, public safety, and wildlife habitats into the design of new developments to allow for maintaining of conditions in adjacent forests and grasslands where natural or prescribed fires may continue or be introduced. (see SS 2.2.4)

Reported Accomplishments:

AZSF	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments.</i>
AZSF	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
USFS	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015.</i>
USFS	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
USFS	<i>PNF: The PNF collaborated with adjacent land managers on both the Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and the CAGCS projects. Coordination is an integral part of our project planning (NEPA) process, through scoping, proposed action development, and identifying alternatives.</i>
AZSF	<i>Encouraged and supported Community Wildfire Protection Plan development (30 CWPP finalized).</i>
AZSF	<i>Firewise Community Program with 65 Firewise communities recognized.</i>

Planned Action: 2.2.2.04

Utilize state and local codes, planning options, laws and regulations, and Growing Smarter legislation to address fire risk at the landscape scale. (see SS 2.2.7)

Reported Accomplishments:

AZSF	<i>Encourage and support Community Wildfire Protection Plan development (30 CWPP finalized).</i>
USFS	<i>ASNF: Community Wildfire Protection Plans have been completed for Coconino, Apache, Navaho and Greenlee Counties. CWPP's help prioritize vegetation treatments in the wildland urban interface across jurisdictional boundaries.</i>
USFS	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
AZSF	<i>Firewise Community Program with 65 Firewise communities recognized.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.01

Develop and utilize a collaborative, science-based, multi-entity process to facilitate decisions on properly designing and implementing restoration projects within the social and political framework.

Reported Accomplishments:

USFS	<i>PNF: The PNF invested a substantial amount of time and effort to reach out to the communities in and around the PNF, to solicit their input in managing the diverse resources on the PNF. Coordination is an integral part of our project planning (NEPA) process, through scoping, proposed action development, and identifying alternatives.</i>
AZSF	<i>Funded 1 IPG grant1 Invasive Plants Program project grant - 2010</i>
USFS	<i>The Coronado NF works with several partners and collaborators across the forest on these actions. Also, see response to goal 1, objective 1 above re: SIRC</i>
USFS	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
USFS	<i>Coronado NF - FireScope is a response to the need for landscape-scale fire and ecosystem management. FireScope is a framework for expanding safe, ecologically sound, large-scale fire management across multiple land ownerships in the mountains of southeastern Arizona. The FireScope leadership team includes representatives from the Forest Service, The Nature Conservancy, the University of Arizona (UA), Bureau of Land Management, National Park Service, and other southeastern Arizona land managers.</i>
AZSF	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>
AZSF	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments. Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
TNC	<i>Heavily participated in development of Four Forest Restoration Initiative 1st Analysis Area EIS.</i>
ERI	<i>Support for the 4FRI, participate in the GFFP, NRWG, Prescribed Fire Council. The ERI library contains information on restoration economic benefits, full cost accounting studies, tips to assist collaboratives, and a wide spectrum of analyses on socio-economic issues.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.01

Develop and utilize a collaborative, science-based, multi-entity process to facilitate decisions on properly designing and implementing restoration projects within the social and political framework.

Reported Accomplishments:

USFS TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is a collaborative, science-based, multi-entity process to facilitate decisions on properly designing and implementing restoration projects within a social and political framework.

USFS ASNF: A diverse group of community stakeholders in collaboration with the Forest formed the Natural Resources Working group to build consensus on forest restoration. Collaboration with citizens, other agencies, academics, communities and conservation groups has resulted in progress toward shared forest health and community protection goals.

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.02

Facilitate the sharing of all data and analyses from all ownerships to assist natural resource agencies, county and city managers, and stake holders in planning and implementation of forest restoration activities. Development of a central repository or clearinghouse of information should be investigated.

Reported Accomplishments:

<i>USFS</i>	<i>ASNF: The White Mountain Stewardship Monitoring Report is an analysis and assessment of the administrative, ecological, economic, and social monitoring data collected between 2005 and 2009. Monitoring Reports are available on the Forest website.</i>
<i>AZSF</i>	<i>Funded/Implemented Urban/Community Forestry projects: 2012 - WCG Urban Forest Resource Inventory (UFRI) Project; 2014 - 1 Community Challenge Grant</i>
<i>TNC</i>	<i>Developed and formalized adaptive management monitoring program with stakeholders and BLM at Las Cienegas with collaborative annual reviews of data.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>USFS</i>	<i>ASNF: The Forest along with the multi-Party Monitoring Board (including the Nature Conservancy and the Northern Arizona University Ecological Restoration Institute) are in the process of evaluating the impacts of forest treatments from the 10-year White Mountain Stewardship Projects.</i>
<i>USFS</i>	<i>PNF: The PNF facilitates data sharing across boundaries through our participation in the CAGCS.</i>
<i>ERI</i>	<i>The establishment and maintenance of the ERI website</i>
<i>TNC</i>	<i>Assisted in development of Monitoring and Adaptive Management Plan for the Four Forest Restoration Initiative.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.03

Undertake educational and outreach activities to increase awareness and understanding of the benefits of addressing forest health issues.

Reported Accomplishments:

<i>ERI</i>	<i>The ERI has been in 237 news articles over the last 5 years. These numbers reflect the original, primary source of the article and do not include syndication. This means that particularly for wire services like the Associated Press (AP) and Reuters, the impact can be 10-100 fold when an article is plucked off the wire by other outlets across the U.S. and globe. ERI has appeared in a total of 6 AP/Reuters articles over the past 3 years.</i>
<i>USFS</i>	<i>Coronado NF - The Coronado has partnered with the University of Arizona to maintain a public website providing information for the FireScape planning efforts</i>
<i>USFS</i>	<i>PNF: Worked with the Highland Center for Natural History (HCNH) to make a presentation on the benefits of Forest Restoration to the general public, their Board of Directors, and their cadre of Naturalists that lead public nature walks at the Center for audiences of all ages. PNF partnered with HCNH on a RAC Grant to develop demonstration projects, including: hands-on implementation, opportunities for observing treatments (such as timber sales), long-term interpretive signs and citizen-science monitoring opportunities.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>AZSF</i>	<i>Distributed 10 Urban Tree Talk Newsletters; Conducted Tree Risk Workshops; Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 8 CCG grants; 2013 - 3 CCG grants; 2012 - 3 CCG grants; 2011 - 2 CCG grants; 2010 - 1 CCG grant; Funded multiple Invasive Plants Program project grants -2010 - 1 IPG grant (Buffel Busters book); 2011 - 1 IPG grant; 2014 - 1 IPG grant (The Creekside Almanac distributed to 450 ppl); Distributed 5 Forest Health Conditions Report; Distributed ~35 Forest Health Alerts since 2010</i>
<i>USFS</i>	<i>The Kaibab NF has a long standing commitment to conducting meaningful government consultations with its tribal neighbors. This is done by building strong partnerships that stress collaborative planning and a shared stewardship approach to the management of public lands. Our resource specialists are experts in everything from wildlife and local cultural history to tree health and geology.</i>
<i>USFS</i>	<i>ASNF: In 2015 the American Conservation Experience worked in the Wallow Fire area installing bark beetle pheromone capsule tags to protect the remaining fir and spruce trees from beetle attacks.</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Ecosystem Health (2)

Goal: 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.04

Develop funding mechanisms for the successful implementation of all aspects of ecosystem restoration activities and education projects.

Reported Accomplishments:

<i>ERI</i>	<i>Provide science support for the successful passage of \$10 of bond funding to advance the Flagstaff Watershed Protection Project. The ERI "Efficacy of Hazardous Fuel Treatments: A praid Assessment of the Economic and Ecologic Consequences of Alternative Hazardous Fuel Treatments". Was used to effective argue for the restoration of hazardous fuels dollars to the Forest Service and Department of Interior in 2013-2014.</i>
<i>AZSF</i>	<i>Utilization of interagency service agreements (ISA) with other state entities; collaborative funding options through REPI, etc.; 5 RFPs released to fund Forest Health improvement projects (WBBI program)</i>
<i>USFS</i>	<i>The Coronado NF's Integrated Restoration Project Team prioritizes allocated funds based on forest priorities</i>
<i>USFS</i>	<i>TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative has a funding mechanism for successful implementation of all aspects of ecosystem restoration activities and education projects.</i>
<i>USFS</i>	<i>The Kaibab NF's Leadership Team prioritizes allocated funds based on forest priorities.</i>
<i>USFS</i>	<i>PNF: The PNF successfully competed for the #1 priority Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and a substantial RAC Grant for the Bradshaw Vegetation Management Project.</i>
<i>USFS</i>	<i>ASNF: The Black River Restoration planning project will not be underway until 2017. However, data collection for the project has begun. The Forest is in the process of working with a new stakeholder group similar to that of the Natural Resources Working Group to support data collection and the NEPA Planning Process.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.01

Fuel reduction treatments. Reduce excessive fuel loading to prepare fire adapted landscapes for historic fire regimes through fuel treatment activities.

Reported Accomplishments:

<i>AZSF</i>	<i>Since 2010 approx 6000 acres of crew fuels work and approx 800 acres of mechanical fuels treatment.</i>
<i>USFS</i>	<i>AZ NFs Hazardous Fuels Reduction accomplishments- FY2010 Fire- 79,393 acres Mechanical-21683 acres FY2011 Fire- 102,197 acres** Mechanical - 15,688 acres FY2012 Fire- 51,824 acres** Mechanical - 28,350 acres FY2013 Fire - 43,192 acres** Mechanical - 53,748 acres FY2014 Fire - 101,737 acres** Mechanical - 46,414 acres ** (includes wildfire accomplishments) FY 15 KNF/PNF/COF/CNF/ASF Fire - 149,456** Mechanical - 8185 acres</i>
<i>BLM</i>	<i>BLM Arizona's Hazardous Fuels Reduction accomplishments- FY2010: Fire-12,097acres Mechanical-4,586 acres; FY2011: Fire-3,984acres Mechanical-4,411acres; FY2012: Fire-4,687acres Mechanical-2,811acres; FY2013: Fire-974acres Mechanical-3,341acres; FY2014: Fire-1,500acres Mechanical-1,287acres</i>
<i>APS</i>	<i>Vegetation management to reduce fire risk due to electrical equipment.</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 1 IPG grant; 2011 - 1 IPG grant (838ac treated); 2012 - 1 IPG grant (15ac high priority riparian treated) Funded multiple Western Bark Beetle Initiative project grants: 2010 - 2 WBBi grants; 2011 - 1 WBBi grant; 2012 - 2 WBBi grants; 2013 - 1 WBBi grant</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.02

Strategic placement of treatments. Design fuels treatments strategically on the landscape to effectively reduce fire risk.

Reported Accomplishments:

<i>AZSF</i>	<i>Community risk assessment completed. Fuels treatment work has occurred within over 43 cities, municipalities of unincorporated communities since 2010.</i>
<i>APS</i>	<i>ASP is clearing vegetation on 375K poles in the urban interface based on the Western States Fire Risk Assessment</i>
<i>AZSF</i>	<i>Funded multiple Western Bark Beetle project grants: 2010 - 1 WBBi grant; 2011 - 1 WBBi grant; 2012 - 1 WBBi grant; 2013 - 1 WBBi grant; (all WBBi grants completed in sensitive areas in and around neighborhoods or up-wind from communities)</i>
<i>BLM</i>	<i>Geospatial and ground based assessments of WUI have been conducted ahead of designing fuels treatment projects at the district level. Fuels treatment projects are designed and strategically placed to enhance the defensibility of federal, state, private lands and infrastructure. Between 2010 and 2014 over 15,000 acres of WUI has been treated on BLM managed lands. Fuels treatment projects adjacent to other Federal lands, state or private land are coordinated annually locally or via Arizona State Forestry via the Communities at Risk Agreement/Hazardous Fuels Treatment program meetings.</i>
<i>USFS</i>	<i>WUI Fuels accomplishments- strategically placed fuels treatments designed to further defensibility of federal, state, and private lands and infrastructure. Of the above accomplishments, this includes treatments of 287,357 acres in WUI areas between 2010 and 2014 The Prescott NF - Completed year one of the Joint Chief's Landscape Restoration Partnership project which included 250 acres of thinning, 1000 acres of mastication and 500 acres of prescribed fire in Prescott Basin Cross Boundary Project area. The Coronado NF continues to partner with Fort Huachuca to implement fuel treatments adjacent to NFS land. Fuels treatment projects adjacent to State and private lands are coordinated annually with AZ State Forestry during the Non-Federal Lands Hazardous Fuels Projects Meeting. COF- Flagstaff Watershed Protection Project (Citizens of Flagstaff voted to fund work on NF lands) is in NEPA Planning Phase, CC Cragin (SRP manages this water that supplies the Town of Payson) is a National Forest Foundation (NFF) project that is in the NEPA Planning phase. Upper Beaver Creek is also an NFF project that is in the implementation phase. ASF-Thru the mechanical treatments of White Mountain Stewardship task orders, treatments were strategically placed to protect infrastructure and also placed within the landscape to minimize large high severity runs.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.03

Encourage collaborative long-term forest restoration and fire management planning by all land managers. (see SS 2.2.8)

Reported Accomplishments:

<i>BLM</i>	<i>Via the Communities at Risk agreement and partnership with AZSF Hazardous Fuels program, treatments conducted on Non-Federal Land adjacent to BLM managed land can account for at least 400 acres across the state since 2013.</i>
<i>APS</i>	<i>Working with HOA, Fire Dist. And community leadership. Close collaboration with Forest Service, Private Landowners as well as BLM and State Forestry.</i>
<i>ERI</i>	<i>Ongoing/continued outreach actions by ERI - (ERI's contribution is in addition to other statewide efforts from a variety of partners).</i>
<i>USFS</i>	<i>Non-Federal Land accomplishments, these treatments conducted by local Fire Districts with federal funding created an additional 3115 acres of accomplishments on Private lands immediately adjacent to USFS lands. This increased defensibility and restoration efforts on all lands by all land managers and communities. In 2015, the Record of Decision was signed for the first Phase of the 4 Forest Restoration Initiative (Coconino, Apache-Sitgreaves, Tonto, and Kaibab NF). This collaborative process has accomplished approximately 241,109 acres of restoration using mechanical treatments and fire since 2010 and has cleared upwards of 600,000 acres for additional treatments. The Coronado has taken on a landscape planning approach (FireScape) to plan for treatments across agency boundaries. FireScape plans are developed collaboratively, by multiple land managers and other stakeholders</i>
<i>AZSF</i>	<i>Collaboration with Federal Partners on multiple landscape scale forest restoration projects; 4FRI, White Mtn. Stewardship</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.04

Provide adequate resources for planning & resource support during implementation of fire management strategies.

Reported Accomplishments:

<i>APS</i>	<i>APS has qualified planners and resources specialist including fire mitigation.</i>
<i>USFS</i>	<i>All AZ NFs utilize WFDSS as a decision support tool when developing fire management strategies for wildfires. This enhances resource specialist support during planning processes. The SW Region hosts 2 Type 1 IMTs, 3 Type 2 IMTs, and several Type 3 IMTs which consists of members of all federal agencies, AZ St employees, and Fire District employees. These IMTs, in addition to single resource assignments, provide an interagency resource support mechanism for all land managers to utilize during fire management activities. OTHER FOREST SPECIFIC ITEMS?</i>
<i>AZSF</i>	<i>Participation on and support of Regional IMTs at all levels</i>
<i>AZSF</i>	<i>Equipment Mobilization Plan to more effectively mobilize local government equipment</i>
<i>AZSF</i>	<i>Moving towards implementing WFDSS at the State Level</i>
<i>BLM</i>	<i>BLM Arizona utilizes local resource specialists as well as technology including WFDSS to identify and support fire management strategies. Agency fire managers work within their agency and with partners and cooperators to ensure fire readiness and support.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.05

Restore impaired ecosystems through mechanical treatments and use of fire to achieve desired effects and sustained natural fire regimes.

Reported Accomplishments:

<i>USFS</i>	<i>In 2015, the Record of Decision was signed for the first Phase of the 4 Forest Restoration Initiative (Coconino, Apache-Sitgreaves, Tonto, and Kaibab NF). This collaborative process has accomplished approximately 241,109 acres of restoration using mechanical treatments and fire since 2010 and has cleared upwards of 600,000 acres for additional treatments. Prescott NF- Bradshaw Vegetation Management Project signed in 2013 provides 47,500 acres to be restored with prescribed fire and mechanical treatments.</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 2 IP grants; 2011 - 1 IP grant (838ac treated); 2012 - 1 IP grant (15ac high priority riparian restored)</i>
<i>BLM</i>	<i>BLM continues to analyze and prioritize projects in accordance to Healthy Lands initiatives within the agency, working with multiple resource functional areas and incorporating those initiatives into partnerships. Fire, mechanical and herbicide treatments are utilized as appropriate to restore and/or minimally impact impaired ecosystems.</i>
<i>AZSF</i>	<i>approx 125 acres</i>
<i>APS</i>	<i>APS uses the practice of Integrated Vegetation Management to use mechanical removal as well as herbicide to achieve a natural fire regimes.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 2 Use appropriate application of fire to meet resource and community protection objectives

Planned Action: 3.1.2.01

Develop integrated planning efforts to achieve desired outcomes from fire, utilizing CWPP's, and fire and land management plans considering private landowner and community objectives.

Reported Accomplishments:

<i>APS</i>	<i>APS is working to educate the need for interface vegetation management. We partner and highlight the efforts of local state and community programs to create combustible free space.</i>
<i>AZSF</i>	<i>6 Community Wildfire Protection Plans (CWPP) have been completed since 2010 for a total of 27 CWPPs current across the state. Several more are in development and several are undergoing revision and update.</i>
<i>BLM</i>	<i>BLM has been very active in participating in the development and maintenance of CWPPs across Arizona and in 2014 performed a full revision of its statewide fire management plans to incorporate and better display partnerships and planning objectives with private/community stakeholders.</i>
<i>AZSF</i>	<i>Supported development of 6 Community Wildfire Protection Plans (CWPP) since 2010. 27 total</i>
<i>USFS</i>	<i>KNF has recently completed a new Land Management Plan. This was a collaborative process with all partners and stakeholders aimed at defining desired conditions and the goals and objectives of achieving those conditions. The Prescott NF Land and Resource Management Plan completed in June 2015 and will go into effect September of 2015. Completed numerous pre-season stakeholder meetings focused on fuels treatments, incident response, and interagency cooperation. Bradshaw Vegetation Management Project opened the way for 47,500 acres of fuels treatments much of which is in the greater Prescott basin wildland urban interface. COF- has published a Draft EIS that should lead to a Final EIS and corresponding Land Management Plan in 2016. We have two large CWPPs (Greater Flagstaff and Blue Ridge).</i>

Planned Action: 3.1.2.02

Utilize fire in fire adapted ecosystems, ensuring acceptable intensities, timing and duration of treatments.

Reported Accomplishments:

<i>BLM</i>	<i>BLM Arizona's Hazardous Fuels Reduction accomplishments utilizing Prescribed or Wildfire - FY2010: Fire-12,097acres ; FY2011: Fire-3,984acres ; FY2012: Fire-4,687acres ; FY2013: Fire-974acres ; FY2014: Fire-1,500acres</i>
<i>USFS</i>	<i>AZ NFs Hazardous Fuels Reduction accomplishments utilizing wildfire and prescribed fire- FY2010 Fire- 79,393 acres, FY2011 Fire- 102,197 acres, FY2012 Fire- 51,824 acres, FY2013 Fire - 43,192 acres, FY2014 Fire - 101,737 acres</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 2 Use appropriate application of fire to meet resource and community protection objectives

Planned Action: 3.1.2.03

Avoid management use of fire in areas where it will establish or encourage unwanted invasive species

Reported Accomplishments:

USFS The Coronado is in the process of wrapping up Land Management Plan revision. Direction will be provided that discourages the use of fire in non-fire adapted desert ecosystems, including those areas where buffelgrass exists.

BLM Land Management Plans as well as the recent revisions of Fire Management Plans have identified treatment strategies and areas where fire is detrimental to native species and/or would encourage unwanted invasive species.

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 3 Use best available science to define appropriate levels (acceptance) of fire for different ecosystems or vegetation types:

Planned Action: 3.1.3.01

Conduct research to define appropriate timing and acceptable fire intensities in various ecosystems.

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF staff sit on Executive Board of Southwest Fire Science Consortium</i>
<i>APS</i>	<i>APS crews and contractors are Certified Arborists as well as OPM herbicide applicators.</i>
<i>ERI</i>	<i>Various research publications completed</i>
<i>USFS</i>	<i>COF- The Ecological Restoration Institute has ongoing research (LEARN project) on the southern end of our forest. Fort Valley Experimental Forest has ongoing fire research, including fire return interval studies in Ponderosa Pine, at the southern base of the San Francisco Peaks. Long Valley Research Station has expressed interest in fire related work.</i>

Planned Action: 3.1.3.02

Conduct research to define requirements for post fire re-habilitation.

Reported Accomplishments:

<i>ERI</i>	<i>Various research publications completed</i>
<i>USFS</i>	<i>All wildfires over 500 acres receive a Burned Area Emergency Response (BAER) assessment to determine potential needs for rehab work to occur. Between 2010 and to date in 2015, 71 BAER assessments covering 1,203,166 acres have been completed across AZ NFs. COF has ongoing BAER work in the Slide Fire area.</i>

Planned Action: 3.1.3.03

Conduct research to Identify appropriate use of fire and other management actions in areas populated with invasive species.

Reported Accomplishments:

<i>APS</i>	<i>APS herbicide specialist have developed applications to assist.</i>
<i>ERI</i>	<i>Various research publications completed</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 3 Use best available science to define appropriate levels (acceptance) of fire for different ecosystems or vegetation types:

Planned Action: 3.1.3.04

Support Firescape and similar programs to Increase all lands fire management knowledge and expertise.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>USFS</i> | <i>Coronado NF - FireScape is a response to the need for landscape-scale fire and ecosystem management. FireScape is a framework for expanding safe, ecologically sound, large-scale fire management across multiple land ownerships in the mountains of southeastern Arizona. The FireScape leadership team includes representatives from the Forest Service, The Nature Conservancy, the University of Arizona (UA), Bureau of Land Management, National Park Service, and other southeastern Arizona land managers.</i> |
| <i>AZSF</i> | <i>AZSF staff provides direct input into presentation of research to fire managers</i> |
| <i>APS</i> | <i>Through APS Pole Clearing Program we will create about 300 Sqft of defensible space on each pole treated.</i> |
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Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.01

Encourage development and implementation of CWPP's or equivalent plans in areas at high risk of wildfire. (see SS 2.4.1 & SS 3.1.7)

Reported Accomplishments:

<i>BLM</i>	<i>BLM Arizona has provided funding and participated in the development and maintenance of CWPPs in Mohave, La Paz, Yuma, Maricopa, Yavapai, Gila, Graham, Greenlee, Pima, Pinal, Cochise and Santa Cruz counties.</i>
<i>AZSF</i>	<i>All plans developed are in some level of active implementation. AFD actively helps communities within these CWPPs to seek and secure grant funding</i>
<i>APS</i>	<i>Partnership with APS is possible in this area</i>
<i>USFS</i>	<i>KNF- City of Williams and Tusayan CWPPs in place, Kaibab Forest Health Focus (Collaborative project with partners and stakeholders to identify priority landscapes on KNF) Prescott NF - Yavapai Communities Wildfire Protection Plan, Prescott Basin Operations Plan Annex. Coronado NF - CWPPs in place for Cochise, Pima, Pinal, Graham and Greenlee Counties. Coronado NF and AZ State (A3S Staff) are working with Santa Cruz County staff to get funding and develop a County-wide CWPP for Santa Cruz County. COF- The Greater Flagstaff Forest Partnership has had ongoing Hazard Fuels Reduction projects since the late 1990s- work continues in areas west, south and east of the City of Flagstaff and several surrounding communities. The Blue Ridge Urban Interface project is ongoing around subdivision in the Happy Jack/Blue Ridge area. ASF-CWPP's in place for Navajo, Apache, Coconino & Greenlee counties. Currently involved in a collaborative effort with Navajo county on revising/updating there CWPP.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.02

Build leadership capacity and support dedicated personnel to sustain implementation of CWPPs and other community wildfire planning.

Reported Accomplishments:

<i>USFS</i>	<i>KNF-Actively engaged in Wildland Fire Advisory Council (which includes Fed, AZ ST, and VFD partners) COF- Ponderosa Fire Advisory Council (which includes Fed, AZ ST, and VFD partners)Prescott NF - Involved with the Prescott Area Wildland Urban Interface Commission, Prescott Basin Wildland Response Group, Verde Valley Chiefs Association, Western Yavapai Fire Chiefs Association, Central West Zone Coordinating Group, Central West Zone Fire Restrictions Group, Prescott Interagency Dispatch Center Operations Group. Hosted and participated in multiple pre-season decision maker and key stakeholder meetings focused around risk management, values at risk, and interagency agency response. Coronado NF - Southern AZ Buffelgrass Coordination Center developed the Southern AZ Buffelgrass Strategic Plan; Aimed at mitigating wildfire risks to life and property in areas where control is no longer feasible supporting the Pima County CWPP. The AZ Prescribed Fire Council is active in AZ working primarily on liability issues associated with private burning and multi-partner prescribed fire training opportunities in Northern Arizona. ASFis involved in White Mountain Restrictions coordination group, NE Arizona fire chiefs association, Regional Smoke coordination group & significant collaboration and interaction with AZ State Forestry.</i>
<i>BLM</i>	<i>Fire, Fuels and Mitigation/Education management specialists at the District and State level work with local and state emergency managers and fire departments.</i>
<i>AZSF</i>	<i>AZSF plays an active role in many fire advisory groups around the state. AZSF was instrumental in the creation of the Arizona Prescribed Fire Council and plays an active leadership role within the council. AZSF meets regularly with Fire Chief organizations around the state and actively coordinates with these organizations.</i>
<i>AZSF</i>	<i>All plans developed are in some level of active implementation. AFD actively helps communities within these CWPPs to seek and secure grant funding</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.03

Design and implement effective restoration and fuel treatment activities in the Wildland Urban Interface to meet community protection objectives.

Reported Accomplishments:

AZSF	<i>A web-based Arizona Wildfire Risk Assessment Portal (AZWrap) is in development. It will allow planners to identify those areas most at risk and look at the factors contributing to the risk. This will allow for more effective mitigation to reduce the associated risk. It will allow planners to prioritize treatments to those areas at the highest risk and tailor projects to mitigate the factors contributing to the risk.</i>
AZSF	<i>Most of the 6000 acres of Crew work 800 acres of Mechanical work and is within communities adjacent to Fed Land and coordinated with those agencies to tie in priority areas</i>
USFS	<i>WUI Fuels accomplishments- strategically placed fuels treatments designed to further defensibility of federal, state, and private lands and infrastructure. Of the above accomplishments, this includes treatments of 287,357 acres in WUI areas between 2010 and 2014</i>
BLM	<i>Fire, Fuels and Mitigation/Education management specialists at the District and State level work with local and state emergency managers, fire departments or other organizations to ensure complementary objectives are being met with the community and adjacent public land.</i>
AZSF	<i>Funded multiple Western Bark Beetle project grants: 2010 - 1 WBBi grant; 2011 - 1 WBBi grant; 2012 - 1 WBBi grant; 2013 - 1 WBBi grant; (all WBBi grants occurred in sensitive areas in and around neighborhoods, or up-wind from communities.)</i>

Planned Action: 3.2.1.04

Integrated and collaborative development of implementation plans (CWPPs, FMP's, etc) for an all-lands approach should be considered wherever appropriate. (see SS 2.3.1)

Reported Accomplishments:

APS	<i>APS is interested in possible partnership in this area.</i>
BLM	<i>Many areas identified as high priority and/or at high risk are being approached in a coordinated effort with multiple stakeholders. Many of those communities are recipients of funding from BLM's Communities at Risk Agreement/AZSF Hazardous Fuels Grant program.</i>
USFS	<i>Coronado NF - CWPPs in place for Cochise, Pima, Pinal, Graham and Greenlee Counties. Coronado NF and AZ State (A3S Staff) are working with Santa Cruz County staff to get funding and develop a County-wide CWPP for Santa Cruz County.</i>
AZSF	<i>All plans developed are in some level of active implementation. AFD crews are actively working on Federal lands under Federal agency direction on fuels treatment projects.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.05

Develop consistent fire hazard classifications for all developed and undeveloped lands using standard assessment methods. (see SS 2.2.1)

Reported Accomplishments:

BLM *BLM AZ Collaborates frequently with AZSF in local and state wide community assessment processes.*

AZSF *The state-wide assessment is complete and the web-based Arizona Wildfire Risk Assessment Portal (AZWrap) is in final development/testing stages.*

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 2 Design and implement effective smoke management strategies and protocols. (see AIR Strategy)

Planned Action: 3.2.2.01

(See AIR Strategy Actions)

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF is supporting development of an on-line smoke permitting system with Arizona Department of Environmental Quality to track smoke emissions from wildland prescribed burning. Development of associated training materials, user manuals, and public information material is ongoing.</i>
<i>AZSF</i>	<i>All AZSF burn bosses attend refresher classes every two years with emphasis on smoke management procedure and practices.</i>
<i>USFS</i>	<i>All AZ NF Fire/Fuels Managers participate in an annual Interagency Smoke Management Meeting with AZ ST and AZ Dept Of Environmental Quality officials. During peak Rx season, AZ NFs, in conjunction with other land management agencies, participate in smoke coordination conference calls to help inform others and reduce potential air shed conflicts. AZ NFs request approval to conduct prescribed fire operations. Implementation measures, acres, location and duration, are adjusted to comply with ADEQ approval. All USFS Prescribed Fire Burn Bosses are required to complete a refresher course every two years. In these refreshers, smoke management has always been an active discussion topic to ensure fire managers are current on policies.</i>
<i>AZSF</i>	<i>Through partnership with ADEQ there is a very active smoke management plan that promotes fire use in suppression and RX arenas</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 3 Develop additional fire adapted communities that meet Firewise standards and support increased local scale implementation.

Planned Action: 3.2.3.01

Support adoption of Wildland/Urban Interface development codes by Counties and communities. (see SS 2.2.2 & SS 2.2.3)

Reported Accomplishments:

<i>BLM</i>	<i>BLM AZ employees have provided advice and council to some of its adjacent communities/stakeholders looking to begin the development of codes.</i>
<i>APS</i>	<i>APS Pole Clearing is in compliance to the IFC and UWIC around electrical transmission and distribution.</i>

Planned Action: 3.2.3.02

Promote and implement Firewise USA Communities and Ready-Set-Go Programs to increase public awareness and encourage local level responsibility. (see SS 5.2.1)

Reported Accomplishments:

<i>APS</i>	<i>Our combustible Free Space Program for the distribution and transmission lines of APS increase and support the message of RSG and other PE.</i>
<i>AZSF</i>	<i>33 new Firewise communities have been established since 2010. Arizona now has 63 established Firewise communities with many existing communities processing requests to renew their status. Program presentations and training are ongoing throughout the state. Ready-Set-Go and other programs are included in the AZSF Prevention program and marketed in presentations across the state.</i>
<i>AZSF</i>	<i>33 FIREWISE Community USA since 2010, 63 since inception. The Ready, Set, Go! Program is a part of the AZSF prevention program.</i>
<i>USFS</i>	<i>KNF-Actively engaged in Wildland Fire Advisory Council (which includes Fed, AZ ST, and VFD partners) COF- Ponderosa Fire Advisory Council (which includes Fed, AZ ST, and VFD partners) Prescott NF - Active participation with the Prescott Area Wildland Urban Interface Commission (Fed, State, Local, public/private partners) and the Yavapai County Chiefs Associations. Participated in the annual Wildland Fire Expo. ASF actively participates with the NE Fire Chiefs Association including fire wise specific events.</i>
<i>BLM</i>	<i>BLM AZ works closely with AZSF and assists in the promotion of Firewise Education, community assessments and RSG program information. Each district has a Fire Mitigation/Education/Prevention Specialist that coordinates locally and a Mitigation/Education/Prevention Specialist at the State Level that work to ensure affected communities are being educated and informed.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 3 Develop additional fire adapted communities that meet Firewise standards and support increased local scale implementation.

Planned Action: 3.2.3.03

Provide GIS and WUI assessment training, equipment, and support to local communities to build local capacity.

Reported Accomplishments:

<i>USFS</i>	<i>Coronado NF and AZ State (A3S) have been cooperating in sponsoring FireWise Assessor and Advisor training courses and working with local community and HOA groups to train more community stakeholders.</i>
<i>BLM</i>	<i>BLM AZ works closely with AZSF and assists in providing Assessor/Advisor training to communities and with assessments.</i>
<i>APS</i>	<i>The information and data we gather in our programs is available to the communities and partners anytime to support the greater goal.</i>
<i>AZSF</i>	<i>FIREWISE assessor training classes provided with hundreds of people trained.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.01

Provide adequate fire preparedness and suppression funding to maintain firefighter and public safety and provide for private property and natural resource protection .

Reported Accomplishments:

<i>AZSF</i>	<i>Provided grant funding to rural Arizona fire departments to support purchase of personal protective gear, wildland fire fighting equipment, and wildland firefighter training. Over 150 grant awards for approximately \$840,000 provided utilizing US Forest Service funds over 5 year period.</i>
<i>AZSF</i>	<i>AZSF has received approval to spend Suppression funding for Preparedness. The funds allow AZSF to preposition resources and have resources available through the fire season. This allows for a quicker and more effective response on initial attack. Funded resources include Single Engine Air Tankers, a Department of Public Safety helicopter that is bucket equipped and qualified, and air attack platforms. Engines are staffed on an as needed basis and on high risk days. AZSF and local government provide many members to the Incident Management Teams hosted in this Region.</i>
<i>AZSF</i>	<i>Annual State Fire funding is \$3 million, \$1.4 is used for preparedness used in part to fund Seasonal/on-call aircraft to be on duty during the main fire season as appropriate. A state Incident Management Team (IMT) team was in place from 2010-2014.</i>
<i>BLM</i>	<i>In Fiscal Year 2015 BLM Arizona secured funding to create a new Interagency Hotshot crew stationed in Sierra Vista, Arizona. This crew will be operational in the spring of 2016.</i>
<i>USFS</i>	<i>AZ NFs are funded through appropriations to maintain a preparedness organization, which includes; prevention, detection, preparedness resources, aviation assists, Regional and National resources, and a workforce to support local, Regional, and National Incident Management Teams. Preparedness funding are to support organizations that respond to wildland fires, implement prescribed fire projects, and support all hazard response with the priority objective of protecting life, property, and natural resources.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.02

Collaborate with Federal, State, local and private partners to study and implement most efficient utilization of existing firefighting and fuel treatment resources.

Reported Accomplishments:

<i>USFS</i>	<i>The Southwest Coordination Center (SWCC) is the interagency focal point for coordinating the mobilization of resources between the twelve Federal and State Dispatch Centers of the SW Area and, when necessary, the National Coordination Center in Boise, ID. Located in Albuquerque, New Mexico, the SWCC mobilizes resources for wildland fire, prescribed fire, and other all-risk incidents. In addition, the Center provides Predictive Services and Intelligence related-products in support of incident management decision-making for wildland fire managers and on-the-ground wildland firefighters. KNF maintains several agreements with AZ ST Forestry for use of AZ ST resources to accomplish fuels treatments, including Prescribed Fire projects. This has given KNF an increase in resource capacity, as well as offered increased prescribed fire experience to those state resources. Prescott NF - Partnered and participated with the Prescott Basin Wildland Response Group, Verde Valley Chiefs Association, Western Yavapai Fire Chiefs Association, Central West Zone Coordinating Group, Prescott Interagency Dispatch Center Operation Group in on-going efforts to increase management efficiencies. Partnered with GCFD to provide wildland fire dispatching services to boundary fires. Coronado NF hosts the Tucson Interagency Dispatch Center (TDC), located at the Tucson Interagency Fire Center. TDC supports all 5 Federal land management agencies plus AZ State, including all municipal fire departments in the Southeast Arizona Zone. This Zone-wide center supports firefighters over 17.5 million acres of land in SE Arizona and by adhering to closest-forces practices, fire responses are timely, efficient and effective for all cooperating agencies.</i>
<i>AZSF</i>	<i>AZSF has agreements in place to allow for direct initial attack utilization of local resources by our federal partners. AZSF has entered into agreements to provide resources for prescribed fire projects. AZSF has developed and implemented the Statewide Equipment Mobilization plan to more effectively and efficiently dispatch equipment to extended attack and project fires in and out of state.</i>
<i>AZSF</i>	<i>Arizona Dispatch Center has been built into a highly effective center, and the addition of Arizona Department of Agriculture dispatch services has increased radio coverage.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.03

Build additional initial and extended attack fire suppression and fuel treatment capacity.

Reported Accomplishments:

<i>AZSF</i>	<i>Through agreement with local government, AZSF has access to over 400 pieces of suppression equipment. Statewide training is being offered to bring more wildland fire trained fire fighters online. Training assignments are emphasized to increase the operational capacity of local government departments and districts. State and local government members of the IMTs are used to provide training at the local level to improve the qualifications of local government. AZSF is a leading supporter of the Arizona Wildland Academy as a source for funding, instructors, and students.</i>
<i>USFS</i>	<i>AZ NFs participate in Type 1, Type 2, and Type 3 Incident Management Teams. The development and recruitment process for these teams supports all agencies in developing local, regional, and national capacity. In addition, the SW Region has developed and implemented a Priority Training program aimed and developing all levels of qualification to support IMTs. Prescott NF - Hosted multiple fire/fuels courses on the Forest and within the Central West Zone. Provided significant contribution to the AZ Wildfire Academy with coordination, instruction, and students. Participated in and helped coordinated the Prescott Basin Wildfire Operations drill and Verde Valley Wildland Fire drill. Hosted an interagency aviation drill with fed and local cooperators. In cooperation with the Yavapai Apache Nation, the Prescott NF sponsors a T2 Crew Program. Coronado NF is supporting a Type 3 IMT in the Southeast Arizona Zone which has managed 2 fires in the Zone this season and 1 in the Pacific Northwest.</i>
<i>BLM</i>	<i>Arizona through guidance from the Southwest Coordinating Group has increased its formal Incident Management Type 3 team numbers to 3 teams statewide.</i>
<i>AZSF</i>	<i>Approximately 400 units assigned total.</i>

Planned Action: 3.3.1.04

Develop more accurate statewide wildfire reporting/statistical cause database

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF is increasing its Wildland Fire Reporting (WFR), and is moving to implement a web Based WFR. AZSF is also working with local fire departments to capture the wildland fire reports within District to get a better picture of the fire occurrences in AZ</i>
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Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.05

Utilize new technologies in firefighting and dispatch systems to increase efficiencies.

Reported Accomplishments:

<i>USFS</i>	<i>Dispatch Centers such as the Tucson, Phoenix, Prescott, Flagstaff, and Kaibab Interagency Dispatch centers have recently implemented new organizational changes that incorporate interagency organizations and dispatching protocols. The ability to dispatch to a broader area has been supported by newer technology in communications infrastructure and is aimed at increasing efficiencies to all partners when providing dispatch support.</i>
<i>AZSF</i>	<i>AZSF has implemented Zimmergrams in conjunction with the large fire decision analysis, and is working to implement WFDSS</i>
<i>AZSF</i>	<i>AZSF is working to implement the Wildland Fire Decision Support System at the State level. AZSF is exploring technology for tracking individual resources on the fire ground.</i>
<i>BLM</i>	<i>BLM Arizona in cooperation with interagency partners has implemented IDOPP recommendations for dispatch consolidations in Tucson dispatch and Phoenix Dispatch. BLM Arizona was also instrumental in consolidating the Colorado River agencies into Prescott Dispatch.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 3 Enhance wildland fire management capacity in Arizona.

Objective: 2 Assure adequate Wildland and Prescribed Fire Training is provided to all necessary personnel.

Planned Action: 3.3.2.01

Develop and maintain statewide wildland training needs database.

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF has partnered with Prescott FD and the AWIMA to leverage the organizations resources to bring more training opportunities to more agencies. An assessment of needs has been done to further this cause.</i>
<i>USFS</i>	<i>Northern and Southeast Arizona Boards includes all federal and state agencies and collectively provide the SW Region with an annual training needs assessment. Central West Zone Training Coordinator maintains a training needs database for participating members at the fed, state, and local levels.</i>

Planned Action: 3.3.2.02

Develop NWCG qualified firefighting and prescribed burn personnel within the Arizona fire departments and various state and local agencies, through formal training and on-the-job task book completion.

Reported Accomplishments:

<i>USFS</i>	<i>KNF maintains several agreements with AZ ST Forestry for use of AZ ST resources to accomplish fuels treatments, including Prescribed Fire projects. This has given KNF an increase in resource capacity, as well as offered increased prescribed fire experience to those state resources while supporting approximately 15 fuels treatment projects. Prescott NF - Hosted multiple fire/fuels courses on the Forest and within the Central West Zone. Significant contribution to the AZ Wildfire Academy with coordination, instruction, and students. Participated and coordinated the Prescott Basin Operations Drill. Hosted an interagency aviation drill. In cooperation with the Yavapai Apache Nation, the Prescott NF sponsors a T2 Crew Program. Supplied numerous personnel to T1, T2, and T3 IMTs.</i>
<i>AZSF</i>	<i>The AZ Red Card committee has been developed to ensure qualification issuing is standardized and a policy has been implemented to certify all qualifications listed within it. Priority training lists are collected annually.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 3 Enhance wildland fire management capacity in Arizona.

Objective: 2 Assure adequate Wildland and Prescribed Fire Training is provided to all necessary personnel.

Planned Action: 3.3.2.03

Provide adequate financial support for wildland fire training opportunities within the State (Arizona Wildfire Academy, weekend workshops, community colleges)

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF has partnered with Prescott FD and the AWIMA to leverage the organizations resources to bring more training opportunities to more agencies</i>
<i>USFS</i>	<i>Many AZ NFs contribute personnel to support the AZ Wildfire Academy's IMT and/or participate as course instructors in order to provide the wildland fire training necessary to develop and support and interagency fire community. Southeast Arizona Board member agencies all provide financial support to the training program so that all Zone-sponsored training can be offered tuition-free. KNF has an multi-year agreement with Northern AZ University to train and recruit diverse applicants for fire management positions. This agreements utilizes National USFS funding to promote fire management skills from a diverse applicant pool at the university.</i>
<i>BLM</i>	<i>BLM has supported educational efforts via specialized funding such as Ready Reserve and more recently Local Cooperator assistance. Funds are used to provide training to local cooperators via BLM District/State fire specialists or through funding support of the Arizona Wildfire Academy.</i>
<i>AZSF</i>	<i>Provided grant funding to rural Arizona fire departments to support purchase of personal protective gear, wildland fire fighting equipment, and wildland firefighter training. Over 150 grant awards for approximately \$840,000 provided utilizing US Forest Service funds over 5 year period.</i>

Planned Action: 3.3.2.04

Develop processes and methodology for local firefighting agencies to gain OJT wildland experience to improve skills.

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF has Partnered with Prescott FD and the AWIMA to leverage the organizations resources to bring more training opportunities to more agencies. Priority training lists are collected annually. Trainees are routinely added.</i>
<i>USFS</i>	<i>AZ NFs participate in several endeavors aimed at building firefighting skills through OJT experience. Endeavors such as: AZ Wildfire Academy, Women if Wildland Fire Boot Camp, SW Engine Academy, and local fire preparedness reviews and Sand Table Exercises allow fire managers from all agencies to train as an interagency community.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 1 Develop and deliver Arizona specific educational information and tools to increase citizens and community awareness of wildland fire issues and preparedness.

Planned Action: 3.4.1.01

Collaboratively develop and maintain Arizona specific information, educational materials, and common messages about wildland fire to help residents of forest and other communities understand the risks inherent in living in fire-prone areas, and to educate developers and the community about steps that can be undertaken to reduce exposure to fire hazard and to improve forest health. (see SS 2.3.1 & SS 5.1.1)

Reported Accomplishments:

AZSF Use NWCG Curriculum. Created FIREWISE training specific to AZ. Continue to participate in FIREWISE, Ready Set Go!, One less Spark, One Less Wildfire.

APS is interested in possible partnership in this area.

USFS Implementation and Collaboration with Fed, State, Private, and Public partners of One Less Spark Program across AZ National Forests .Prescott NF - Hosted multiple key stakeholder meetings focused around risk management, fire response and awareness. Delivered numerous fire education programs to schools and community groups. Coronado NF and other Southeast Arizona Zone Board members are participating with the University of Arizona in an update of the Arizona-specific FireWise DVD series. They are also working with AZ State (A3S) staff in developing trailers to be used for FireWise education at fairs, schools, special events, etc. KNF has been active in providing information, site visits, and interviews to local media outlets to educate and inform the general public on fire management strategies, tactics, and program goals. Newspaper, radio, and online messages provide consistent message regarding fire management strategies.

BLM Arizona works with AZSF to maintain a website, multiple educational publications, and educational campaigns such as One Less Spark, RSG and Firewise.

ERI Establishment of the Arizona Prescribed fire Council (See Mission Statement)

AZSF Funded Urban/Community Forestry project grant: CCG 14-1102

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 1 Develop and deliver Arizona specific educational information and tools to increase citizens and community awareness of wildland fire issues and preparedness.

Planned Action: 3.4.1.02

Collaboratively develop and maintain programs and methodologies for delivery of information about wildland fire issues and activities. (see SS 2.3.1 & SS 5.1.1)

Reported Accomplishments:

<i>APS</i>	<i>APS is interested in possible partnership in this area.</i>
<i>AZSF</i>	<i>AZSF has implemented webinars for WUI grant applications to help grantees create better fuels management projects and better grant applications</i>
<i>USFS</i>	<i>Inciweb, Incident Information System, is a national online database used by AZ NFs to provide incident information to a wide audience. This system is used for both wildfires and prescribed fires. Prescott NF - Provided timely and accurate information through the Prescott Interagency Dispatch Website.</i>

Planned Action: 3.4.1.03

Use current technology to provide up to date educational information (social networking sites, websites etc).

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF uses the Defense Logistics Agency (DLA) and multiple private vendors to acquire gear and equipment.</i>
<i>BLM</i>	<i>BLM Arizona works with AZSF to maintain http://wildlandfire.az.gov as well as a Fire Restrictions website http://firerestrictions.us/az. They also maintain the twitter for @WildlandFireAZ to help amplify the wildfire education and messaging from Arizona's interagency partners.</i>
<i>USFS</i>	<i>Use of Twitter, Inciweb, and Facebook has allowed fire information to be shared with a broader audience. This has help to educate others as to fire management strategies and activities.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grant: CCG 14-1102</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 1 Develop and deliver Arizona specific educational information and tools to increase citizens and community awareness of wildland fire issues and preparedness.

Planned Action: 3.4.1.04

Collaboratively develop and maintain an organized cadre of trained individuals to provide educational opportunities to communities and the general public.

Reported Accomplishments:

AZSF	<i>More than 35 AZSF staff have been trained in Forest Health issues/concerns since 2010</i>
AZSF	<i>Continue to participate and look for growth opportunities in educational programs including, FIREWISE, Ready Set Go!, One less Spark, One Less Wildfire.</i>
USFS	<i>Use of Prevention/Education Teams across AZ NF's during peak fire season. Tonto NF-2015, Coconino NF-2015, Coronado 2015 Coronado National Forest added a Prevention Technician position to the SO staff to help develop the Forest-wide and Zone-wide Prevention programs. This position is serving as the lead for the OLS bi-lingual project and is taking the lead in working with Prevention Teams, etc.</i>
BLM	<i>BLM Arizona participates on the SWA Prevention and Information group which ensures that local needs for Fire Prevention and Education are being met across the SW Area and there is a strong Arizona interagency contingent that communicates regularly to request, provide or promote training and interagency outreach opportunities.</i>

Planned Action: 3.4.1.05

Identify adequate resources (fiscal and other) to support ongoing fire education materials and programs.

Reported Accomplishments:

USFS	<i>Implementation and Collaboration with Fed, State, and Public partners of One Less Spark Program across AZ National Forests. Coronado NF is taking the lead on development of Spanish-language One Less Spark materials with financial support from the Washington Office</i>
AZSF	<i>Utilized grants to promote the FIREWISE program</i>
AZSF	<i>Provided grant funding to rural Arizona fire departments to support purchase of personal protective gear, wildland fire fighting equipment, and wildland firefighter training. Over 150 grant awards for approximately \$840,000 provided utilizing US Forest Service funds over 5 year period.</i>
ERI	<i>Arizona Prescribed Fire Council (AZPFC) Website (Developed & maintained by ERI)</i>
BLM	<i>BLM has supported educational efforts via specialized funding such as Ready Reserve and more recently Local Cooperator assistance.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 2 Increase government leadership awareness of wildland fire preparedness and appropriate actions.

Planned Action: 3.4.2.01

Develop and maintain specific wildland fire materials for outreach to federal, state, county, and local government officials.

Reported Accomplishments:

<i>BLM</i>	<i>BLM has supported educational efforts via specialized funding such as Ready Reserve and more recently Local Cooperator assistance. Funds are used to provide training to local cooperators via BLM District/State fire specialists or through funding support of the Arizona Wildfire Academy.</i>
<i>AZSF</i>	<i>Continue to participate and look for growth opportunities in educational programs including, FIREWISE, Ready Set Go!, One less Spark, One Less Wildfire.</i>
<i>APS</i>	<i>APS is interested in possible partnership in this area.</i>
<i>USFS</i>	<i>Implementation and Collaboration with Fed, State, and Public partners of One Less Spark Program across AZ National Forests.</i>

Planned Action: 3.4.2.02

Develop and implement a plan to inform federal, state, county, and local officials on Arizona wildland fire preparedness and other fire issues.

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF continuously improves its effective internal organization to keep federal and state officials updated on fire management issues</i>
<i>BLM</i>	<i>Local Fire managers and specialist at the District level work with area Fire Chiefs and or Emergency Managers to collaborate on emergency response planning. State level specialists also meet with their state and regional Emergency Manager counterparts to ensure collaboration at all levels.</i>
<i>USFS</i>	<i>Coconino and Kaibab NF have worked with Coconino County officials to build a better understanding of Coconino/Kaibab NFDRS plan and restrictions process and have supported Coconino Co's development of a restriction implementation process. Coronado NF engaged other land managers in SE AZ and produce an Interagency NFDRS Plan to support fire management decisions across jurisdictional boundaries. Prescott NF - Hosted pre-season key stakeholder meetings. Coordinate and participate in zone fire restrictions and preparedness calls and meetings. Southeast Arizona Zone Board includes County OES representatives in Restrictions calls held regularly during the fire season. The Northern AZ, Central West, Southeast Zone Boards all participate on interagency fire restriction coordination calls to promote understanding and knowledge of every participating agency's process of entering fire restrictions. Coordination follows the SW Interagency Restriction Program and restriction levels are provided at an online website to allow ease of access for public users.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Fire (3)

Goal: 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 2 Increase government leadership awareness of wildland fire preparedness and appropriate actions.

Planned Action: 3.4.2.03

Provide adequate funding to support government leadership outreach materials and program maintenance.

Reported Accomplishments:

BLM Annual programs of work are developed to anticipate needs as determined locally. While in general the need outweighs the funding, projects and efforts are ongoing and occur annually.

AZSF AZSF continuously improves its effective internal organization to disburse and manage its many grants that are administered.

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.01

Work collaboratively to identify and develop restoration and fire management strategies for watersheds of critical importance across the state. (see SS 3.1.6)

Reported Accomplishments:

<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>SRP</i>	<i>SRP is working on a collaborative partnership (under an MOU signed on July 19, 2014) with the Town of Payson, National Forest Foundation, the Forest Service, and Bureau of Reclamation to restore a 64,000 acre project area surrounding the C.C. Cragin Reservoir. The reservoir has been identified as a High Priority Watershed under Western Watershed Enhancement Partnership, and is an invaluable resource to SRP and partners in resolving water use concerns. It is a densely over-stocked forested watershed, and the partnership is working under the Healthy Forest Restoration Act to move the project forward, to address the removal of hazardous fuels, prior to the restoration analysis under 4FRI.</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 1 IPG grant (20ac riparian treated); 2011 - 1 IPG grant (838ac treated); 2012 - 1 IPG grant (15ac high priority riparian treated); 2014 - 1 IPG grant (20ac riparian treated); Forest Health personnel have assisted in development of management plans in priority watersheds (Verde River, Sabina Creek)</i>
<i>US FWS</i>	<i>Coordinated with the U.S. Forest Service and City of Flagstaff to develop the Flagstaff Watershed Protection Project</i>
<i>Borderlands Restoration</i>	<i>On NFWF grant, worked at Babocomari Ranch, Audubon Research Ranch to study endangered bird habitat and bird numbers for improved grassland; built over 700 erosion control structures, provided training for Patagonia youth and Borderlands Restoration Crew; responded quickly and effectively to several wildfires on site to build structures before erosive monsoon rains compromised vulnerable grasslands; would like to use this effort to create Restoration Hotshot Crew that can be directed to such areas in coord with AZ State Forestry, USGS, USFS, private landowners and fire depts; have crews at work on multiple habitat improvement projects at all times, but ready to respond quickly because comm infrastructure is in place; approx 5,000acres treated with more in planning stages</i>
<i>Borderlands Restoration</i>	<i>Borderlands hired by Tree of Life private property to write Habitat Mgmt Plan for 200acre property bordering USFS lands outside Patagonia</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.01

Work collaboratively to identify and develop restoration and fire management strategies for watersheds of critical importance across the state. (see SS 3.1.6)

Reported Accomplishments:

- ADEQ** *ADEQ and multiple Watershed Groups developed Watershed Improvement Plans for multiple watersheds. These plans identify pollutant sources and recommend BMPs for improving water quality. These plans were developed for Oak Creek, Granite Creek, Upper San Pedro River, and San Francisco River.*
- USFS** *The Four Forest Restoration Initiative (4FRI) is a collaborative effort to restore forest ecosystems on portions of four National Forests - Coconino, Kaibab, Apache-Sitgreaves, and Tonto - along the Mogollon Rim in northern Arizona. Ponderosa pine forest stretches almost continuously from the south rim of the Grand Canyon, across the Mogollon Rim, to the White mountains in eastern Arizona. Unfortunately, these forests have been degraded by unsustainable historical land uses and fire exclusion. The result is overgrown forests with thin, unhealthy trees and the threat of unnaturally severe wildfire. The vision of 4FRI is restored forest ecosystems that support natural fire regimes, functioning populations of native plants and animals, and forests that pose little threat of destructive wildfire to thriving forest communities, as well as support sustainable forest industries that strengthen local economies while conserving natural resources and aesthetic values. Objectives include: Plan and implement restoration treatments across 2.4 million acres of ponderosa pine forest. Treat 50,000 acres per year during a 20-year period. Allow for increased use of prescribed fire and management of natural fires for restoration objectives. Engage industry so the cost of restoration is covered by the value of the products removed. Assure that the science-based and socially-acceptable agreements forged during the last decade result in the implementation of long-term, landscape-scale restoration. Surround and support communities and provide wildlife habitat, recreational resources and ecosystem services.*
The White Mountain Stewardship Contract implemented on the Apache-Sitgreaves was the first of its kind in the United States, and was developed to help reduce fire hazard and restore ecosystem function on a minimum of 50,000 acres of forested lands over the life of the contract. The contract ended in 2014, but accomplished about 5,000 to 8,000 acres of forest thinning per year, primarily in Wildland Urban Interface areas. It is considered by many to be responsible for reducing life and property loss for the communities of Greer, Alpine, Nutrioso and Eagar during the 2011 Wallow Fire, and helped to contain last year's San Juan fire. The Forest Service considers thinning of FRCC class II and III forest areas a Soil and Water Resource Accomplishment.
Additional examples include: The Aqua Fria Restoration Project partnering with Arizona Game and Fish and the Agua Fria Watershed Association on the Prescott NF; Collaborative work with Sky Islands Institute on the Coronado NF, APS decommissioning and removing a power plant aiding the restoration of Fossil Creek on Tonto and Coconino NFs, City of Phoenix working with the Tonto NF
- US FWS** *Coordinated with the U.S. Forest Service to develop the Four Forests Restoration Initiative (4FRI) Project*

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.01

Work collaboratively to identify and develop restoration and fire management strategies for watersheds of critical importance across the state. (see SS 3.1.6)

Reported Accomplishments:

<i>SRP</i>	<i>Through the Northern Arizona Forest Fund, SRP works with National Forest Foundation to implement forest and watershed improvement projects on National Forest Lands (in collaboration with the Forest Service) to protect the health and function of the Salt and Verde River Watersheds. See attached Year 1 Progress/Benefits. Through NAFF, we partner with philanthropic groups, businesses and municipalities to invest in priority watershed projects that improve water quality and reliability.</i>
<i>Upper Verde Coalition</i>	<i>The Coalition, along with the it's Watershed Task Force has created a watershed restoration plan for the Big Chino sub-basin and Prescott AMA groundwater basin area</i>
<i>ECO</i>	<i>Development by 4FRI Stakeholders Group, including ECO, of the Landscape Restoration Strategy for the First 4FRI Analysis Area, which prioritizes restoration of the watersheds.</i>
<i>ECO</i>	<i>ECO developed the Black River Project with federal, state and NGO partners to treat the entire 130,000 acres Black River watershed.</i>
<i>TNC</i>	<i>TNC is a Co-Chair and Steering Committee member of the Arizona Prescribed Fire Council</i>
<i>USFS</i>	<i>The Arizona National Forests have developed Watershed Restoration Action Plans for our Priority Watersheds. Many of these watersheds align with the Southwestern Region Strategic Plan for landscape scale restoration. There are currently 14 sub-watershed (6th Level HUC) plans in place with 3 completed; Barbershop Canyon (Coconino NF), Upper Spring Valley Wash (Kaibab NF) and Cherry Creek (Prescott NF). Copies of plans can be found on the WCF mapviewer website (see Links). Sub-watersheds average about 20,000 acres in size. All generally have some forested areas, many have significant forested areas. Essential projects (those needed to improve or maintain watershed condition) include; thinning dense forests (Fire Regime Condition Class II and III), riparian planting, road decommissioning and stabilization, channel shaping and bank or vertical grade stabilization, mine activity stabilization, and seeding, among others. WRAP essential projects are to be completed within a 5 year time period, however, partner and forest funding affect rate of completion.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.02

Collaboratively identify or develop best management guidelines (BMG) .

Reported Accomplishments:

<i>USFS</i>	<i>Arizona's Forests have been working with the ADEQ for over 20 years developing programmatic and site specific BMPs for land disturbing projects. The FS implemented a National BMP program in 2012 furthering that effort on a national scale. Forests have been developing/implementing site specific BMPs for projects for decades, especially as it relates to logging practices, prescribed burning and road construction/maintenance. Each Forest completed 6 implementation and effectiveness evaluations in 2013 and 2014 and must complete 6 in 2015 for many activities .</i>
<i>Borderlands Restoration</i>	<i>Through Walton Family Foundation grant, worked closely with Babo landowner, USGS, NRCS/Santa Cruz NRC, Audubon Research Ranch, Fort Huachuca, City of Sierra Vista, UA Coop Ext to install and monitor large and small erosion control structures--gabions and one-rock strucs--to slow water and increase water infiltration. Qualitative and quant data have been used to demonstrate best techniques and placement of strucs, and multiple field visits with community members to sites have provided educ and outreach. Approx 350 small and 25 large erosion strucs still being monitored for hydro and veg responses over time in order to make the case for future work at scale in region.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.01

Maintain or improve Soil Quality through use of best management practices: properly design, place, build and retire forest roads, use appropriate fire practices to remove duff and reestablish vegetative ground cover.

Reported Accomplishments:

<i>USFS</i>	<i>The Apache Sitgreaves NFs developed a Forest Road Maintenance BMP Guide in 2010</i>
<i>Borderlands Restoration</i>	<i>Through Walton Family Foundation grant, worked closely with Babo landowner, USGS, NRCS/Santa Cruz NRCD, Audubon Research Ranch, Fort Huachuca, City of Sierra Vista, UA Coop Ext to install and monitor large and small erosion control structures--gabions and one-rock strucs--to slow water and increase water infiltration. Qualitative and quant data have been used to demonstrate best techniques and placement of strucs, and multiple field visits with community members to sites have provided educ and outreach. Approx 350 small and 25 large erosion strucs still being monitored for hydro and veg responses over time in order to make the case for future work at scale in region.</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and "all lands, all hands" approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>TNC</i>	<i>TNC, Northern AZ University, and other partners quantified, modeled, and described the forest-water connection, for use by land managers (Robles MD, Marshall RM, O'Donnell F, Smith EB, Haney JA, et al. (2014) Effects of Climate Variability and Accelerated Forest Thinning on Watershed-Scale Runoff in Southwestern USA Ponderosa Pine Forests. PLoS ONE 9(10): e111092. doi:10.1371/journal.pone.0111092</i>
<i>TNC</i>	<i>TNC: conducts annual water monitoring at Hart Prairie Preserve and adjacent USFS land for water quantity assessments.</i>
<i>USFS</i>	<i>In accordance with our Memorandum of Understanding between the State of Arizona, Arizona Department of Environmental Quality and the Southwest Region of the Forest Service, the Forest Service shall "ensure that all project work schedules for project implementation contain site specific BMPs, developed through the LRMP implementation process.... and monitor BMPs on selected activities to ensure they are implemented and effective." (MOU 2013). Therefore, national and/or site specific BMPs are prescribed for every ground disturbing project. At a minimum, forests must complete 6 effectiveness evaluations a year. BMP implementation monitoring generally occurs on all harvest areas and roads associated with landscape restoration projects. The 4FRI EIS that was recently completed lists numerous national and local BMPs that mitigate and direct improvement to soil and water quality. Additionally forests are now monitoring and reporting Soil Disturbance. The ASNF has completed 6 evaluations in FY15.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.02

Maintain or improve Hydrologic Function and Watershed Health by designing forest thinning prescriptions to optimize snow pack accumulation and runoff and by managing understory vegetation through periodic burning.

Reported Accomplishments:

<i>Upper Verde Coalition</i>	<i>The Coalition has developed a paired watershed research plan to determine impacts to groundwater recharge due to forest thinning in juniper dominated areas. Several paired watersheds have been identified ranging from 100 to 300 acres.</i>
<i>Borderlands Restoration</i>	<i>Habitat Mgmt plan in place for major wildlife corridor outside Patagonia, recently secured by Borderlands partner org Wildlife Corridors LLC; will seek funding to build hydro models with USGS to reduce fire risk, improve habitat, improve large tree resiliency with erosion strucs that improve soil moisture and live fuel moisture levels; educate public and rekindle Firewise program in Patagonia community [exec dir has become firewise assessor through AZ State Forestry]</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>ECO</i>	<i>ECO staffs the position of Chair of the 4FRI Planning Workgroup, which works on the temporal and geographical prioritization of treatments in the watersheds among many other aspect of restoration planning</i>
<i>USFS</i>	<i>As depicted in the State of Arizona 5 year Forest Action Plan, reducing the basal area or canopy cover in Ponderosa Pine, Mixed Conifer Forest types can result in increased water production for up to 10 years. Across the state on FS lands, there has been approximately 98,300 acres of forest vegetation improvement primarily through forest thinning and harvest reported from FY 10 through FY15 so far as either accomplished or under contract that have contributed to improved watershed conditions. These treatments contribute to a large portion of the 313,679 acres of Soil and Water Resource Improvement reported from Arizona forests for all improvement activities, such as thinning, prescribed fire, noxious weed treatments, woodland and grassland restoration, road obliteration/closures and riparian/stream treatments.</i>
<i>AZSF</i>	<i>Funded 1 Invasive Plants Program project grant - 2010; Forest Health personnel have assisted in development of management plans in priority watersheds (Verde River, Sabino Creek)</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.02

Maintain or improve Hydrologic Function and Watershed Health by designing forest thinning prescriptions to optimize snow pack accumulation and runoff and by managing understory vegetation through periodic burning.

Reported Accomplishments:

<i>ADEQ</i>	<i>2014: ADEQ with ranchers on the San Pedro River near St. David to restore grasslands on 2669 acres through the use of herbicides to remove creosote and thornbrush. 2015 ADEQ with ranchers on the San Pedro River near St. David to restore grasslands on 3103 acres through the use of herbicides to remove creosote and thornbrush</i>
<i>SRP</i>	<i>SRP is designing and implementing long term studies and monitoring, working with Arizona's universities, to study the influence of restoration on the hydrologic function and watershed health of the salt and verde watersheds - including snowpack accumulation and runoff, aquifer recharge and evapotranspiration. Study results will help guide ongoing management prescriptions and decisions with respect to treatments, thinning, and prescribed fire, etc.</i>
<i>AZGF</i>	<i>Treated 49,364 acres of grassland to remove juniper and restore grassland suitability as pronghorn habitat. Projects were implemented 2013-2015.</i>
<i>TNC</i>	<i>TNC has a site fire plan for the 245 acres at Hart Prairie Preserve that includes understory vegetation management through periodic burning.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.03

Support State, Federal, and other programs that provide funding for treatment within watersheds; encourage additional funding to address watershed health.

Reported Accomplishments:

<i>SRP</i>	<i>Through the Northern Arizona Forest Fund, SRP works with National Forest Foundation to implement forest and watershed improvement projects on National Forest Lands (in collaboration with the Forest Service) to protect the health and function of the Salt and Verde River Watersheds. See attached Year 1 Progress/Benefits. Through NAFF, we partner with philanthropic groups, businesses and municipalities to invest in priority watershed projects that improve water quality and reliability.. Through private investment, we can accelerate watershed restoration treatments throughout the salt and Verde watersheds.</i>
<i>Borderlands Restoration</i>	<i>Plan to leverage the high levels of interest from orgs, agencies and Town of Patagonia to secure watershed health planning and action; completed large scale proposal with AZ State Forestry to assess Sonoita Creek watershed and get to work on it while creating job training opps and jobs on the ground in one of the most impoverished counties in the US; worked closely with AZ State Forestry/Nat Res Coord Committee in 2014-15 to direct \$250k in funds to Sentinel Landscape area around Fort Huachuca [also bordering Babocomari Ranch]</i>
<i>USFS</i>	<i>Watershed Restoration Plans (WRAPS) are developed using an "All Lands Approach". Collaboration and funding from partners play a large role in the completion of those projects that contribute to the improvement of priority watersheds. Within the completed WRAPS partners contribute funding or in kind work to support those projects. To see specific treatments and partners visit the Watershed Condition Mapviewer (see link), where the WRAPS can be viewed.</i>
<i>ECO</i>	<i>Outreach by ECO to Arizona US Senator Flake & McCain to fund out of the USFS Chief's fund the NEPA analyses required for the Bridge the Gap project that completed 86,000 acres of NEPA analysis in the White Mountains watersheds.</i>
<i>AZGF</i>	<i>Partner in 4FRI and many forest restoration initiatives.</i>
<i>ADEQ</i>	<i>In 2015, Arizona Department of Environmental Quality partnered with Arizona Game and Fish Department to provide over \$686,000 in funds to projects that will improve both water quality and wildlife habitat. These projects will take place on the Upper San Pedro River, Upper Santa Cruz River, Little Colorado River and Central Arizona near Granite Creek and Oak Creek.</i>
<i>US FWS</i>	<i>USFWS participates in the Coconino Plateau Water Advisory Council, a collaborative partnership focused on understanding the current and future water needs of the area and supporting activities that manage these resources within the watershed</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.03

Support State, Federal, and other programs that provide funding for treatment within watersheds; encourage additional funding to address watershed health.

Reported Accomplishments:

Joint Chiefs Partnership

The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.

Upper Verde Coalition

The Coalition, in partnership with the Arizona Game & Fish Department, has received a substantial grant from the USDA to conduct forest thinning. The Coalition's share of the grant should treat approximately 5,000 acres in the Big Chino sub-basin

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.04

Appropriately monitor activities within watersheds.

Reported Accomplishments:

<i>USFS</i>	<i>The Coconino NF is establishing with ERI flow monitoring on paired watersheds to determine effects of forest restoration treatments on water yield and timing as part of the Four Forest Restoration Initiative.</i>
<i>ECO</i>	<i>Development by 4FRI Stakeholders Group, including ECO, of the 4FRI monitoring plan Biophysical Monitoring for 4FRI Desired Conditions, adopted by USFS in 1st 4FRI EIS.</i>
<i>Borderlands Restoration</i>	<i>USGS and Borderlands taking the lead in continuing monitoring and incorporating citizen science in hydro, veg and erosion structure monitoring at all scales</i>
<i>AZSF</i>	<i>Funded Invasive Plants Program project grants: 2010 - 1 IPG grant; 2011 - 1 IPG grant (211 landowner agreements)</i>
<i>Upper Verde Coalition</i>	<i>The Coalition has developed a number of watershed monitoring plans and is currently waiting for funding from various granting agencies</i>
<i>TNC</i>	<i>TNC: conducts annual water monitoring at Hart Prairie Preserve and adjacent USFS land for water quantity assessments.</i>
<i>Upper Verde Coalition</i>	<i>The City of Prescott, Town of Prescott Valley and Salt River Project are currently investing ~\$5.5 million into hydrologic monitoring and groundwater modelling in the Big Chino sub-basin, currently installed several ephemeral stream flow gages, weather stations, conducting geophysical research and collecting water level data combined with micro-gravity</i>
<i>USFS</i>	<i>The Tonto and A-S NFs are deploying stream temperature monitoring networks to study effects of climate change and effects of management activities. The White Mountain Stewardship Monitoring Board is finalizing part 2 (2010 - 2014) of the White Mountain Stewardship Contract Monitoring effort. This report will be available this year. Within the report are results of BMP monitoring for water quality on the stewardship task orders.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 1 Improved water quality and quantity from forested watershed .

Objective: 3 Minimize negative impacts from wildfire in watersheds of concern.

Planned Action: 4.1.3.01

Develop and implement fire management strategies within watersheds of concern to minimize negative impacts

Reported Accomplishments:

<i>USFS</i>	<i>Private community, county, State and FS District burning and fuel treatment strategies have resulted in mitigating direct losses to life, property and forest resources, and resulted in fewer acres burned at high soil burn severity as seen in Wallow and more recent San Juan fires, as well as others across the State. Effects of high soil burn severity within watersheds has resulted in increased peak flows an estimated 2 to 10 times in magnitude resulting in flood damage and loss of life as well as soil erosion rate increases at up to 1000 times natural levels as found with studies on the RC fire and others.</i>
<i>US FWS</i>	<i>Completed Endangered Species Act (ESA) section 7 consultation for the Flagstaff Watershed Protection Project</i>
<i>TNC</i>	<i>TNC helped Ramsey Canyon homeowners develop FireWise program, obtained \$105,000 hazardous fuels grant to treat 165 acres.</i>
<i>US FWS</i>	<i>Completed Endangered Species Act (ESA) section 7 consultation for the Four Forests Restoration Initiative</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>TNC</i>	<i>Ramsey Canyon identified as high-risk area for Sierra Vista WUI, with high fuel loads. In 2013, TNC obtained funding from ASF to have Dept of Corrections work crew treat 40 acres in 2013, another 44 in 2014.</i>
<i>Borderlands Restoration</i>	<i>Begun to develop Firewise program for Patagonia community in coordination with Town, TNC, and Revitalist Botanicals to reduce ladder fuels and educate public about forest health and how people can have a hand in improving and stabilizing shared lands</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 1 Manage impacts of forest management activities within aquatic systems.

Planned Action: 4.2.1.01

Utilize best management practices and guidelines within aquatic systems.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Urban/Community Forestry grant: 2014 - 1 CCG grant; Funded multiple Invasive Plant Program project grants: 2010 - 2 IPG grants; 2011 - 1 IPG grant; 2012 - 1 IPG grant; 2014 - 1 IPG grant</i>
<i>Borderlands Restoration</i>	<i>Extensive pond and spring work in Babocomari projects described above, with Sky Island Alliance; spring fencing/protection</i>
<i>USFS</i>	<i>BMP development and establishment are designed and implemented to comply with non-point section of the Clean Water Act. BMPs, soil and water conservation practices and aquatic mitigations tied to direct stream monitoring were implemented in 2013 for Wallow-West Salvage. BMP and soil condition monitoring showed that logging was accomplished within established guidelines.</i>
<i>SRP</i>	<i>SRP is designing and implementing long term studies and monitoring, working with Arizona's universities, to study the influence of restoration on the hydrologic function and watershed health of the salt and Verde watersheds - including snowpack accumulation and runoff, aquifer recharge and evapotranspiration. Study results will help guide ongoing management prescriptions and decisions with respect to treatments, thinning, and prescribed fire, etc. One means of studying the response of aquatic systems to restoration is through a newly developed technology called 'Flowtopography'</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and "all lands, all hands" approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>ADEQ</i>	<i>2010: ADEQ Funded the capping of a 10 acre copper mine to reduce copper inputs to Pinto Creek. 2011 ADEQ Funded the Installation of a restroom facility at a high recreation area north of the town of Clifton near the San Francisco River. ADEQ funded the installation of 6,000' of piping along the Big Ditch Irrigation Canal to reduce sediment in the Little Colorado River. 2013 ADEQ funded a second restroom facility at a high recreation area north of the town of Clifton along the San Francisco River. 2014 ADEQ funded project to install green infrastructures within a residential area that drains to Oak Creek. Projects reduce sediment and E. coli to Oak Creek</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.01

Coordinate implementation of management plans to insure protection of aquatic systems.

Reported Accomplishments:

<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>Borderlands Restoration</i>	<i>Borderlands seeking to be major connecting node in region among agencies, private landowners, organizations in order to improve efficiencies and effectiveness</i>
<i>USFS</i>	<i>Arizona Game and Fish, as well as many conservation groups are involved at all levels of project planning, as well as a source for funding and labor. Highlights of riparian improvement, Coconino accomplished 500 acres of riparian meadow improvement and road obliteration in FY13 within the Barbershop Canyon Watershed and in Buck Springs, Allen Creek and Fossil Creek. The Kaibab NF has improved 766 acres of riparian areas through livestock exclosures, plantings and spring improvements. The Tonto reports 200 acres of headcut control, large wood placement and silt removal. The Coronado NF reports 137 acres of spring development/enhancement and riparian plantings. The Apache-Sitgreaves has been mitigating effects of the Wallow fire by improving and maintaining stream crossings and bridge approaches.</i>
<i>US FWS</i>	<i>We work closely with the U.S. Forest Service, Bureau of Land Management, National Park Service, and other agencies throughout the state on development and implementation of land management plans and individual projects to aid in recovery of threatened and endangered species and their habitats including those dependent on riparian and aquatic systems.</i>
<i>Upper Verde Coalition</i>	<i>Water Resource Management Laws and Plans include the 1980 Groundwater Management Act, the Fourth Management Plan for the Prescott AMA, and various hydrologic studies such as modelling report #25 - these laws, plans and science restrict water use and help protect the Upper Verde River.</i>
<i>TNC</i>	<i>TNC coordinated with USFS on the implementation of a 70 acre meadow restoration stewardship contract at Hart Prairie that was designed to restore hydrologic flows to the downslope seeps, springs and wetlands</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.02

Use Best Management Practices for the location, construction, operation and maintenance of transportation systems within aquatic systems.

Reported Accomplishments:

<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grant: 2014 - 1 CCG grant</i>
<i>TNC</i>	<i>TNC coordinated with USFS on the implementation of a 70 acre meadow restoration stewardship contract at Hart Prairie that included road improvements designed to restore hydrologic flows to the downslope seeps, springs and wetlands</i>
<i>USFS</i>	<i>Roads are considered one of the greatest sources for sediment to aquatic systems (many Citations). Projects on all National forests in the Region with in Forest ecosystems design and implement BMPs and aquatic mitigation for all ground disturbing projects, such as timber sales and road reconstruction, maintenance, relocation and decommissioning/obliteration projects.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.03

Encourage and protect existing native vegetation and supplement with native vegetation plantings where appropriate.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 2 IPG grants; 2011 - 1 IPG grant (838ac riparian treated); 2012 - 1 IPG grant (15ac high priority riparian treated); 2014 - 1 IPG grant (20ac riparian treated)</i>
<i>US FWS</i>	<i>Our Partners for Fish and Wildlife Program has provided funding to support numerous projects that assist with control of non-native vegetation and support restoration of native riparian communities</i>
<i>USFS</i>	<i>The forests completed a limited amount of planting, but treated invasive riparian species, such as tamarisk on the Blue River, and other locations.</i>
<i>TNC</i>	<i>TNC coordinates with USFS on protection activities within the Bebb willow community at Hart Prairie. Examples include invasive weed management, Bebb willow plantings, and fencing around strategic seeps, springs and bebb willow sites.</i>
<i>Borderlands Restoration</i>	<i>Borderlands seeking to be major connecting node in region among agencies, private landowners, organizations in order to improve efficiencies and effectiveness</i>

Planned Action: 4.2.2.04

Use Best Management Practices for the location, construction, operation and maintenance of water improvements within aquatic systems.

Reported Accomplishments:

<i>USFS</i>	<i>Forests developed and implemented BMPs and mitigations for fish barrier design and construction, ditch diversion design, road construction and maintenance, and stock tank cleaning/reconstruction projects. Some of these have been monitored using the new national BMP protocols</i>
<i>AZGF</i>	<i>AGFD maintains numerous wildlife water catchments of various designs throughout the state. All are designed and constructed using BMPs.</i>
<i>AZSF</i>	<i>Funded Invasive Plants Program project grant: 2014 - 1 CCG grant</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.05

Restore natural spring discharge by removing outdated improvements where possible.

Reported Accomplishments:

USFS A landmark project working with APS to remove an obsolete hydroelectric plant and diversions resulted in returning free flow to Fossil Creek on Tonto and Coconino NFs that was completed in 2005 has been recently returned to wild and scenic status. Riparian and spring improvements continue within the creek. A large culvert under an old railroad fill across the West Fork of the Little Colorado was removed and grade restored in 2010 and 2 aquatic organism passages (AOPs) have replaced round culverts with open bottom culverts on Apache trout streams on the ASNF.

Planned Action: 4.2.2.06

Coordinate with agencies and lessees that manage water improvement projects.

Reported Accomplishments:

Borderlands Restoration Private land, ngo and agency coordination across Babo ranch, wildlife corridor, and in Patagonia on pond creation work

AZSF Western Bark Beetle Program: 605ac treated in/around Flagstaff, Prescott and Greer in the Verde and Little Colorado (HUC-6) Watersheds

USFS Active within the Little Colorado, Eagle Creek, Upper Gila Watershed Groups. Tonto meets with SRP and BOR annually to discuss issues of common interest benefitting water delivery/quality.

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 1 Collaboratively develop information and education materials on watershed and riparian issues.

Planned Action: 4.3.1.01

Develop education materials such as brochures and public service announcements about watershed and riparian issues.

Reported Accomplishments:

<i>SRP</i>	<i>SRP has developed numerous paper, video and web outreach materials to help connect Valley residents, businesses, and stakeholders about the connection and importance of upstream forest health to watershed function, water quality and water reliability. SRP also partnered to help develop curriculum (K-12) as part of the Yellow Belly Ponderosa Program.</i>
<i>Borderlands Restoration</i>	<i>Regular public presentations in community, articles in local papers, public outreach events and training for community members to lend a hand and start own businesses</i>
<i>ADEQ</i>	<i>Prescott Creeks through a grant with ADEQ has developed a Creek Care Guide and Manure Management Guide to inform the public on ways they can improve water quality. A watershed guide was also developed for the San Francisco River Watershed by the Gila Watershed Partnership</i>
<i>TNC</i>	<i>TNC leads an AmeriCorps program to use 2-4 interns per year to outreach Project WET water outreach; outreach focused on urban, rural, and minority groups as well as general public. Hart Prairie Preserve leads guided nature walks that discuss watershed health to an estimated 1000 people annually.</i>
<i>AZSF</i>	<i>Distributed Urban Tree Talk Newsletter Q1 and Q3, 2013; Fund Urban/Community Forestry project grant: 2012 - 1 CCG grant</i>
<i>ECO</i>	<i>In addition to presenting its annual Report to many AZ Legislators, ECO organized a 2015 field trip for AZ Legislators and created and distributed widely a forestry and watersheds restoration brochure discussing the field trip.</i>
<i>USFS</i>	<i>Forests work with the Natural Resources Working Group tied to the 4FRI initiative which monitors restoration treatments and provides collaboration and public education on restoration goals, objectives and opportunities, including watershed condition and water yield.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 1 Collaboratively develop information and education materials on watershed and riparian issues.

Planned Action: 4.3.1.02

Collaboratively develop common watershed and riparian messaging for use by all agencies.

Reported Accomplishments:

Borderlands Restoration *Wrote erosion control structure guidelines for USFS*

USFS *Ecological Restoration Institute is co-funded by the Forest Service and NAU to act as a conduit for restoration information exchange between agencies, governments and the public.*

US FWS *The Service was a co-author on the Bureau of Land Management Technical Reference "Riparian Management: Proper Functioning Condition Assessment for Lotic Areas". This assessment process is used by federal land managers in the western United States.*

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 2 Collaboratively develop and implement outreach and education programs on watershed and riparian issues.

Planned Action: 4.3.2.01

Develop outreach programs to communicate with community groups and leaders, schools, and the general public.

Reported Accomplishments:

<i>USFS</i>	<i>Participated in Kids in the Woods program for school aged children teaching aspects of forest management activities. Currently hosting Tribal Youth Council summer program to educate kids from local native American tribes on aquatic management (fish, riparian) and upland range and watershed condition. Youth Conservation Corp is active on many forests. Information is shared with state, county and local governments as well as NGOs many times throughout each year.</i>
<i>SRP</i>	<i>SRP Hosts an annual Healthy Forests and Vibrant Economy Conference, meant to connect business, elected officials, cities, counties, agencies, universities and non-profits around the issue of watershed and forest health. In addition, SRP hosts education workshops in which forest restoration is integrated as part of the lessons</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 1 CCG grant; 2013 - 1 CCG grant</i>
<i>Borderlands Restoration</i>	<i>Working with high school, TNC, Native Seeds and USFWS on small grants to create Living Watershed Laboratory for incorporation into high school Ag and science curricula</i>
<i>ADEQ</i>	<i>ADEQ has funded the Oak Creek Ambassadors program since 2013 to visit high recreation areas of Oak Creek to provide outreach to visitors and collect trash and waste. Ambassadors have collected over 6300 pounds of trash and 315 pounds of feces which reduces E. coli in Oak Creek.</i>

Planned Action: 4.3.2.02

Identify appropriate funding support to implement outreach and education programs.

Reported Accomplishments:

<i>Borderlands Restoration</i>	<i>USFWS, NRCS/NRCD on youth education; Windsong Peace and Leadership Center on environmental justice training; Deep Dirt Farm Institute provides demos to public in coord with BR</i>
<i>USFS</i>	<i>FS funding of Kids in the Woods, YCC and Tribal Youth with forest employee salary and volunteers.</i>
<i>Upper Verde Coalition</i>	<i>Will be working with the NRCS ED center for outreach and education programs relative to forest thinning or grassland restoration</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Water (4)

Goal: 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 3 Encourage Public involvement

Planned Action: 4.3.3.01

Develop and implement programs to engage non profit organizations in watershed and riparian cleanup and planting activities.

Reported Accomplishments:

<i>Borderlands Restoration</i>	<i>Working closely with Sky Island Alliance across southern AZ on planting thousands of plants at springs in coord with public volunteer events</i>
<i>SRP</i>	<i>NAFF partners with non-profit organizations to assist with the monitoring associated with implementation of annual restoration projects</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 1 CCG grant; 2013 - 1 CCG grant</i>
<i>USFS</i>	<i>Forests have developed relationships with many non-profit groups including the Tonto Recreation Alliance, Friends of the Tonto, Friends of the Coconino, Prescott Creeks. Resulted in many miles of hiking and ohv trail work, river cleanup and projects resulting in reducing sediment and pollutants to streams.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Air (5)

Goal: 1 Improved air quality.

Objective: 1 Enhance urban and community forests (See People & Forests Strategy)

Planned Action: 5.1.1.01
(See people and Forests Actions)

Reported Accomplishments:

- *See People and Forests Accomplishments*

Stakeholder Accomplishments - Arizona Collaborative Goals

Air (5)

Goal: 1 Improved air quality.

Objective: 2 Maintain or Improve health of existing forest lands (See Ecosystem Health Strategy)

Planned Action: 5.1.2.01

Coordinate large scale forest treatments.

Reported Accomplishments:

AZSF Participate as an active partner in the development and implementation of the following Landscape Scale Management Plans: 4FRI, White Mtn. Stewardship, Malpais Borderlands, Altar Valley

Stakeholder Accomplishments - Arizona Collaborative Goals

Air (5)

Goal: 1 Improved air quality.

Objective: 3 Improve coordination of smoke management related to wildland fire and forest restoration treatments. (Arizona Enhanced Smoke Management Program)

Planned Action: 5.1.3.01

Develop GIS map data of smoke sensitive airsheds and areas for use by land managers, fire mgt organizations, and the national Wildland Fire Decision Support System (WFDSS).

Reported Accomplishments:

- | | |
|-------------|---|
| <i>ADEQ</i> | <i>A GIS layer was created to show Arizona airsheds (i.e., Smoke Management Units). Federal and state land mangers (F/SLMs) have access to this information in the Arizona Smoke Management Database (AZSMD) along with additional overlays of Class 1 areas, PM-10 NAAs, and PM-2.5 NAAs with respect to an agency's location of Rx burn projects.</i> |
| <i>AZSF</i> | <i>Map generated and available on ADEQ website which shows airsheds, non-attainment areas, class 1 airsheds and other relative information</i> |

Planned Action: 5.1.3.02

Develop improved Smoke Management Program monitoring capabilities including the use of technology such as particulate monitors and real-time cameras.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>AZSF</i> | <i>Monitoring network currently deployed for PM 10 and 2.5. Working with grant providers to secure funding for additional monitors to expand network or replace aging units.</i> |
| <i>ADEQ</i> | <i>Since the 2011 Wallow Fire, ADEQ E-BAM network was changed from measuring PM-10 to PM-2.5 concentrations to be more representative of estimating smoke impacts, stemming from both prescribed burn and wildfire activity. Although, a semi-permanent portable particulate monitoring network has been established in Arizona, ADEQ has additional E-BAMs available for air quality emergency response related to smoke. Near-real time continuous PM-2.5 data (i.e., hourly and 24-hour concentrations) are available to government and public parties via website. Additional monitoring sites can be quickly listed and viewed on the designated webpage through a contract with ARS.</i> |

Planned Action: 5.1.3.03

Develop and utilize improved fuel modeling to better predict fire behavior and inform emission calculations.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>AZSF</i> | <i>Using Landfire and Scott/Burgan fuel models to more accurately predict fire behavior and consumption as it relates to smoke production</i> |
|-------------|---|

Stakeholder Accomplishments - Arizona Collaborative Goals

Air (5)

Goal: 1 Improved air quality.

Objective: 3 Improve coordination of smoke management related to wildland fire and forest restoration treatments. (Arizona Enhanced Smoke Management Program)

Planned Action: 5.1.3.04

Support the Arizona Interagency Coordination Group in improving communication and coordination between land management agencies in regards to air quality issues.

Reported Accomplishments:

AZSF AZSF has been and continues to be an active partner in Arizona Interagency Coordinating Group (AICG) and the Interagency Smoke Management Program.

Planned Action: 5.1.3.05

Assist ADEQ and other partners in reviewing and updating smoke management program as needed.

Reported Accomplishments:

ADEQ Through a grant received from Arizona State Forestry, ADEQ is currently working with Air Sciences Inc. to develop and implement a more streamlined online approval process for F/SLMs that will become the Arizona Smoke Management Database (AZSMD). The online database serves to digitize data contained on the four required forms of the Enhanced Arizona Smoke Management Program (EASMP): Annual Registration, Burn Plan, Daily Burn Request, and Daily Burn Accomplishment. Each F/SLM has a unique login giving the ability enter and edit their agency's prescribed burn projects and make daily burn requests remotely from ADEQ approved and registered burn plans.

AZSF AZSF is an active partner in the formation and management of the Arizona Prescribed Fire Council

Planned Action: 5.1.3.06

Improve smoke monitoring processes, communication, and coordination on resource management activities including wildland and resource benefit fires .

Reported Accomplishments:

ADEQ ADEQ and the Interagency Smoke Program host weekly smoke coordination calls among F/SLMs during the prescribed burn season (if appropriate). Additionally, a pre-wildfire season call is hosted to provide information concerning availability and capabilities of smoke monitoring in Arizona to emergency personnel (local, county, and state) that could be involved with an emergency wildfire smoke response.

Stakeholder Accomplishments - Arizona Collaborative Goals

Air (5)

Goal: 1 Improved air quality.

Objective: 3 Improve coordination of smoke management related to wildland fire and forest restoration treatments. (Arizona Enhanced Smoke Management Program)

Planned Action: 5.1.3.07

Continue to improve smoke management database and technologies.

Reported Accomplishments:

ADEQ Coordination with Air Sciences Inc. (developers of the AZSMD) is ongoing to make the database more efficient and possesses the minimum requirements set forth in the EAZSMP. Examples of improved efficiency are 1) making the database accessible via website, and therefore mobile friendly, and 2) the addition of a Google Maps interface with GIS overlays displaying Arizona's Class 1 areas and PM nonattainment areas in relation to point location for anticipated burn projects.

Planned Action: 5.1.3.08

Seek various funding, information, training, and technology alternatives to assist agencies in addressing urgent smoke impacts.

Reported Accomplishments:

ADEQ and the Interagency Smoke Program have a cache of E-BAM monitors available on request to address smoke impacts. Monitoring data would become posted in near-real time on the designated website.

AZSF Providing funding for training, reference materials and manuals for new smoke database

Stakeholder Accomplishments - Arizona Collaborative Goals

Air (5)

Goal: 1 Improved air quality.

Objective: 4 Reduce negative impacts of forest treatments on air quality.

Planned Action: 5.1.4.01

Pursue strategies to utilize wood fiber, where practical, prior to burning on site. (See FIRE Strategy)

Reported Accomplishments:

- [See Fire Accomplishments](#)

Planned Action: 5.1.4.02

Work with interagency partners to design and implement reintroduction of fire adjacent to communities (to manage intensity, duration and timing of smoke emissions from fire management activities.)

Reported Accomplishments:

AZSF [Working to include local government agencies in smoke management reporting database with inclusion of smoke management requirements in Rx plans.](#)

AZSF [Smoke reduction techniques and modeling are required inputs to all prescribed fire planning from state and federal agencies. 12 Rx plans approved with some implemented](#)

Planned Action: 5.1.4.03

Design fire management and implementation activities to effectively manage the intensity and duration of smoke impacts.

Reported Accomplishments:

ADEQ [The Arizona Smoke Management Program \(AZSMP\) at ADEQ tracks Emission Reduction Techniques \(ERTs\), that are intended for F/SLMs to utilize \(if applicable\) to aid mitigation of potential PM-2.5 emissions from prescribed burns.](#)

AZSF [Using more effective modeling techniques to gauge smoke production and travel of particulates. Smoke reduction techniques and modeling are required inputs to all prescribed fire planning from state and federal agencies](#)

Planned Action: 5.1.4.04

Develop integrated planning efforts to achieve desired outcomes from fire, utilizing CWPP's, and fire and land management plans considering private landowner and community objectives.

Reported Accomplishments:

AZSF [Using Hazard viewer portal to identify planning areas supported by need, CWPPs, threat. Actively engaged in ongoing CWPP rewrites and original production.](#)

Stakeholder Accomplishments - Arizona Collaborative Goals

Air (5)

Goal: 2 Increased public understanding of the importance and effects of fire on Arizona's air quality.

Objective: 1 Enhance public outreach & education regarding fire management and air quality.

Planned Action: 5.2.1.01

Develop interagency educational materials for distribution on the benefits of prescribed fire and its role in the ecosystem and good management practices in regards to air quality.

Reported Accomplishments:

ADEQ Benefits of prescribed fire are discussed in ADEQ's "Fires Smoke and Your Health" brochure.

AZSF 2010 - WCG grant (Air Quality Project): completed urban tree assessments in Phoenix, El Paso, Albuquerque and Las Cruces that generated values for urban trees to particulate matter reduction and improved air quality; produced website, brochure (10K copies), 4 factsheets (1.25K copies/ea), 1 tree poster (5K copies) and pole banners (100 banners); provided ~15 presentations to community groups and at national conferences; will host 3 internal AZSF staff trainings in Oct2015

Planned Action: 5.2.1.02

Provide interagency public service announcements in regards to wildland and prescribed fire and their relationship to air quality issues.

Reported Accomplishments:

ADEQ ADEQ has created "Fires Smoke and Your Health," and Winter Wood Smoke in Northern Arizona" brochures. Additional helpful links concerning smoke are provided on the "Smoke Management" section of the ADEQ's website.

AZSF 2010 - WCG grant (Air Quality Project): completed urban tree assessments in Phoenix, El Paso, Albuquerque and Las Cruces that generated values for urban trees to particulate matter reduction and improved air quality; produced website, brochure (10K copies), 4 factsheets (1.25K copies/ea), 1 tree poster (5K copies) and pole banners (100 banners); provided ~15 presentations to community groups and at national conferences; will host 3 internal AZSF staff trainings in Oct2015

Planned Action: 5.2.1.03

Coordinate key messages with other cooperators and stakeholders to ensure timely and effective messages are provided.

Reported Accomplishments:

AZSF 2010 - WCG grant (Air Quality Project): completed urban tree assessments in Phoenix, El Paso, Albuquerque and Las Cruces that generated values for urban trees to particulate matter reduction and improved air quality; produced website, brochure (10K copies), 4 factsheets (1.25K copies/ea), 1 tree poster (5K copies) and pole banners (100 banners); provided ~15 presentations to community groups and at national conferences; will host 3 internal AZSF staff trainings in Oct2015

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.01

Continue to identify appropriate programs and policies that will encourage the development and perpetuation of forest products businesses, by coordinating with county and local governments, and state and federal agencies

Reported Accomplishments:

<i>TNC</i>	<i>The Nature Conservancy and Arizona State University developed an economic model to evaluate the scale of investment and types of business clusters needed to develop a sustainable forest products industry in northern AZ.</i>
<i>ECO</i>	<i>Development by ECO with the Apache-Sitgreaves NF of the "Bridge the Gap" project to implement post-White Mountains Stewardship Contract continuity of supply for the White Mountains industry.</i>
<i>ECO</i>	<i>Creation by ECO and other 4FRI stakeholders of the 4FRI Dashboard / Utilization / Implementation workgroup to provide industry expertise to the 4FRI stakeholders group during the implementation of the 1st EIS and planning of the 2nd EIS.</i>
<i>USFS</i>	<i>Continue to participate in the USDA Wood Innovations Assistance Program and other programs that provide financial and technical assistance forest products industry.</i>
<i>AZSF</i>	<i>Arizona Commerce Authority's Healthy Forest Enterprise Incentives Program</i>
<i>ADOT</i>	<i>ADOT 'Healthy Forest Initiative.'</i>
<i>ADOT</i>	<i>ADOT 'Healthy Forest Initiative'</i>

Planned Action: 6.1.1.02

Develop and maintain data about current and potential Arizona economic activity related to wood product industries.

Reported Accomplishments:

<i>AZSF</i>	<i>Continued updates to Arizona's Forest Products Directory. Online searchable database in development</i>
<i>ECO</i>	<i>Development by ECO of a wood supply chain analysis for the material needs of the White Mountains industry.</i>
<i>AZSF</i>	<i>Continued updates to Arizona's Forest Products Directory. Online searchable database in development.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.03

Convene a biomass working group to coordinate and lead a statewide approach to developing markets, infrastructure, and connecting treatment by-projects to markets.

Reported Accomplishments:

AZSF *Arizona Statewide Wood Energy Team*

ECO *Focus by ECO on the "biomass bottleneck" in 2015 Forest Health, Vibrant Economy Conference.*

AZSF *Arizona Statewide Wood Energy Team (USDA-FS Wood Innovations Program).*

Planned Action: 6.1.1.04

Fund staff capacity to assist rural communities convene, recruit and support forest products and bioenergy enterprises.

Reported Accomplishments:

AZSF *Five year Action Plan for the Arizona State Forestry Division includes supporting a Statewide Utilization & Marketing Specialist*

AZSF *Five year Action Plan for the Arizona State Forestry Division includes supporting a Statewide Utilization & Marketing Specialist and the Arizona Statewide Wood Energy Team. Include USDA staffing to support biomass programs (eg., BCAP) and contracting efforts.*

Planned Action: 6.1.1.05

Ensure that wood utilization opportunities and challenges are clearly identified in CWPPs and other local and regional planning efforts.

Reported Accomplishments:

USFS *Arizona Forest Action Plan (Utilization and Marketing) and Forest Plan Revision for the 5 National Forests in Arizona are considering this in the social and economic assessments during Forest Plan Revision.*

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.06

Encourage land management planning efforts that support a sustainable wood products industry.

Reported Accomplishments:

USFS In 2014, the Kaibab NF completed their Forest Plan Revision. Presently, the Apache/Sitgreaves, Coconino, Coronado, and Prescott NFs are in the process of revising their Forest Plans. The Tonto NF will be initiating this process in 2015.

ECO In addition to supporting 4FRI and energizing the Bridge the Gap project, ECO developed the Black River Project with federal, state and NGO partners to treat the entire 130,000 acres Black River watershed.

Planned Action: 6.1.1.07

Develop land-use policies and practices that support forest restoration, community protection, fire management efforts and ecosystem services.

Reported Accomplishments:

USFS See NF Plan Revision Process. Development of best available science paper: RMRS-GTR-310:

Planned Action: 6.1.1.08

Work collaboratively and strategically to design and place forest management treatments to help facilitate the development of a wood products industry.

Reported Accomplishments:

AZSF Examples include the 4-FRI stakeholder and White Mountain Natural Resource Group stewardship projects. CWPPs also provide collaborative opportunities for development of wood products industry.

AZSF Provided some guidance to the 4FRI Stakeholder Group

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.09

Maintain or increase funding to federal, tribal, and state land management agencies to furnish the capacity essential for collaboratively planning, implementing and monitoring restoration treatments that will support the development and continuance of a wood products industry.

Reported Accomplishments:

AZSF Arizona Statewide Wood Energy Team

AZSF Round Wood Guardrail Post Demonstration Project

ECO Outreach by ECO to Arizona US Senator Flake & McCain to fund out of the USFS Chief's fund the NEPA analyses required for the Bridge the Gap project.

AZSF USFS Wood Innovation Assistance Program: Arizona Statewide Wood Energy Team, Roundwood Guard Rail Assessment, and Good Earth Power - Composting Marketing/Manufacturing grant.

Planned Action: 6.1.1.10

Develop and support incentive programs that encourage the use of restoration-generated materials by businesses across the state. (see SS 4.2.4)

Reported Accomplishments:

AZ Commerce Authority Reauthorization and extension of the Arizona Commerce Authority's Healthy Forest Enterprise Incentives Program.

AZSF Reauthorization and extension of the Arizona Commerce Authority's Healthy Forest Enterprise Incentives Program

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.11

Explore federal contracting authorities, permitting policies and other support opportunities to attract and keep viable and appropriate fiber utilization industries that meet multi-level collaborative goals and plans.

Reported Accomplishments:

<i>AZSF</i>	<i>Two businesses in Arizona have become certified facilities under the USDA Biomass Crop Assistance Program (BCAP)</i>
<i>USDA FSA</i>	<i>Two businesses in Arizona have become approved conversion facilities under the USDA Biomass Crop Assistance Program (BCAP)</i>
<i>ECO</i>	<i>In addition to supporting the Stewardship Agreement authority in 4FRI, ECO is using the Stewardship Agreement authority to manage the Burro Stewardship project, and is exploring the use of the new Good Neighbor authority with AZSF and USFS for the Black River project.</i>
<i>USDA FSA</i>	<i>Four Eligible Material Owner hauled woody biomass to two approved conversion facilities under the BCAP.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 2 Federal, state, and local units of government should identify and enhance the use of small-diameter wood and biomass generated from forest treatments wherever possible.

Planned Action: 6.1.2.01

Federal, state, and local government entities should use forest restoration treatment-generated material whenever and wherever possible. This includes use of renewable energy sources in new buildings, retrofitting of existing heating systems, and use of treatment by-products for transportation applications such as guard rails, etc. (see SS 4.2.2, SS 4.2.3, SS 4.2.5)

Reported Accomplishments:

AZSF Explored options for working with Arizona Governor's Office of Energy Policy. Continued work with Arizona Statewide Wood Energy Team and Good Earth Energy - Composting forest biomass.

AZSF Arizona Statewide Wood Energy Team

AZSF Round Wood Guardrail Post Demonstration Project

AZSF Round Wood Guardrail Post Demonstration Project

Planned Action: 6.1.2.02

Data about use of forest restoration treatment-generated material by federal, state, and local governments should be reported, collated, and shared.

Reported Accomplishments:

AZSF Monthly updates on acres treated by the 4FRI Team Leaders to the 4FRI Stakeholders Group

USFS Monthly updates on acres treated by the 4FRI Team Leaders to the 4FRI Stakeholders Group. Periodic newsletter from Stewardship Contractor - Good Earth Power.

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 3 Expand and support the coordination of multi agency, collaborative, large landscape scale forest treatment projects that will be conducive to the development and support of a wood products industry.

Planned Action: 6.1.3.01

Land managers should work with stakeholders to clarify the amount, availability, and location of wood and biomass across the State.

Reported Accomplishments:

Western Forestry Leadership Co *Data collected and analyzed by the Western Forestry Leadership Council*

AZSF *Data collected and analyzed by the Western Forestry Leadership Council*

ECO *Development by ECO of a template for the creation by the Apache-Sitgreaves NF of a 5 Year Timber Sale Action Plan (TSAP) and the A/S semiannual Periodic Sales Announcement (PSA).*

Planned Action: 6.1.3.02

Identify and enhance opportunities for utilizing small-diameter wood and biomass generated from landscape scale forest treatments.

Reported Accomplishments:

AZSF *USFS Wood Innovation Assistance Program: Arizona Statewide Wood Energy Team, Roundwood Guard Rail Assessment, and Good Earth Power - Composting Marketing/Manufacturing grant.*

AZSF *Arizona Statewide Wood Energy Team*

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 3 Expand and support the coordination of multi agency, collaborative, large landscape scale forest treatment projects that will be conducive to the development and support of a wood products industry.

Planned Action: 6.1.3.03

Develop presentation materials and information to facilitate funding support for landscape-scale restoration work.

Reported Accomplishments:

<i>AZSF</i>	<i>Support and participation of AZSF personnel in SRP Forest Restoration Conferences</i>
<i>TNC</i>	<i>2010: Completed White Mountain Stewardship Project's Five Year Monitoring Report, which analyzed monitoring data on nation's largest-to-date forest restoration project. Report distributed to over 250 people and accessible online; included reaching AZ Governor, Congressional representatives and senators; media; USFS and USDA headquarters, city/county supervisors, hundreds of stakeholders, and academic institutions.</i>
<i>SRP</i>	<i>SRP Forest Restoration Conferences</i>
<i>AZSF</i>	<i>Support and participation of AZSF personnel in SRP Forest Restoration Conferences</i>
<i>AZSF</i>	<i>More than 5 RFPs released to provide financial assistance to landowners and communities for forest health remedies via Western Bark Beetle (WBB) grant program; 2010 - 2 WBB grants; (WBB grants were on private property, where landowners were interested in forest land improvement.)</i>
<i>ECO</i>	<i>In addition to presenting its annual Report to many AZ Legislators, ECO organized a 2015 field trip for AZ Legislators and created and distributed widely a forestry restoration brochure discussing the field trip.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 1 Develop and maintain land use change and ecosystem services data for Arizona

Planned Action: 6.2.1.01

Develop a cooperative multi-agency (natural resource) working group that can share data and prioritize opportunities to jointly focus program delivery to the highest priority landscapes.

Reported Accomplishments:

USFS In 2015 the Southwest Region - Forest Service hired a fulltime Ecosystem Services Coordinator to assist with new and ongoing collaborative work groups.

ECO ECO staffs the position of Chair of the White Mountains Natural Resources Working Group (NRWG) and provides executive and administrative support to the group.

Planned Action: 6.2.1.02

Collect, assess, and maintain data about land use changes across the state - utilizing GIS and/or other technologies.

Reported Accomplishments:

USFS At a coarse scale and on an annual basis, the Interior West Forest Inventory and Analysis (FIA) Unit of the Forest Service measures, assesses, and reports the extent, condition, and health of forested land in the Interior West, including Arizona.

Planned Action: 6.2.1.03

Collect, assess, and maintain data about realized and potential ecosystem services throughout Arizona - utilizing GIS and/or other technologies.

Reported Accomplishments:

USFS FIA is a good source for this information. The main website for FIA provides background and links to a variety of information.

AZSF Implementing WCG Urban Forest Resource Inventory (UFRI) Project; Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 5 CCG grants; 2013 - 1 CCG grant; 2012 - 1 CCG grant; 2011 - 1 CCG grant

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 2 Focus and prioritize programs into communities that will experience significant urban growth, to assist local leaders in devising effective ways to grow, develop, and protect their communities while also integrating important economic contributions made by forest ecosystems and natural areas to be impacted.

Planned Action: 6.2.2.01

Develop and maintain a natural resource assistance network. The network of local, state, federal, public, and private organizations will assist community leaders and landowners with the development and integration of valuable proactive management tools and technical support systems to manage growth and development to conserve, protect, and enhance important natural resources in advance of impending population growth and development.

Reported Accomplishments:

<i>ECO</i>	<i>ECO provides expertise and support for forest and watershed restoration issues to Apache, Cochise, Gila, Graham, Greenlee, and Navajo counties, as well as numerous AZ Legislators elected in these counties.</i>
<i>AZSF</i>	<i>Implementing WCG 14-501 (Diverse Urban Forests); Funded Urban/Community Forestry project grants: 2014 - 1 CCG grant; 2012 - 1 CCG grant</i>
<i>USFS</i>	<i>In 2015, the FS-Southwest Region hired a full-time coordinator to accelerate ecosystem services. Current natural resource networks include the White Mountain Stewardship and 4-FRI projects.</i>
<i>USFS</i>	<i>USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, and Forest Health programs.</i>

Planned Action: 6.2.2.02

Network with community leaders to promote, coordinate, and deliver information that will help community leaders, planners, and emergency response organizations address growth and the preservation of resource areas that are critical from an economic ecosystem services standpoint.

Reported Accomplishments:

<i>ECO</i>	<i>ECO provides updates and planning support for forest and watershed restoration issues to Apache, Cochise, Gila, Graham, Greenlee, and Navajo counties, as well as numerous AZ Legislators elected in these counties.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 5 CCG grants; 2013 - 1 CCG grant; 2012 - 2 CCG grants; 2011 - 2 CCG grants</i>
<i>USFS</i>	<i>Plan Revision for National Forests in Arizona will addressing. Annually, land management agencies will plan and implement Incident Command to mitigate risk of wildfire on all lands.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 2 Focus and prioritize programs into communities that will experience significant urban growth, to assist local leaders in devising effective ways to grow, develop, and protect their communities while also integrating important economic contributions made by forest ecosystems and natural areas to be impacted.

Planned Action: 6.2.2.03

Increase understanding of the economical value of recreational use of our forests.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 1 CCG grant; 2013 - 1 CCG grant; 2012 - 3 CCG grants; 2011 - 2 CCG grants; 2010 - 4 CCG grants</i>
<i>AZSF</i>	<i>Data collected and analyzed by the Headwaters Economics Group</i>
<i>USFS</i>	<i>Data collected and analyzed by the Headwaters Economics Group. Forest Plan Revision for the Apache/Sitgreaves, Coconino, Coronado, Kaibab, and Tonto National Forests are evaluating social/economic conditions.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 3 Prioritize / focus program delivery and agency resources into high priority landscapes where resource threats (wildfire, insect / diseases, land conversion) will most likely threaten / negatively impact critical forest landscapes across Arizona.

Planned Action: 6.2.3.01

Develop and maintain data on current and expected resource threats.

Reported Accomplishments:

USFS AZSF does monitoring with FS (aerial detection surveys and ground monitoring).

*AZSF Implemented WCG (UFRI Project);
Completed Aerial Detection Survey: 1M - 3M ac of forest surveyed annually (2010-2015)*

Planned Action: 6.2.3.02

Work collaboratively and strategically to design and place treatments in order to increase efficiency and maximize benefits on these priority landscapes.

Reported Accomplishments:

ECO staffs the position of Chair of the 4FRI Planning Workgroup, which works on the temporal and geographical prioritization of treatments among many other aspect of restoration planning

USFS CWPP's were designed specifically to meet this objective. Also, the Arizona Forest Action Plan and Forest Service - Forest Plan Revision are addressing this at a programmatic level.

*AZSF Funded Urban/Community Forestry project grants: 2014 - 7 CCG grants; 2013 - 4 CCG grants; 2012 - 2 CCG grants; 2011 - 5 CCG grants; 2010 - 1 CCG grant; 2010 - 1 WBBI grant; 2011 -1 WBBI grant; 2012 - 1 WBBI grant; 2013 - 1 WBBI grant;
(WBBI projects were implemented in sensitive areas in and around neighborhoods, or up-wind from communities.)*

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 4 Recognizing the diversity of federal, tribal, state and private landownership in Arizona, maintain and enhance the economic benefits and values of natural resources

Planned Action: 6.2.4.01

Support the development of other emerging voluntary markets including water, habitat and green tourism.

Reported Accomplishments:

USFS Work with the Arizona Office of Tourism to explore opportunities. There also may be programs available with Arizona RC&D.

AZSF Funded Urban/Community Forestry project grants: 2012 - 2 CCG grants; 2012 - 1 CCG grant; 2011 - 1 CCG grant

Planned Action: 6.2.4.02

Promote an understanding of the costs and benefits of all encompassing (watershed and other) property management to provide ecosystem services.

Reported Accomplishments:

AZSF Support and participation of AZSF personnel in SRP Forest Restoration Conferences

*AZSF Implemented WCG UFRI Project;
Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 5 CCG grants; 2013 - 1 CCG grant; 2012 - 1 CCG grant; 2011 - 1 CCG grant*

USFS Forest Plan Revision for the 5 National Forests in Arizona are considering this in the social and economic assessments during Forest Plan Revision.

Planned Action: 6.2.4.03

Encourage relevant ecosystem services capabilities expansion on private land.

Reported Accomplishments:

USFS In 2015 Forest Service hired a fulltime Ecosystem Services Coordinator who will work with the State of Arizona (agreement) and National Forests in AZ.

*AZSF Implementing WCG UFRI Project;
Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 5 CCG grants; 2013 - 1 CCG grant; 2012 - 1 CCG grant; 2011 - 1 CCG grant*

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 4 Recognizing the diversity of federal, tribal, state and private landownership in Arizona, maintain and enhance the economic benefits and values of natural resources

Planned Action: 6.2.4.04

Encourage landowners to use restoration management techniques that result in socially accepted desired future conditions.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grants: 2010 - 1 IPG grant;
Funded Invasive Plants Program project grants: 2011 - 1 IPG grant (211 landowners participating);
Western Bark Beetle Initiative (WBBI) projects - 605ac treated between 2010-2015

USFS USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, Forest Health, and Utilization and Marketing programs.

Planned Action: 6.2.4.05

Develop and maintain a natural resource assistance network. This network of local, state, public, and private organizations can assist community leaders and private land owners with the development and integration of valuable proactive management tools and technical support systems needed to address the economic benefits of "working" landscapes.

Reported Accomplishments:

USFS The SWERI are dedicated to developing relevant knowledge and delivering effective service to communities, stakeholders, and land managers. These groups identify information needs, inform effective methods of knowledge transfer, and, ultimately, report on the effectiveness of our work. According to a recent five-year evaluation of the Institutes' performance, "No other existing entity has the capacity or mandate to carry out landscape-scale forest restoration."

AZSF Implementing WCG 14-501 (Diverse Urban Forests)
Funded Urban/Community Forestry project grants:2014 - 1 CCG grant; 2012 - 1 CCG grant

Planned Action: 6.2.4.06

Implement research to identify and quantify current and long-term key drivers, barriers and opportunities, for the supply and demand sides of both the forest products and range industries in Arizona.

Reported Accomplishments:

USFS USFS Wood Innovation Assistance Program and SWERI. Continue with current projects and explore new opportunities.

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 1 Develop and maintain information about available programs, suitability of lands, and recommendations for greatest benefits and efficiencies.

Planned Action: 6.3.1.01

Continue to monitor stewardship, conservation and resource protection programs and activities, and collaboratively maintain information about priority areas and opportunities.

Reported Accomplishments:

USFS Both the White Mountain and 4-FRI stewardship projects have multi-party monitoring. SWERI also provides monitoring services.

*AZSF WCG UFRI Project (urban tree inventories to document community benefits; information is available on AZUTM website);
WCG Air Quality Project (iTree ECO completed for Phx; educational materials developed/disseminated; public outreach completed)*

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 2 Promote economic value of urban and community forests and provide capacity to develop sustainable leadership and programs.

Planned Action: 6.3.2.01

Encourage local and regional collaborative groups to coordinate activities in communities and watersheds at risk.

Reported Accomplishments:

<i>USFS</i>	<i>Support and participation of AZSF personnel in SRP Forest Restoration Conferences. Continue to use CWPPs a place to coordinate communities and watersheds at risk.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 3 CCG grants; 2013 - 2 CCG grants; 2011 - 3 CCG grants; 2010 - 1 CCG grant</i>
<i>AZSF</i>	<i>Support and participation of AZSF personnel in SRP Forest Restoration Conferences</i>

Planned Action: 6.3.2.02

Develop Arizona specific guides, tools and plans to assist local and community leaders plan for green infrastructure to increase energy efficiency, consumer patronage and commercial occupancy rates in Arizona's cities and towns.

Reported Accomplishments:

<i>AZSF</i>	<i>Implementing WCG 14-501 (Diverse Urban Forests); WCG UFRI Project; Funded Urban/Community Forestry project grants: 2014 - 6 CCG grants; 2013 - 3 CCG grants; 2012 - 2 CCG grants; 2011 - 5 CCG grants</i>
<i>USFS</i>	<i>The Growing a Healthier Community -The Desert Canopy Project, funded by the USDA-Forest Service Urban Forestry Program, is an example of this work.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 3 Provide comprehensive program leadership, for a variety of programs to address land management issues associated with the high priority landscapes.

Planned Action: 6.3.3.01

Develop a website which incorporates available GIS-based resource data, hazard maps, agency contacts and other pertinent resource management information into a centralized system designed to address land management issues in Arizona. The Initiative would include stewardship, forest health, and wildfire prevention (public awareness and hazard mitigation) guidelines as well as contact information for fire suppression, land management, and other natural resource agencies in the region.

Reported Accomplishments:

<i>AZSF</i>	<i>WCG UFRI Project; Continuously overhauling AZSF website (improving design, updating content, identifying and fixing bugs, and coordinating with content providers and program managers)</i>
<i>USFS</i>	<i>USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Stewardship and Legacy, Forest Health, and Utilization and Marketing programs.</i>

Planned Action: 6.3.3.02

Develop and distribute fire management, forest restoration, and wildlife habitat and conservation protection Training Modules to educate the public and landowners. These modules could include videos, presentation materials, and brochures on fire prevention, invasive native and non-native plants, and other forest health problems, stewardship, reforestation, wildlife management, ecosystem services, etc.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 5 CCG grants; 2013 - 3 CCG grants; 2012 - 2 CCG grants; 2011 - 2 CCG grants Funded Invasive Plants Program projects: 2010 - 1 IPG grant (Buffel Busters); IPG presentation at 2014 SWVMA Conf; USDA-FS "Invasive Plants and Weeds" book distributed to 10+ collaborators; >760 tech assists to landowners on ~2K acres conducted (2010-2015); annual forest health conditions reports (5); >35 forest health alerts (2010-2015); ~60 educational programs provided to communities on forest health and benefits of forest resources; ~80 presentations to municipalities have provided tech information about forest resource benefits and threats</i>
<i>USFS</i>	<i>State WUI conferences. Firewise and other relevant programs.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 3 Provide comprehensive program leadership, for a variety of programs to address land management issues associated with the high priority landscapes.

Planned Action: 6.3.3.03

Promote employment of professional staff to address local stewardship and resource protection needs in high priority communities and regions.

Reported Accomplishments:

USFS USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, Forest Health, and Utilization and Marketing programs.

AZSF Funded Urban/Community Forestry project grants: 2014 - 3 CCG grants; 2013 - 2 CCG grants; 2012 - 1 CCG grant; 2011 - 3 CCG grants; 2010 - 1 CCG grant

Planned Action: 6.3.3.04

Provide training sessions and public workshops (i.e., Resource Management Expos) with a variety of stakeholders to promote forest stewardship, forest health, and wildfire management.

Reported Accomplishments:

USFS Arizona and Forest Conservation Education Programs.

AZSF Funded Urban/Community Forestry project grants: 2014 - 9 CCG grants; 2013 -6 CCG grants; 2012 - 5 CCG grants; 2011 - 7 CCG grants; 2010 - 4 CCG grants
Funded Invasive Plants Program projects: 2010 - 2 IP grants (33 ppl trained; 1 workshop); 2011 - 1 IP grant (74 ppl trained); 2014 -1 IP grant (68 ppl trained; 3 workshops)
Also: ~60 educational programs provided to communities on forest health and benefits of forest resources;
~80 presentations to municipalities have provided tech information about forest resource benefits and threats
>35 AZSF forestry staff have been trained in forest health issues (2010-2015)

Stakeholder Accomplishments - Arizona Collaborative Goals

Economics (6)

Goal: 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 4 Recognize and promote the economic benefits of "avoided costs" on state and local budgets through enhancing ecosystem health and community and urban forests.

Planned Action: 6.3.4.01

Build sustainable urban and community forestry programs that are a part of the core infrastructure of a community - benefiting air quality, heating and cooling cost and improved water quality.

Reported Accomplishments:

USFS USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, Forest Health, and Utilization and Marketing programs.

AZSF Funded Urban/Community Forestry project grants: 2014 - 10 CCG grants; 2013 - 10 CCG grants; 2012 - 10 CCG grants; 2011 - 12 CCG grants; 2010 - 12 CCG grants
2011 - 2 TREE grants

Planned Action: 6.3.4.02

Promote personal and community investment in Fire Adapted communities resilient to wildfires.

Reported Accomplishments:

USFS Completion and implementation of CWPPs. Coordinate Firewise community programs.

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.01

Develop threats assessment information on current and expected effects of climate change to Arizona forests and other ecosystems . Place focus on potential negative impacts to ecosystem health, impacts to water quality and quantity, and changing wildland fire behavior.

Reported Accomplishments:

<i>LCC - USGS</i>	<i>Navajo Nation Climate Data Recovery, The Navajo Nation have been both sparse and sporadic during the past 100 years, and have been limited to daily data from a handful of National Weather Service Cooperative Observer sites. Climate science researchers have identified the area in and around the Navajo Nation as among the most climate-data poor in the region.</i>
<i>AZSF</i>	<i>WCG UFRI Project (related to urban forest health, insect/disease outbreaks); AZSF participation in Desert Landscape Conservation Cooperative.</i>
<i>USFS</i>	<i>In 2010, USFS R3 staff compiled a summary of climate change trends as relevant to forest planning, including information for NFs in Arizona as well as New Mexico (Periman et al. 2010).</i>
<i>USFS</i>	<i>An ecological vulnerability assessment has been conducted for all NF lands in Arizona, addressing the likelihood of climatic conditions shifting outside of the range currently tolerated by each of the ecosystems that we manage (Triepke et al.). A socio-economic climate change vulnerability assessment is underway (anticipated completion in Fall 2015), addressing the additive effects of ecosystem vulnerability (from the Triepke et al. work) and various other stressors (at their current levels), such as wildfire risk and insect damage to forests, at the NF and District level and again covering all NF lands in Arizona. Note that this analysis does not address impacts to water quality and quantity.</i>
<i>LCC - UA</i>	<i>Utility Guide to Rainwater/Stormwater Harvesting as an Adaptive Response to Climate Change Rainwater Harvesting and Stormwater Research to identify regulatory barriers, cost and benefits, water quality issues and avenues for increasing utilization of stormwater and rainwater at the regional, community and individual property level</i>
<i>USFS</i>	<i>A review of potential climate change effects on quaking aspen was conducted by the PSW Research Station for the western US, including Arizona.</i>
<i>USFS</i>	<i>RMRS scientists and University of Arizona scientists have produced a number of relevant analyses and reports focused especially on species vulnerability to climate change. Links are provided at right.</i>
<i>LCC - NAU</i>	<i>Predicting effects of Climate Change on Riparian Obligate Species of the Southwestern United States; A central scientific challenge is to generate quantitative predictions of how changes in water availability will affect the amount and quality of riparian wildlife habitat.</i>
<i>LCC - UA</i>	<i>Springs and Seeps Inventory, Assessment and Management Planning Project, Develop new information regarding the current biological and management status of springs and seeps in the Sky Island region of southeastern Arizona; Climate change adaptation workshops held to assess priority and management options.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.01

Develop threats assessment information on current and expected effects of climate change to Arizona forests and other ecosystems . Place focus on potential negative impacts to ecosystem health, impacts to water quality and quantity, and changing wildland fire behavior.

Reported Accomplishments:

<i>USFS</i>	<i>The Forest Service, Southwestern Region is a key partner in the Desert Landscape Conservation Cooperative (DLCC) of which there is a 'critical management question' working group that addressing the changes in fire regimes as a result of climate change. This project is primarily focused presently on riparian areas. The Desert LCC has also supported a number of projects focused on climate change impacts to suites of species, their habitats, water quality, wildfire dynamics, and more. See the Desert LCC website for more information.</i>
<i>Sky Island Alliance</i>	<i>Assessing Large-Scale Effects of Wildfire and Climate Change on Avian Communities and Habitats in the Sky Islands, Arizona, By re-measuring vegetation and bird populations following wildfires and applying climate change models, they will assess the singular and synergistic effects of climate change and wildfire and provide strategies for managing resilient forests and conserving the avian community structure.</i>
<i>USFS</i>	<i>An assessment of watershed vulnerability to climate change was conducted for the Coconino NF.</i>
<i>USFS</i>	<i>In 2012, RMRS scientists compiled a review and information needs assessment regarding climate change in grasslands, shrublands and deserts of the Interior American West (including Arizona). This report focuses on a variety of topics, including modeling approaches (with some predictions included), restoration and management, impacts to species groups (arthropods, plants and animals are each treated in separate chapters), disturbance regimes, and invasive species.</i>
<i>LCC - USGS</i>	<i>Fire and Water: Assessing Springs Ecosystems and Adapting Management to Respond to Climate Change, Science and conservation-based guidance to assist natural resource managers in responding to expected climate change and other stressors on springs ecosystems in sky island regions of the Desert LCC</i>
<i>USFS</i>	<i>We worked with scientists at the Integrated Landscape Assessment Project (Oregon State University and Portland State University) who conducted climate-informed vegetation modeling for the Apache-Sitgreaves NF to predict future ecosystem extents, wildfire extents, and vegetation structure using three climate models.</i>
<i>LCC - UA</i>	<i>Fire Effects and Management in Riparian Ecosystems of the Southwestern United States and Mexico, Southwestern riparian ecosystems are vulnerable to projected climate change toward hotter and drier conditions and increasing frequency and severity of wildfire which could have drastic and potentially irreversible effects on biota and ecosystem function in these critical areas.</i>
<i>USFS</i>	<i>The USDA Southwest Climate Hub has released a 'Southwest Region and California Vulnerability Assessment' that addresses (in broad terms) expected changes to forests and other ecosystems across the region, including Arizona. Changing wildland fire behavior and water quantity are also lightly addressed.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.01

Develop threats assessment information on current and expected effects of climate change to Arizona forests and other ecosystems . Place focus on potential negative impacts to ecosystem health, impacts to water quality and quantity, and changing wildland fire behavior.

Reported Accomplishments:

USFS

The FS (especially R2) is also a key partner in the Southern Rockies LCC, which also has supported a number of projects with climate change focus. Several of these are relevant, including assessments of soil and riparian habitat vulnerability, and projections of future water balance (and implications for dependent ecosystems).

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.02

Maintain up-to-date threat assessment and impact information.

Reported Accomplishments:

LCC - UA	<i>An Ecosystem Conservation Assessment for the lower San Pedro Watershed in Arizona, This study will achieve an ecosystem conservation assessment for the lower San Pedro (LSP) watershed. The assessment will include an evaluation of high-value biodiversity, hydro-ecological processes, protected areas, landscape connectivity, and climate change adaptation.</i>
LCC	<i>Grasslands Conservation Geospatial Data Compilation and Synthesis, Grasslands are among the most threatened ecosystems on the planet. The following information is needed: 1) The location, quantity, and quality of desert grasslands, 2) the regional risks associated with loss or degradation of grasslands, 3) the vulnerability of those grasslands and the species that depend on them to environmental and climate stressors...</i>
AZSF	<i>AZSF participation in Desert Landscape Conservation Cooperative</i>
LCC - NAU	<i>Publication and dissemination of information about "Genetics-based land management strategies for restoring landscapes threatened by climate change and invasive species on the Little Colorado River"</i>
LCC - Sonoran Joint Venture	<i>Developing tools for detecting climate change impacts on birds and their habitats in the desert southwest and northwest Mexico, This collaborative effort by the Sonoran Joint Venture, Desert Landscape Conservation Cooperative, and Point Reyes Bird Observatory will develop a foundation for monitoring environmental change in the desert southwest by identifying where and what to monitor in order to evaluate climate-change impacts.</i>
LCC - NAU	<i>Linking Forest Landscape Management and Climate Change to the Conservation of Riparian Habitat in the Grand Canyon, The project will study how forest treatment practices and climate change may impact water balance across the Kaibab Plateau and critical habitats in lower elevations of the Grand Canyon.</i>
USFS	<i>The threat assessments completed to date are still quite current, and no needs for updates have yet been identified. However, as new climate predictions and/or new ecosystem mapping become available, R3 intends to update the ecological climate change vulnerability assessment accordingly. New approaches may also be adopted as this field advances and new assessment techniques are developed.</i>
LCC - NAU	<i>Assessing Evapotranspiration Rate Changes for Proposed Restoration of the Forested Uplands of the DLCC, As part of the Four Forests Restoration Initiative, a new paired watershed study is being planned to assess the hydrologic effects of mechanically thinning and restoring a more frequent fire regime to the ponderosa pine forests of Arizona. Water and energy balances will be measured and modeled in these paired watersheds to help inform and better plan for the hydrologic responses of future forest restoration actions.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.03

Identify and secure resources to support development and maintenance of ongoing assessment work.

Reported Accomplishments:

USFS FS funding is used to support broad scale monitoring and watershed condition assessments that, while not tailored to questions regarding climate change, provide some relevant data. The broad scale monitoring approach is still under agency development. Over the long term, data collection on FIA plots will also be relevant for climate change analyses.

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 2 Develop adaptation plans for Arizona's forests and other high priority ecosystems to increase resilience to climate change.

Planned Action: 7.1.2.01

Encourage an all lands approach to land, water, and fire management through effective and efficient collaboration.

Reported Accomplishments:

<i>LCC - NAU</i>	<i>Predicting Snow Water Equivalence (SWE) and Soil Moisture Response to Restoration Treatments in Headwater Ponderosa Pine Forests of the Desert LCC: The goal of this project is to combine remotely sensed data, field measurements, and geospatial statistics to model snow water equivalence and soil moisture response to ponderosa pine forest restoration treatments at existing already-treated research sites in the Verde River basin of northern Arizona and to identify those treatments that are optimal from a water-balance perspective for sustaining water availability for plants as well as downstream water users in Verde Valley and the Phoenix metropolitan area.</i>
<i>AZSF</i>	<i>WCG 14-501 (Diverse Urban Forests) - edible tree water use and adaptation plans available via guidebook under development</i>
<i>LCC</i>	<i>Physiological Effects of Climate Change on Species within the Desert LCC, Relatively few studies have examined specifically the physiological effects of climate change on species inhabiting this region. This manuscript provides a synthesis of peer-reviewed papers related to the physiological stress of climate change on species and/or species groups present within the Desert Landscape Conservation Cooperative (Desert LCC) study area.</i>
<i>USFS</i>	<i>The best information we have compiled regarding collaboration to promote an all lands approach to management is included in the summary developed for the Western Forestry Leadership Coalition. Please see attached Word document containing this summary. This summary does not include information on the White Mountains stewardship project, which also took a collaborative, all lands approach.</i> <i>The Watershed Condition Framework and associated Watershed Condition Assessment identified 6th code watershed of mixed ownership that are in need of restoration by partner groups and other stakeholders.</i> <i>The National Forests in Arizona have a wide variety of science and management collaborations underway with agencies and organizations operating both regionally and locally. These include collaborations with the groups listed below, under Goal 3, Objective 2. If interested in the particulars of any of these collaborations, please contact Priya Shahani, who will follow up with relevant NFs to investigate further.</i>
<i>LCC</i>	<i>From Genotype to River Basin: The combined impacts of climate change on bio-control on a dominant riparian invasive tree/shrub (Tamarisk spp.)</i>
<i>LCC - ASU</i>	<i>Effects of Bio-Control and Restoration on Wildlife in Southwestern Riparian Habitats, This project will determine if the introduction of the biocontrol agent (tamarisk leaf beetle, Diorhabda spp.) as an insect consumer and defoliator of salt cedar influences wildlife populations and communities via alterations to food resources and/or habitat.</i>

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 2 Develop adaptation plans for Arizona's forests and other high priority ecosystems to increase resilience to climate change.

Planned Action: 7.1.2.03

Identify resources to facilitate high priority statewide management actions.

Reported Accomplishments:

AZSF *Funded Urban/Community Forestry project grants: 2012 - 1 CCG grant*

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 3 Manage and restore trees, forests, and high priority ecosystems to mitigate effects and adapt to global climate change.

Planned Action: 7.1.3.01

Implement identified collaborative statewide actions.

Reported Accomplishments:

- AZSF** *Implementing WCG 14-501 (Diverse Urban Forests); Funded Western Bark Beetle project grants: 2010 - 2 WBBi grants; 2011 - 1 WBBi grant; 2012 - 2 WBBi grants; 2013 - 1 WBBi grant; (All WBBi grants work with counties, municipalities or NGOs to increase forest resiliency.)*
- USFS** *Large landscape restoration projects, designed to improve ecological integrity of forested and grassland systems and to improve resiliency of these plant communities to climate change. Management practices include thinning, prescribed fire, and restoration treatments, as well as use of natural wildfire to accomplish restoration goals. The White Mountain Stewardship Project (Apache-Sitgreaves NF) was recently completed, totaling approximately 50K acres. The Four Forest Restoration Initiative (2.4M acres; Kaibab, Coconino, Apache-Sitgreaves and Tonto NFs) and Agua Fria project (Prescott NF; watershed and grassland restoration) are underway.*
- Vegetation management activities, including managed fire, mechanized brush removal, and timber harvest, are being implemented on all administrative units to improve (restore) vegetation structure, reduce vulnerability of vegetation to catastrophic wildfire, and to improve ecosystem resilience to perturbations (including those from climate change).*
- Grazing management has been adjusted to improve condition of riparian vegetation (Tonto, Apache-Sitgreaves, [others?]). Riparian improvements are being implemented to reduce impacts to stream temperatures and resilience of stream channels to extreme climatic events (Tonto NF).*
- Buffelgrass control has become a significant focus on the Coronado NF to protect the Sonoran Desert from invasion and the altered fire regime that results, in an effort to preserve the native flora and fauna of this high priority ecosystem that is characteristic of Arizona.*
- This is unlikely to be a comprehensive list of relevant work on Arizona's National Forests. If there are specific efforts or types of projects you are interested in knowing about, please let us know and we can put together a more detailed accounting where needed.*

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 1 Increased resilience of forest ecosystems to climate change.

Objective: 4 Support urban and community forestry programs to increase resiliency to climate change.. (see People and Forests Strategies)

Planned Action: 7.1.4.01

(See People & Forests Actions)

Reported Accomplishments:

AZSF *Funded multiple Urban/Community Forestry project grants. Implementing multiple Urban Forestry projects:
2010 - WCG (Air Quality); 2012 - WCG (UFRI);
2014 - WCG (Diverse Urban Forests)
2010 - WCG (Air Quality); 2012 - WCG (UFRI);
2014 - WCG (Diverse Urban Forests)*

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 2 Reduced rate of future climate change through maximized carbon sequestration in Arizona forests and trees.

Objective: 1 Support landowners and land management practices which implement high quality mitigation practices that reduce carbon loss.

Planned Action: 7.2.1.01

Increase opportunities for biomass and other wood product utilization.

Reported Accomplishments:

USFS Acceleration and expansion of wood energy and other wood product markets. Through the USDA - Forest Service - Wood Innovations Federal Assistance Program (formerly Woody Biomass Program). Participate in the Farm Credit Service's Biomass Crop Assistance Program.

Planned Action: 7.2.1.02

Improve opportunities for certification of carbon sequestration and wood products on all lands.

Reported Accomplishments:

USFS Although carbon assessments are required by the 2012 Planning Rule there are currently no Agency directives or policies that require certification regarding carbon sequestration.

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 2 Reduced rate of future climate change through maximized carbon sequestration in Arizona forests and trees.

Objective: 3 Support continued research to understand the effects of forest management on sequestration.

Planned Action: 7.2.3.01

Identify and pursue opportunities to improve understanding of climate change science.

Reported Accomplishments:

USFS

As detailed for Goal 1, Objective 1 and Goal 3, Objective 1, R3 Forest Service staff have identified and pursued many opportunities to improve our understanding of climate change science, including through our own analyses (e.g., Triepke et al. climate change vulnerability assessment) and through collaborations with scientists at RMRS, universities and nonprofit organizations. The Desert LCC and Southern Rockies LCC, with input from FS staff, have identified and supported a number of projects related to climate change science. Many of these are listed above under our response for Goal 1, Objective 1; information on several others that address climate science questions outside of the realm of assessments can be found on the Desert LCC and Southern Rockies LCC websites.

Internally, FS staff take a variety of approaches to learning about climate change adaptation principles and science. This is a priority identified by the FS and each NF reports annually on the degree to which and means by which this is being done. Climate change info from scientific community is regularly shared with employees, such as RMRS "Science You can Use" bulletin, and relevant General Technical Reports and other publications. TACCIMO, a FS web-based portal for access to scientific literature on climate change, includes options to search for articles by topic and/or geography, making it easy to find pertinent information, and staff-generated article summaries that streamline the process of sifting through the literature to identify useful articles. This resource is not yet in wide use, but it does represent an effort on the part of the agency to make climate change information easily accessible. RMRS and both LCCs operating in Arizona hold webinars that provide yet another avenue for improving our understanding of climate change science. At a national level, the FS's Climate Change Office staff based in D.C. distribute climate change information to staff on each National Forest.

AZSF

Funded Urban/Community Forestry project grants: 2012 - 2 CCG grants; 2013 - 1 CCG grant

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 1 Develop and maintain science based reports and materials specific to Arizona that document the state of knowledge for climate exposure; species, community and watershed vulnerability; forest adaptation strategies and their effectiveness, as well as effectiveness of strategies focused on increasing carbon sequestration.

Planned Action: 7.3.1.01

Develop and maintain materials to address recent climate change and how it affects ecological systems and human infrastructure.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grant: 2014 - 1 CCG grant

USFS Information about climate change and its effects on ecological systems and human infrastructure is being gathered, maintained, and distilled by FS staff working on TACCIMO (see Goal 2, Objective 3) and at the USDA Climate Hubs. The FS Southwest Region is currently supporting a socio-economic climate change vulnerability assessment, with a final report anticipated later this year. This assessment synthesizes predictions from the ecological climate change vulnerability assessment (Triepeke et al. 2014) with information on current day disturbance regimes (e.g., wildfire and insect impacts to ecosystems) to infer future threat to human infrastructure and economies for each ranger district in R3.

Planned Action: 7.3.1.02

Develop and maintain materials to address the relationship between water and riparian forests, and conifer forest watersheds and water yield to rivers, creeks, and reservoirs.

Reported Accomplishments:

USFS To the best of our knowledge, the FS does not have work underway to address these questions directly in Arizona. Lacking other information about the vulnerability of riparian systems, we are assigning ecological vulnerability metrics to these areas by extrapolating from the average vulnerability rating of upland ecosystems in the same HUC-6 watershed.

TNC 2014 publication by The Nature Conservancy and NAU: Robles MD, Marshall RM, O'Donnell F, Smith EB, Haney JA, et al. (2014) Effects of Climate Variability and Accelerated Forest Thinning on Watershed-Scale Runoff in Southwestern USA Ponderosa Pine Forests. PLoS ONE 9(10): e111092. doi:10.1371/journal.pone.0111092

AZSF Funded Urban/Community Forestry project grant: 2012 - 1 CCG grant

LCC - USBR Desert Landscape Conservation Cooperative Land Cover Map Pilot Project (DLCC), One of the 22 LCCs created pursuant to Secretarial Order 3289 to address the impacts of climate change on Americas water, land and other natural and cultural resources, is focused on acquiring and sharing information to support the development of landscape level strategies for understanding and responding to climate change impacts and other large scale ecosystem stressors such as land use change, decrease in water availability, invasive species, and wildfire.

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 1 Develop and maintain science based reports and materials specific to Arizona that document the state of knowledge for climate exposure; species, community and watershed vulnerability; forest adaptation strategies and their effectiveness, as well as effectiveness of strategies focused on increasing carbon sequestration.

Planned Action: 7.3.1.03

Provide scenario analysis of both plausible climate changes, and potential outcomes for riparian areas, grasslands, and forests. Use scenarios to describe potential management effects, e.g. measurable effects to riparian systems based on increased or decreased water consumption scenarios.

Reported Accomplishments:

USFS Climate scenario analysis of ecosystem changes due to climate change was conducted for all NF lands in Arizona (ecological ccva; Triepke et al.).

Potential outcomes were studied for the Apache-Sitgreaves NF through work by the Integrated Landscape Assessment Project (Oregon State Univ. and Portland State Univ, in cooperation w/ USFS R3). While predictions were made of future conditions at a watershed scale, no management scenario testing has been done.

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 2 Develop outreach and education programs to disseminate information about climate change science to the public and community leaders.

Planned Action: 7.3.2.01

Identify collaborative partner agencies and organizations.

Reported Accomplishments:

USFS Partnerships through which climate change issues are explored and/or addressed via management activities by National Forests in Arizona exist with (among other organizations): the Desert LCC, Southern Rockies LCC, Climate Science Center (Tucson) and the USDA Climate Hub (Las Cruces, NM), Tribes, Coconino Resource Advisory Council, Arizona Game and Fish Department, National Park Service, BLM, Rocky Mountain Bird Observatory, Northern Arizona University (Laboratory of Landscape Ecology and Conservation Biology and Ecological Restoration Institute), The Nature Conservancy, Museum of Northern Arizona, the Springs Stewardship Institute at MNA, the Flagstaff Arboretum, the University of Arizona (including the FireScape collaborative), Sky Islands Alliance, Borderlands Restoration, US Fish and Wildlife Service, Pima and other county governments, Hummingbird Network, Monarch Watch, US Geological Survey, Arizona Geological Survey, Natural Resource Conservation Districts and Service, Malpais Borderlands, Wild Turkey Federation, and the Buffelgrass Coalition.

The Four Forest Restoration Initiative (4FRI) has a long and broad list of stakeholders, and all are active voices in guiding the largest forest resiliency focused project in Arizona. See the link at right for a list of stakeholders (click on link for "Organizations Involved").

Collaborations also exist within the agency between National Forest management staff and researchers at the FS Rocky Mountain Research Station.

Many of these collaborators will have a focus on outreach and education, but the FS has not yet focused specifically on public outreach and education programming related to climate change science. This is likely to be a new priority for the agency in upcoming years.

Planned Action: 7.3.2.02

Collaboratively develop a statewide outreach and education plan.

Reported Accomplishments:

USFS The FS is developing a specific focus on education and outreach related to climate change, but this is a new priority and to date we have not developed focused efforts in this area.

Stakeholder Accomplishments - Arizona Collaborative Goals

Climate (7)

Goal: 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 2 Develop outreach and education programs to disseminate information about climate change science to the public and community leaders.

Planned Action: 7.3.2.03

Identify appropriate resources to implement outreach and education activities.

Reported Accomplishments:

USFS *Multiple activities.*

AZSF *Funded Urban/Community Forestry project grant: 2014 - 2 CCG grants*

Stakeholder Accomplishments - Arizona Collaborative Goals

Culture (8)

Goal: 1 Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests,

Objective: 1 Build trust, communication networks, and problem solving strategies between land management agencies, communities, and stakeholders about the diverse cultural perspectives of forest users and Indigenous Tribes,

Planned Action: 8.1.1.01

Develop adequate tribal liaison staffing within the state and federal natural resource agencies to facilitate the ability to address the cultural perspectives associated with the management and protection of forest resources.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>USFS</i> | <i>Forest Service Tribal Relations Program has a manual and handbook on tribal consultation and the Sacred Sites policy report.</i> |
| <i>USFS</i> | <i>Forest Service continues to fund tribal relations positions on each forest and Regional Office, For some forests this is a dedicated position on others the Forest Archaeologist is responsible for tribal contacts.</i> |
| <i>AZSF</i> | <i>AZSF - Tribal Outreach Specialist (2011-2013)</i> |

Planned Action: 8.1.1.02

Facilitate the development of appropriately structured work groups to share information and develop strategies to identify, protect and address cultural issues associated with forested lands and their management.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>USFS</i> | <i>Arizona forest's tribal relations specialists have tribal consultation meetings, occasional listening sessions. Some of these are attended by the Regional Forester and/or Forest Supervisors.</i> |
| <i>AZSF</i> | <i>AZSF is member of LaPaz Co Fire Chief's Assn with other Tribal representation; AZSF participates on the Central West Zone Board with BIA</i> |
| <i>AZSF</i> | <i>AZSF coordinates fire mgmt needs with BIA - fire restrictions, sharing suppression resources and fire training opportunities</i> |
| <i>USFS</i> | <i>Forest Service tribal relations positions for each forest form an information sharing group. The Arizona forest's tribal relations specialists also meet at the annual regional heritage program meeting.</i> |

Stakeholder Accomplishments - Arizona Collaborative Goals

Culture (8)

Goal: 1 Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests,

Objective: 2 Improve broader understanding of various cultural perspectives as they relate to forest resources, fire management, and other natural resource issues.

Planned Action: 8.1.2.01

Encourage and facilitate improved information sharing by indigenous tribes and diverse cultural groups to inform others about varying natural resource perspectives.

Reported Accomplishments:

USFS Forest Service has Office of Tribal Relations specialists and a tribal consultation process to be followed during undertakings.

AZSF AZSF coordinates fire mgmt needs with BIA - fire restrictions, sharing suppression resources and fire training opportunities; Funded Urban/Community Forestry project grants: CCG 12-105 (San Carlos Apache Tribe); CCG 13-1301 (SERI); CCG 13-1307 (Iskashitaa)

Planned Action: 8.1.2.02

Expand research on how various cultural groups perceive and interact with the state's forests, trees, and other natural resources.

Reported Accomplishments:

USFS The Tonto National Forest and Coronado National Forests completed ethnographic studies related to large, complex out-service projects.

Stakeholder Accomplishments - Arizona Collaborative Goals

Culture (8)

Goal: 1 Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests,

Objective: 3 Educate the public, government officials, and community leaders about the role and importance of cultural perspectives in restoration, sustainable forest and wood products businesses, fire management, and community protection needs and responsibilities.

Planned Action: 8.1.3.01

Develop and implement an education program for local, state and federal government decision makers, schools, and others about the importance of culture in the forested environment.

Reported Accomplishments:

AZSF Implementing WCG 14-501 (LEAF Network) project; Funded Urban/Community Forestry project grant: CCG 13-1307 (Iskashitaa)

Planned Action: 8.1.3.02

Identify appropriate human and fiscal resources to effectively accomplish public outreach.

Reported Accomplishments:

USFS Forest Service has tribal relations staff on each forest, regional office and Washington Office. There is also a tribal consultation process. Tribal relations is funded from cost pool. The forests also utilize the NEPA scoping process for initial outreach for efficiency

Stakeholder Accomplishments - Arizona Collaborative Goals

Culture (8)

Goal: 2 **Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal**

Objective: 1 **Where appropriate, share data and implementation strategies to leverage successful outcomes on tribal and adjacent lands with similar management objectives.**

Planned Action: 8.2.1.01

Enhance collaborative approaches to collection and sharing of data, utilizing existing planning models, leveraging funding sources, and sharing implementation opportunities.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>USFS</i> | <i>Region 3 Tribal Relations Program Manager Dan Meza has worked with tribes to do collaborative projects on adjacent forest service lands. The Regional Office State and Private Forestry office has Collaborative Forest Landscape Restoration Project that involves tribal interests. There were several projects over the past few years.</i> |
| <i>AZSF</i> | <i>Yavapai-Prescott Apache Tribe is represented on the Community Forestry Committee (UCF Advisory); Funded Urban/Community Forestry project grants: CCG 12-105 - San Carlos Apache Tribe conducted urban tree inventories in Bylas and other tribal communities in order to develop an urban tree management plan</i> |
-

Planned Action: 8.2.1.02

Recognize or encourage BIA and Tribal management plans and implementation strategies that take an all-lands or collaborative approach.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>AZSF</i> | <i>Funded Urban/Community Forestry project grants: CCG 12-105 - San Carlos Apache Tribe conducted urban tree inventories in Bylas and other tribal communities in order to develop an urban tree management plan</i> |
|-------------|--|
-

Planned Action: 8.2.1.03

Promote development of management plans that are sensitive to culturally significant areas, traditional uses and accessibility to diverse groups (public lands, lands with conservation easements, etc)

Reported Accomplishments:

- | | |
|-------------|---|
| <i>AZSF</i> | <i>Funded Urban/Community Forestry project grant: CCG 12-105 - San Carlos Apache Tribe conducted urban tree inventories in Bylas and other tribal communities in order to develop an urban tree management plan</i> |
| <i>USFS</i> | <i>Arizona forests have land management plans that recognize tribal consultation needs and special areas</i> |
-

Stakeholder Accomplishments - Arizona Collaborative Goals

Culture (8)

Goal: 2 Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal

Objective: 1 Where appropriate, share data and implementation strategies to leverage successful outcomes on tribal and adjacent lands with similar management objectives.

Planned Action: 8.2.1.04

Recognize and communicate tribal implementation of NEPA processes when undertaking forest land management and integrated resource planning.

Reported Accomplishments:

USFS

The Arizona forests work with the tribes for NEPA when on their lands.

Stakeholder Accomplishments - Arizona Collaborative Goals

Culture (8)

Goal: 2 **Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal**

Objective: 2 **Improve information sharing about available resources to address needs of indigenous tribes and other cultural groups in Arizona.**

Planned Action: 8.2.2.01

Coordinate collaborative outreach efforts to share information about federal and state resources and programs available to tribes and varying cultural groups.

Reported Accomplishments:

<i>USFS</i>	<i>Region 3 Tribal Liason has worked with tribes to do collaborative projects on adjacent FS lands the past several years.</i>
<i>AZSF</i>	<i>AZSF - hosted joint riparian restoration workshop with Colorado River Indian Tribes (Jan 2012); UCF program provides Urban Tree Talk newsletters to tribal representatives</i>

Planned Action: 8.2.2.02

Evaluate the need for non-traditional materials and other strategies to improve communication and message delivery.

Reported Accomplishments:

<i>USFS</i>	<i>FS continues to have face to face meetings with tribes on a variety of projects.</i>
<i>AZSF</i>	<i>AZSF - Tribal Liaison identified 7 main outreach needs as part of project Summary Report.</i>

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APPENDIX II

Stakeholder Accomplishments

National Priorities

1. Conserve Working Forest Landscapes

- 1.1. Identify and conserve high priority forest ecosystems and landscapes.
- 1.2. Actively and sustainably manage forests.

2. Protect Forests from Harm

- 2.1. Restore fire-adapted lands and reduce risk of wildfire impacts.
- 2.2. Identify, manage, and reduce threats to forest and ecosystem health.

3. Enhance Public Benefits from Trees and Forests

- 3.1. Protect and enhance water quality and quantity.
- 3.2. Improve air quality and conserve energy.
- 3.3. Assist communities in planning for and reducing forest health risks.
- 3.4. Maintain and enhance the economic benefits and values of trees and forests.
- 3.5. Protect, conserve, and enhance wildlife and fish habitat.
- 3.6. Connect people to trees and forests, and engage them in environmental stewardship activities.
- 3.7. Manage trees and forests to mitigate and adapt to global climate change.

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**Conserve
Working Forest
Landscapes**

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CONSERVE WORKING FORESTS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.03

Develop and maintain data such as street-tree & canopy-cover inventories, as well as research on the interaction of people with forests, to improve knowledge of the benefits provided by forests and trees.

Reported Accomplishments:

AZSF	Supported 10 Urban/Community project grants to local communities. Assisted 9 communities in urban tree inventories; Completed urban tree inventories in 7 communities; Surveyed 7 communities on AZUTM resources and workshops
City of Tucson	Major Streets & Routes sample tree survey completed utilizing i-Tree Streets - 2007; Complete Street Tree survey (i-Tree) done for downtown area 2009; Complete Street Tree Survey (i-Tree) done for Univ. of AZ campus -2006; Complete Street Tree Survey done for Civano 1 neighborhood - 2013; Transportation Dept compiling street trees removed and replaced under utility lines - 2014-ongoing
City of Phoenix	Complete tree inventory of municipal maintained trees
AZSF	Developed statewide interactive maps for submitted urban tree inventories; Completed estimated urban tree cover analysis results; Made all inventory and cover analysis reports available for download
WMG	With funding from AZSF WMG conducted a tree inventory in an underserved area of Tucson along a bike boulevard. Water harvesting urban forestry projects were implemented at three sites where tree canopy was minimal: a traffic circle, residence and school.
ASU-SCN	2013 Green Infrastructure Workshop Series. Conducted 3 workshops for municipal and professionals educating green infrastructure design, municipal regional tree & shade plan development, and low impact development trends, particularly with the incorporation of trees, plants, etc.... and the benefits to human health, urban heat island mitigation, stormwater management and water reuse, beautification, and community health. Workshops included Cultivating Green Infrastructure: Challenge to Action – Codes, Community & Collaboration (2/20/13); LID Basics & Beyond: Low Impact Development Trends in the Southwest (2/5/13); and Trees for People: Developing a Tree & Shade Plan for your Community (3/27/13). See attached documents for program and speaker details.
City of Phoenix	Developed application for citizens to utilize tree inventory

CONSERVE WORKING FORESTS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 3 Improve energy conservation through tree planting and maintenance.

Planned Action: 1.1.3.01

Promote and facilitate development of urban forestry policies, ordinances, development standards, tree canopy standards, and best management practices to protect and maintain valuable tree assets.

Reported Accomplishments:

<i>TCB-Trees For Tucson</i>	<i>Planting trees for the energy savings they provide is at the heart of our major Residential Energy Efficiency program funded by TEP and Trico. TEP's tree program has expanded each of the last three years, currently at 6.00 trees per year. TFT provides ongoing outreach and education around the energy conservation benefits of trees.</i>
<i>AZSF</i>	<i>Supported 19 Urban/Community Forestry project grants over last 5 years.</i>
<i>ANA</i>	<i>Our SHADE educational conference tree track fulfills this goal.</i>
<i>WMG</i>	<i>WMG conducted the first watershed scale cost benefit analysis measuring the financial benefits of trees and water harvesting including the energy conservation in Tucson.</i>
<i>TEP</i>	<i>TEP has a partnership with the ACTC that provides homeowner workshops in and around the Tucson area. In these workshops, homeowners are given proper planting and pruning techniques along with knowledge of right tree right place and where to plant to get the most shade for the home. Trees planted in the south and west of the house can drastically cut energy costs. TEP currently performs 3 workshops in the Tucson area each year. This year, TEP partnered with ACTC, Trees for Tucson, and Sahuaro High School to educate students about tree planting and maintenance. There were over 70 trees planted at the school and over 200 volunteers (students and faculty) participating in this program</i>
<i>City of Tucson</i>	<i>Have organized an annual Urban Heat Island workshop since 2006; presentations at various conferences, workshops and seminars</i>
<i>City of Phoenix</i>	<i>Established BMP's to facilitate maintenance activities; established Tree Protection maintenance activities within the Parks and Recreation Department; established tree canopy goals; reviewed options for establishing Carbon offset credits.</i>

CONSERVE WORKING FORESTS

People and Forests (1)

Goal 2 Minimized negative human impacts to trees and forests.

Objective: 2 Engage people in environmental stewardship activities.

Planned Action: 1.2.2.02

Implement reforestation, afforestation, and forest health improvement projects to enhance forested ecosystems.

Reported Accomplishments:

<i>AZSF</i>	<i>More than 90,000 acres of forested lands monitored (5 years); 5 Western Bark Beetle Initiative grant projects and multi-state land projects for forest health concerns</i>
<i>AZSF</i>	<i>WCG 14-501 (LEAF Network) Funded 17 Urban/Community Forestry project grants. Funded 6 Invasive Plants project grants. Funded 6 Western Bark Beetle project grants.</i>
<i>SRP</i>	<i>SRP, along with the National Forest Foundation is implementing the Northern Arizona Forest Fund, a partnered effort to gain participation and financial support from businesses, private corporations, philanthropic groups, and individuals that benefit from protecting the watersheds that serve our community. These projects occur on Forest Service lands, but would also benefit the private and tribal lands in proximity.</i>

CONSERVE WORKING FORESTS

People and Forests (1)

Goal 2 Minimized negative human impacts to trees and forests.

Objective: 4 Minimize forest fragmentation from development.

Planned Action: 1.2.4.01

Work with state and local governments on policy development and program implementation to protect forest ecosystems from fragmentation.

Reported Accomplishments:

*AZSF Funded 9 Urban/Community Forestry project grants.
4 Forest Health planning inputs completed for urban areas*

City of Tucson Work with Pima Association of Governments and Pima County Regional Flood Control District to promote Green Infrastructure and adding trees in water harvesting basins to increase city-wide canopy coverage

Planned Action: 1.2.4.02

Utilize land exchange, conservation easements and fee title purchase programs (i.e. Land & Water Conservation Fund, Wetlands Reserve Program, Farm & Ranchlands Protection Program, Forest Legacy Program, etc.) to consolidate ownership and prevent fragmentation of forest lands.

Reported Accomplishments:

AZSF Was awarded funding and began work on the Turkey Creek Canyon Forest Legacy project to protect critical lands.

AZSF Working with The Nature Conservancy, and utilizing national Forest Legacy funding, completed conservation easements on 4 important riparian parcels along the San Pedro River corridor in southern Arizona.

City of Flagstaff City Open Space program

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.01

Work collaboratively to identify and develop restoration and fire management strategies for watersheds of critical importance across the state. (see SS 3.1.6)

Reported Accomplishments:

<i>USFS</i>	<i>The Arizona National Forests have developed Watershed Restoration Action Plans for our Priority Watersheds. Many of these watersheds align with the Southwestern Region Strategic Plan for landscape scale restoration. There are currently 14 sub-watershed (6th Level HUC) plans in place with 3 completed; Barbershop Canyon (Coconino NF), Upper Spring Valley Wash (Kaibab NF) and Cherry Creek (Prescott NF). Copies of plans can be found on the WCF mapviewer website (see Links). Sub-watersheds average about 20,000 acres in size. All generally have some forested areas, many have significant forested areas. Essential projects (those needed to improve or maintain watershed condition) include; thinning dense forests (Fire Regime Condition Class II and III), riparian planting, road decommissioning and stabilization, channel shaping and bank or vertical grade stabilization, mine activity stabilization, and seeding, among others. WRAP essential projects are to be completed within a 5 year time period, however, partner and forest funding affect rate of completion.</i>
<i>ECO</i>	<i>ECO developed the Black River Project with federal, state and NGO partners to treat the entire 130,000 acres Black River watershed.</i>
<i>ECO</i>	<i>Development by 4FRI Stakeholders Group, including ECO, of the Landscape Restoration Strategy for the First 4FRI Analysis Area, which prioritizes restoration of the watersheds.</i>
<i>Upper Verde Coalition</i>	<i>The Coalition, along with the it's Watershed Task Force has created a watershed restoration plan for the Big Chino sub-basin and Prescott AMA groundwater basin area</i>
<i>SRP</i>	<i>Through the Northern Arizona Forest Fund, SRP works with National Forest Foundation to implement forest and watershed improvement projects on National Forest Lands (in collaboration with the Forest Service) to protect the health and function of the Salt and Verde River Watersheds. See attached Year 1 Progress/Benefits. Through NAFF, we partner with philanthropic groups, businesses and municipalities to invest in priority watershed projects that improve water quality and reliability.</i>
<i>US FWS</i>	<i>Coordinated with the U.S. Forest Service to develop the Four Forests Restoration Initiative (4FRI) Project</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.01

Work collaboratively to identify and develop restoration and fire management strategies for watersheds of critical importance across the state. (see SS 3.1.6)

Reported Accomplishments:

SRP SRP is working on a collaborative partnership (under an MOU signed on July 19, 2014) with the Town of Payson, National Forest Foundation, the Forest Service, and Bureau of Reclamation to restore a 64,000 acre project area surrounding the C.C. Cragin Reservoir. The reservoir has been identified as a High Priority Watershed under Western Watershed Enhancement Partnership, and is an invaluable resource to SRP and partners in resolving water use concerns. It is a densely over-stocked forested watershed, and the partnership is working under the Healthy Forest Restoration Act to move the project forward, to address the removal of hazardous fuels, prior to the restoration analysis under 4FRI.

USFS The Four Forest Restoration Initiative (4FRI) is a collaborative effort to restore forest ecosystems on portions of four National Forests - Coconino, Kaibab, Apache-Sitgreaves, and Tonto - along the Mogollon Rim in northern Arizona. Ponderosa pine forest stretches almost continuously from the south rim of the Grand Canyon, across the Mogollon Rim, to the White mountains in eastern Arizona. Unfortunately, these forests have been degraded by unsustainable historical land uses and fire exclusion. The result is overgrown forests with thin, unhealthy trees and the threat of unnaturally severe wildfire. The vision of 4FRI is restored forest ecosystems that support natural fire regimes, functioning populations of native plants and animals, and forests that pose little threat of destructive wildfire to thriving forest communities, as well as support sustainable forest industries that strengthen local economies while conserving natural resources and aesthetic values. Objectives include: Plan and implement restoration treatments across 2.4 million acres of ponderosa pine forest. Treat 50,000 acres per year during a 20-year period. Allow for increased use of prescribed fire and management of natural fires for restoration objectives. Engage industry so the cost of restoration is covered by the value of the products removed. Assure that the science-based and socially-acceptable agreements forged during the last decade result in the implementation of long-term, landscape-scale restoration. Surround and support communities and provide wildlife habitat, recreational resources and ecosystem services.

The White Mountain Stewardship Contract implemented on the Apache-Sitgreaves was the first of its kind in the United States, and was developed to help reduce fire hazard and restore ecosystem function on a minimum of 50,000 acres of forested lands over the life of the contract. The contract ended in 2014, but accomplished about 5,000 to 8,000 acres of forest thinning per year, primarily in Wildland Urban Interface areas. It is considered by many to be responsible for reducing life and property loss for the communities of Greer, Alpine, Nutrioso and Eagar during the 2011 Wallow Fire, and helped to contain last year's San Juan fire. The Forest Service considers thinning of FRCC class II and III forest areas a Soil and Water Resource Accomplishment.

Additional examples include: The Aqua Fria Restoration Project partnering with Arizona Game and Fish and the Agua Fria Watershed Association on the Prescott NF; Collaborative work with Sky Islands Institute on the Coronado NF, APS decommissioning and removing a power plant aiding the restoration of Fossil Creek on Tonto and Coconino NFs, City of Phoenix working with the Tonto NF

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.01

Work collaboratively to identify and develop restoration and fire management strategies for watersheds of critical importance across the state. (see SS 3.1.6)

Reported Accomplishments:

<i>Borderlands Restoration</i>	<i>Borderlands hired by Tree of Life private property to write Habitat Mgmt Plan for 200acre property bordering USFS lands outside Patagonia</i>
<i>TNC</i>	<i>TNC is a Co-Chair and Steering Committee member of the Arizona Prescribed Fire Council</i>
<i>ADEQ</i>	<i>ADEQ and multiple Watershed Groups developed Watershed Improvement Plans for multiple watersheds. These plans identify pollutant sources and recommend BMPs for improving water quality. These plans were developed for Oak Creek, Granite Creek, Upper San Pedro River, and San Francisco River.</i>
<i>Borderlands Restoration</i>	<i>On NFWF grant, worked at Babocomari Ranch, Audubon Research Ranch to study endangered bird habitat and bird numbers for improved grassland; built over 700 erosion control structures, provided training for Patagonia youth and Borderlands Restoration Crew; responded quickly and effectively to several wildfires on site to build structures before erosive monsoon rains compromised vulnerable grasslands; would like to use this effort to create Restoration Hotshot Crew that can be directed to such areas in coord with AZ State Forestry, USGS, USFS, private landowners and fire depts; have crews at work on multiple habitat improvement projects at all times, but ready to respond quickly because comm infrastructure is in place; approx 5,000acres treated with more in planning stages</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 1 IPG grant (20ac riparian treated); 2011 - 1 IPG grant (838ac treated); 2012 - 1 IPG grant (15ac high priority riparian treated); 2014 - 1 IPG grant (20ac riparian treated); Forest Health personnel have assisted in development of management plans in priority watersheds (Verde River, Sabina Creek)</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.01

Work collaboratively to identify and develop restoration and fire management strategies for watersheds of critical importance across the state. (see SS 3.1.6)

Reported Accomplishments:

US FWS *Coordinated with the U.S. Forest Service and City of Flagstaff to develop the Flagstaff Watershed Protection Project*

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.01

Maintain or improve Soil Quality through use of best management practices: properly design, place, build and retire forest roads, use appropriate fire practices to remove duff and reestablish vegetative ground cover.

Reported Accomplishments:

<i>TNC</i>	<i>TNC, Northern AZ University, and other partners quantified, modeled, and described the forest-water connection, for use by land managers (Robles MD, Marshall RM, O'Donnell F, Smith EB, Haney JA, et al. (2014) Effects of Climate Variability and Accelerated Forest Thinning on Watershed-Scale Runoff in Southwestern USA Ponderosa Pine Forests. PLoS ONE 9(10): e111092. doi:10.1371/journal.pone.0111092</i>
<i>Borderlands Restoration</i>	<i>Through Walton Family Foundation grant, worked closely with Babo landowner, USGS, NRCS/Santa Cruz NRC, Audubon Research Ranch, Fort Huachuca, City of Sierra Vista, UA Coop Ext to install and monitor large and small erosion control structures--gabions and one-rock strucs--to slow water and increase water infiltration. Qualitative and quant data have been used to demonstrate best techniques and placement of strucs, and multiple field visits with community members to sites have provided educ and outreach. Approx 350 small and 25 large erosion strucs still being monitored for hydro and veg responses over time in order to make the case for future work at scale in region.</i>
<i>USFS</i>	<i>The Apache Sitgreaves NFs developed a Forest Road Maintenance BMP Guide in 2010</i>
<i>TNC</i>	<i>TNC: conducts annual water monitoring at Hart Prairie Preserve and adjacent USFS land for water quantity assessments.</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and "all lands, all hands" approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.01

Maintain or improve Soil Quality through use of best management practices: properly design, place, build and retire forest roads, use appropriate fire practices to remove duff and reestablish vegetative ground cover.

Reported Accomplishments:

USFS

In accordance with our Memorandum of Understanding between the State of Arizona, Arizona Department of Environmental Quality and the Southwest Region of the Forest Service, the Forest Service shall "ensure that all project work schedules for project implementation contain site specific BMPs, developed through the LRMP implementation process.... and monitor BMPs on selected activities to ensure they are implemented and effective." (MOU 2013). Therefore, national and/or site specific BMPs are prescribed for every ground disturbing project. At a minimum, forests must complete 6 effectiveness evaluations a year. BMP implementation monitoring generally occurs on all harvest areas and roads associated with landscape restoration projects. The 4FRI EIS that was recently completed lists numerous national and local BMPs that mitigate and direct improvement to soil and water quality. Additionally forests are now monitoring and reporting Soil Disturbance. The ASNF has completed 6 evaluations in FY15.

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.02

Maintain or improve Hydrologic Function and Watershed Health by designing forest thinning prescriptions to optimize snow pack accumulation and runoff and by managing understory vegetation through periodic burning.

Reported Accomplishments:

<i>SRP</i>	<i>SRP is designing and implementing long term studies and monitoring, working with Arizona's universities, to study the influence of restoration on the hydrologic function and watershed health of the salt and verde watersheds - including snowpack accumulation and runoff, aquifer recharge and evapotranspiration. Study results will help guide ongoing management prescriptions and decisions with respect to treatments, thinning, and prescribed fire, etc.</i>
<i>Upper Verde Coalition</i>	<i>The Coalition has developed a paired watershed research plan to determine impacts to groundwater recharge due to forest thinning in juniper dominated areas. Several paired watersheds have been identified ranging from 100 to 300 acres.</i>
<i>Borderlands Restoration</i>	<i>Habitat Mgmt plan in place for major wildlife corridor outside Patagonia, recently secured by Borderlands partner org Wildlife Corridors LLC; will seek funding to build hydro models with USGS to reduce fire risk, improve habitat, improve large tree resiliency with erosion strucs that improve soil moisture and live fuel moisture levels; educate public and rekindle Firewise program in Patagonia community [exec dir has become firewise assessor through AZ State Forestry]</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and "all lands, all hands" approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>ECO</i>	<i>ECO staffs the position of Chair of the 4FRI Planning Workgroup, which works on the temporal and geographical prioritization of treatments in the watersheds among many other aspect of restoration planning</i>
<i>AZGF</i>	<i>Treated 49,364 acres of grassland to remove juniper and restore grassland suitability as pronghorn habitat. Projects were implemented 2013-2015.</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.02

Maintain or improve Hydrologic Function and Watershed Health by designing forest thinning prescriptions to optimize snow pack accumulation and runoff and by managing understory vegetation through periodic burning.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>ADEQ</i> | <i>2014: ADEQ with ranchers on the San Pedro River near St. David to restore grasslands on 2669 acres through the use of herbicides to remove creosote and thornbrush. 2015 ADEQ with ranchers on the San Pedro River near St. David to restore grasslands on 3103 acres through the use of herbicides to remove creosote and thornbrush</i> |
| <i>AZSF</i> | <i>Funded 1 Invasive Plants Program project grant - 2010; Forest Health personnel have assisted in development of management plans in priority watersheds (Verde River, Sabino Creek)</i> |
| <i>USFS</i> | <i>As depicted in the State of Arizona 5 year Forest Action Plan, reducing the basal area or canopy cover in Ponderosa Pine, Mixed Conifer Forest types can result in increased water production for up to 10 years. Across the state on FS lands, there has been approximately 98,300 acres of forest vegetation improvement primarily through forest thinning and harvest reported from FY 10 through FY15 so far as either accomplished or under contract that have contributed to improved watershed conditions. These treatments contribute to a large portion of the 313,679 acres of Soil and Water Resource Improvement reported from Arizona forests for all improvement activities, such as thinning, prescribed fire, noxious weed treatments, woodland and grassland restoration, road obliteration/closures and riparian/stream treatments.</i> |
| <i>TNC</i> | <i>TNC has a site fire plan for the 245 acres at Hart Prairie Preserve that includes understory vegetation management through periodic burning.</i> |

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.03

Support State, Federal, and other programs that provide funding for treatment within watersheds; encourage additional funding to address watershed health.

Reported Accomplishments:

<i>ADEQ</i>	<i>In 2015, Arizona Department of Environmental Quality partnered with Arizona Game and Fish Department to provide over \$686,000 in funds to projects that will improve both water quality and wildlife habitat. These projects will take place on the Upper San Pedro River, Upper Santa Cruz River, Little Colorado River and Central Arizona near Granite Creek and Oak Creek.</i>
<i>AZGF</i>	<i>Partner in 4FRI and many forest restoration initiatives.</i>
<i>SRP</i>	<i>Through the Northern Arizona Forest Fund, SRP works with National Forest Foundation to implement forest and watershed improvement projects on National Forest Lands (in collaboration with the Forest Service) to protect the health and function of the Salt and Verde River Watersheds. See attached Year 1 Progress/Benefits. Through NAFF, we partner with philanthropic groups, businesses and municipalities to invest in priority watershed projects that improve water quality and reliability.. Through private investment, we can accelerate watershed restoration treatments throughout the salt and Verde watersheds.</i>
<i>ECO</i>	<i>Outreach by ECO to Arizona US Senator Flake & McCain to fund out of the USFS Chief's fund the NEPA analyses required for the Bridge the Gap project that completed 86,000 acres of NEPA analysis in the White Mountains watersheds.</i>
<i>Upper Verde Coalition</i>	<i>The Coalition, in partnership with the Arizona Game & Fish Department, has received a substantial grant from the USDA to conduct forest thinning. The Coalition's share of the grant should treat approximately 5,000 acres in the Big Chino sub-basin</i>
<i>USFS</i>	<i>Watershed Restoration Plans (WRAPS) are developed using an "All Lands Approach". Collaboration and funding from partners play a large role in the completion of those projects that contribute to the improvement of priority watersheds. Within the completed WRAPS partners contribute funding or in kind work to support those projects. To see specific treatments and partners visit the Watershed Condition Mapviewer (see link), where the WRAPS can be viewed.</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.03

Support State, Federal, and other programs that provide funding for treatment within watersheds; encourage additional funding to address watershed health.

Reported Accomplishments:

<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>Borderlands Restoration</i>	<i>Plan to leverage the high levels of interest from orgs, agencies and Town of Patagonia to secure watershed health planning and action; completed large scale proposal with AZ State Forestry to assess Sonoita Creek watershed and get to work on it while creating job training opps and jobs on the ground in one of the most impoverished counties in the US; worked closely with AZ State Forestry/Nat Res Coord Committee in 2014-15 to direct \$250k in funds to Sentinel Landscape area around Fort Huachuca [also bordering Babocomari Ranch]</i>
<i>US FWS</i>	<i>USFWS participates in the Coconino Plateau Water Advisory Council, a collaborative partnership focused on understanding the current and future water needs of the area and supporting activities that manage these resources within the watershed</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 2 Maximize positive impacts of forest treatments on water quality.

Planned Action: 4.1.2.04

Appropriately monitor activities within watersheds.

Reported Accomplishments:

<i>ECO</i>	<i>Development by 4FRI Stakeholders Group, including ECO, of the 4FRI monitoring plan Biophysical Monitoring for 4FRI Desired Conditions, adopted by USFS in 1st 4FRI EIS.</i>
<i>Upper Verde Coalition</i>	<i>The City of Prescott, Town of Prescott Valley and Salt River Project are currently investing ~\$5.5 million into hydrologic monitoring and groundwater modelling in the Big Chino sub-basin, currently installed several ephemeral stream flow gages, weather stations, conducting geophysical research and collecting water level data combined with micro-gravity</i>
<i>TNC</i>	<i>TNC: conducts annual water monitoring at Hart Prairie Preserve and adjacent USFS land for water quantity assessments.</i>
<i>USFS</i>	<i>The Tonto and A-S NFs are deploying stream temperature monitoring networks to study effects of climate change and effects of management activities. The White Mountain Stewardship Monitoring Board is finalizing part 2 (2010 - 2014) of the White Mountain Stewardship Contract Monitoring effort. This report will be available this year. Within the report are results of BMP monitoring for water quality on the stewardship task orders.</i>
<i>Upper Verde Coalition</i>	<i>The Coalition has developed a number of watershed monitoring plans and is currently waiting for funding from various granting agencies</i>
<i>AZSF</i>	<i>Funded Invasive Plants Program project grants: 2010 - 1 IPG grant; 2011 - 1 IPG grant (211 landowner agreements)</i>
<i>Borderlands Restoration</i>	<i>USGS and Borderlands taking the lead in continuing monitoring and incorporating citizen science in hydro, veg and erosion structure monitoring at all scales</i>
<i>USFS</i>	<i>The Coconino NF is establishing with ERI flow monitoring on paired watersheds to determine effects of forest restoration treatments on water yield and timing as part of the Four Forest Restoration Initiative.</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 1 Manage impacts of forest management activities within aquatic systems.

Planned Action: 4.2.1.01

Utilize best management practices and guidelines within aquatic systems.

Reported Accomplishments:

<i>ADEQ</i>	<i>2010: ADEQ Funded the capping of a 10 acre copper mine to reduce copper inputs to Pinto Creek. 2011 ADEQ Funded the Installation of a restroom facility at a high recreation area north of the town of Clifton near the San Francisco River. ADEQ funded the installation of 6,000' of piping along the Big Ditch Irrigation Canal to reduce sediment in the Little Colorado River. 2013 ADEQ funded a second restroom facility at a high recreation area north of the town of Clifton along the San Francisco River. 2014 ADEQ funded project to install green infrastructures within a residential area that drains to Oak Creek. Projects reduce sediment and E. coli to Oak Creek</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry grant: 2014 - 1 CCG grant; Funded multiple Invasive Plant Program project grants: 2010 - 2 IPG grants; 2011 - 1 IPG grant; 2012 - 1 IPG grant; 2014 - 1 IPG grant</i>
<i>SRP</i>	<i>SRP is designing and implementing long term studies and monitoring, working with Arizona's universities, to study the influence of restoration on the hydrologic function and watershed health of the salt and Verde watersheds - including snowpack accumulation and runoff, aquifer recharge and evapotranspiration. Study results will help guide ongoing management prescriptions and decisions with respect to treatments, thinning, and prescribed fire, etc. One means of studying the response of aquatic systems to restoration is through a newly developed technology called 'Flowtopography'</i>
<i>Borderlands Restoration</i>	<i>Extensive pond and spring work in Babocomari projects described above, with Sky Island Alliance; spring fencing/protection</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and "all lands, all hands" approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>USFS</i>	<i>BMP development and establishment are designed and implemented to comply with non-point section of the Clean Water Act. BMPs, soil and water conservation practices and aquatic mitigations tied to direct stream monitoring were implemented in 2013 for Wallow-West Salvage. BMP and soil condition monitoring showed that logging was accomplished within established guidelines.</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.01

Coordinate implementation of management plans to insure protection of aquatic systems.

Reported Accomplishments:

<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>TNC</i>	<i>TNC coordinated with USFS on the implementation of a 70 acre meadow restoration stewardship contract at Hart Prairie that was designed to restore hydrologic flows to the downslope seeps, springs and wetlands</i>
<i>Borderlands Restoration</i>	<i>Borderlands seeking to be major connecting node in region among agencies, private landowners, organizations in order to improve efficiencies and effectiveness</i>
<i>USFS</i>	<i>Arizona Game and Fish, as well as many conservation groups are involved at all levels of project planning, as well as a source for funding and labor. Highlights of riparian improvement, Coconino accomplished 500 acres of riparian meadow improvement and road obliteration in FY13 within the Barbershop Canyon Watershed and in Buck Springs, Allen Creek and Fossil Creek. The Kaibab NF has improved 766 acres of riparian areas through livestock exclusions, plantings and spring improvements. The Tonto reports 200 acres of headcut control, large wood placement and silt removal. The Coronado NF reports 137 acres of spring development/enhancement and riparian plantings. The Apache-Sitgreaves has been mitigating effects of the Wallow fire by improving and maintaining stream crossings and bridge approaches.</i>
<i>US FWS</i>	<i>We work closely with the U.S. Forest Service, Bureau of Land Management, National Park Service, and other agencies throughout the state on development and implementation of land management plans and individual projects to aid in recovery of threatened and endangered species and their habitats including those dependent on riparian and aquatic systems.</i>
<i>Upper Verde Coalition</i>	<i>Water Resource Management Laws and Plans include the 1980 Groundwater Management Act, the Fourth Management Plan for the Prescott AMA, and various hydrologic studies such as modelling report #25 - these laws, plans and science restrict water use and help protect the Upper Verde River.</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.02

Use Best Management Practices for the location, construction, operation and maintenance of transportation systems within aquatic systems.

Reported Accomplishments:

<i>USFS</i>	<i>Roads are considered one of the greatest sources for sediment to aquatic systems (many Citations). Projects on all National forests in the Region with in Forest ecosystems design and implement BMPs and aquatic mitigation for all ground disturbing projects, such as timber sales and road reconstruction, maintenance, relocation and decommissioning/obliteration projects.</i>
<i>TNC</i>	<i>TNC coordinated with USFS on the implementation of a 70 acre meadow restoration stewardship contract at Hart Prairie that included road improvements designed to restore hydrologic flows to the downslope seeps, springs and wetlands</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grant: 2014 - 1 CCG grant</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>

Planned Action: 4.2.2.04

Use Best Management Practices for the location, construction, operation and maintenance of water improvements within aquatic systems.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Invasive Plants Program project grant: 2014 - 1 CCG grant</i>
<i>AZGF</i>	<i>AGFD maintains numerous wildlife water catchments of various designs throughout the state. All are designed and constructed using BMPs.</i>
<i>USFS</i>	<i>Forests developed and implemented BMPs and mitigations for fish barrier design and construction, ditch diversion design, road construction and maintenance, and stock tank cleaning/reconstruction projects. Some of these have been monitored using the new national BMP protocols</i>

CONSERVE WORKING FORESTS

Water (4)

Goal 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.06

Coordinate with agencies and lessees that manage water improvement projects.

Reported Accomplishments:

Borderlands Restoration Private land, ngo and agency coordination across Babo ranch, wildlife corridor, and in Patagonia on pond creation work

USFS Active within the Little Colorado, Eagle Creek, Upper Gila Watershed Groups. Tonto meets with SRP and BOR annually to discuss issues of common interest benefitting water delivery/quality.

AZSF Western Bark Beetle Program: 605ac treated in/around Flagstaff, Prescott and Greer in the Verde and Little Colorado (HUC-6) Watersheds

Objective: 1 Enhance urban and community forests (See People & Forests Strategy)

Planned Action: 5.1.1.01

(See people and Forests Actions)

Reported Accomplishments:

- See People and Forests Accomplishments

Objective: 2 Maintain or Improve health of existing forest lands (See Ecosystem Health Strategy)

Planned Action: 5.1.2.01

Coordinate large scale forest treatments.

Reported Accomplishments:

AZSF Participate as an active partner in the development and implementation of the following Landscape Scale Management Plans: 4FRI, White Mtn. Stewardship, Malpais Borderlands, Altar Valley

CONSERVE WORKING FORESTS

Air (5)

Goal 1 Improved air quality.

Objective: 4 Reduce negative impacts of forest treatments on air quality.

Planned Action: 5.1.4.01

Pursue strategies to utilize wood fiber, where practical, prior to burning on site. (See FIRE Strategy)

Reported Accomplishments:

- [See Fire Accomplishments](#)

CONSERVE WORKING FORESTS

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.01

Continue to identify appropriate programs and policies that will encourage the development and perpetuation of forest products businesses, by coordinating with county and local governments, and state and federal agencies

Reported Accomplishments:

<i>AZSF</i>	<i>Arizona Commerce Authority's Healthy Forest Enterprise Incentives Program</i>
<i>TNC</i>	<i>The Nature Conservancy and Arizona State University developed an economic model to evaluate the scale of investment and types of business clusters needed to develop a sustainable forest products industry in northern AZ.</i>
<i>ADOT</i>	<i>ADOT 'Healthy Forest Initiative'</i>
<i>ECO</i>	<i>Development by ECO with the Apache-Sitgreaves NF of the "Bridge the Gap" project to implement post-White Mountains Stewardship Contract continuity of supply for the White Mountains industry.</i>
<i>ECO</i>	<i>Creation by ECO and other 4FRI stakeholders of the 4FRI Dashboard / Utilization / Implementation workgroup to provide industry expertise to the 4FRI stakeholders group during the implementation of the 1st EIS and planning of the 2nd EIS.</i>
<i>USFS</i>	<i>Continue to participate in the USDA Wood Innovations Assistance Program and other programs that provide financial and technical assistance forest products industry.</i>
<i>ADOT</i>	<i>ADOT 'Healthy Forest Initiative.'</i>

Planned Action: 6.1.1.02

Develop and maintain data about current and potential Arizona economic activity related to wood product industries.

Reported Accomplishments:

<i>AZSF</i>	<i>Continued updates to Arizona's Forest Products Directory. Online searchable database in development.</i>
<i>AZSF</i>	<i>Continued updates to Arizona's Forest Products Directory. Online searchable database in development</i>
<i>ECO</i>	<i>Development by ECO of a wood supply chain analysis for the material needs of the White Mountains industry.</i>

CONSERVE WORKING FORESTS

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 3 Manage and restore trees, forests, and high priority ecosystems to mitigate effects and adapt to global climate change.

Planned Action: 7.1.3.01

Implement identified collaborative statewide actions.

Reported Accomplishments:

USFS

Large landscape restoration projects, designed to improve ecological integrity of forested and grassland systems and to improve resiliency of these plant communities to climate change. Management practices include thinning, prescribed fire, and restoration treatments, as well as use of natural wildfire to accomplish restoration goals. The White Mountain Stewardship Project (Apache-Sitgreaves NF) was recently completed, totaling approximately 50K acres. The Four Forest Restoration Initiative (2.4M acres; Kaibab, Coconino, Apache-Sitgreaves and Tonto NFs) and Agua Fria project (Prescott NF; watershed and grassland restoration) are underway.

Vegetation management activities, including managed fire, mechanized brush removal, and timber harvest, are being implemented on all administrative units to improve (restore) vegetation structure, reduce vulnerability of vegetation to catastrophic wildfire, and to improve ecosystem resilience to perturbations (including those from climate change).

Grazing management has been adjusted to improve condition of riparian vegetation (Tonto, Apache-Sitgreaves, [others?]). Riparian improvements are being implemented to reduce impacts to stream temperatures and resilience of stream channels to extreme climatic events (Tonto NF).

Buffelgrass control has become a significant focus on the Coronado NF to protect the Sonoran Desert from invasion and the altered fire regime that results, in an effort to preserve the native flora and fauna of this high priority ecosystem that is characteristic of Arizona.

This is unlikely to be a comprehensive list of relevant work on Arizona's National Forests. If there are specific efforts or types of projects you are interested in knowing about, please let us know and we can put together a more detailed accounting where needed.

AZSF

*Implementing WCG 14-501 (Diverse Urban Forests);
Funded Western Bark Beetle project grants: 2010 - 2 WBBB grants; 2011 - 1 WBBB grant;
2012 - 2 WBBB grants; 2013 - 1 WBBB grant; (All WBBB grants work with counties, municipalities or NGOs to increase forest resiliency.)*

**Protect
Forests
From Harm**

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PROTECT FORESTS FROM HARM

People and Forests (1)

Goal 2 Minimized negative human impacts to trees and forests.

Objective: 1 Increase awareness of threats to Arizona's forests - and awareness of available tools to mitigate those threats.

Planned Action: 1.2.1.01

Engage state and federal agencies, land trusts, and other conservation partners to increase awareness about threats to Arizona forests and trees.

Reported Accomplishments:

<i>SRP</i>	<i>SRP is involved at federal, state, and local levels to increase awareness about threats to Arizona's forests, in particular with respect to creating resilient watersheds that protect long term water supplies.</i>
<i>City of Tucson</i>	<i>Currently working with Southern AZ Buffelgrass Coordination Center to remove invasives and threats to the Sonoran Desert</i>
<i>AZSF</i>	<i>Funded 8 Urban/Community Challenge Grants. Delivered more than 60 Forest Health programs to communities (in 5 years); Approximately 80 presentations to municipalities (technical information about forest resource benefits/threats)</i>

Planned Action: 1.2.1.03

(See Ecosystem Health Strategies)

Reported Accomplishments:

- *See Ecosystem Health Accomplishments*

PROTECT FORESTS FROM HARM

People and Forests (1)

Goal 2 Minimized negative human impacts to trees and forests.

Objective: 3 Manage recreation impacts on forests

Planned Action: 1.2.3.01

Participate in and support public land travel management planning and implementation and other efforts to manage impacts of outdoor recreation.

Reported Accomplishments:

AZSF Support project grant CCG 12-304 (Bicycle Boulevards)

City of Flagstaff Participate as a partner in the Four Forest Restoration Initiative (4FRI)

Planned Action: 1.2.3.02

Strengthen Off-Highway Vehicle (OHV) education and enforcement efforts.

Reported Accomplishments:

- Reported improvements to local websites support this effort. Both the US Forest Service and the Arizona Game and Fish Department are providing increased information through their respective websites. Arizona Game and Fish Department also offers online OHV safety courses.

Objective: 4 Minimize forest fragmentation from development.

Planned Action: 1.2.4.03

(See Ecosystem Health Strategy - Goal 1, Objective 5)

Reported Accomplishments:

- See Ecosystem Health Accomplishments - Goal 1, Objective 5

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.01

Continue to develop strong collaborative support for focused management practices, such as forest restoration, fuel reduction, wildlife habitat and population management, and treatments to control exotic pests and invasive plants, across integrated landscapes.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>USFS</i> | <i>ASNF: Stakeholder and participant in the Four-Forest Restoration Initiative (4FRI). Complete Environmental Assessments on "bridge" projects that are within the 4FRI footprint; providing additional mechanical and fire treatment acres that are also responsive to restoration goals within Ponderosa Pine ecosystems above the Mogollon Rim.</i> |
| <i>USFS</i> | <i>The Coronado NF works with several partners and collaborators across the forest on these actions.</i> |
| <i>USFS</i> | <i>Coronado NF participates with the Southern Arizona Buffelgrass Coordination Center to develop new approaches to combat the ever encroaching buffelgrass and other non native species. This group has the knowledge to help reduce the spread of non-native species in southern Arizona. This group is a way for information sharing, training and project implementation to support the continued development of strong collaborative invasive plant management practices.</i> |
| <i>USFS</i> | <i>PNF: Bradshaw Vegetation Management Project EA (2013); Black Hills Vegetation Management Project EA (2011); Integrated Treatment of Noxious or Invasive Weeds EIS (2004). PNF worked with National Wild Turkey Federation, Verde Watershed Restoration Coalition (VWRC), Highlands Center for Natural History (HCNH), Mule Deer Foundation, Ecological Restoration Institute (ERI), and other partners in developing and implementing these Forest Restoration and wildlife habitat improvement projects.</i> |
| <i>AZSF</i> | <i>Collaborated with partners and leverage state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i> |
| <i>TNC</i> | <i>The four properties protected as a part of the San Pedro River Riparian Ecosystem project helped to connect larger protected areas to the Rincon Mountains on the west and the Galiuro Mountains to the east. The project protects important riparian forest habitat and prevents excessive water withdrawal for residential and agricultural use that could damage the river and surrounding ecosystem.</i> |
| <i>AZSF</i> | <i>Partner in development of the Rural Communities Fuels Management Partnership (RCFMP)</i> |
| <i>ERI</i> | <i>Ongoing administrative, science, technical and leadership support for the Four Forest Restoration Initiative (4FRI) - including managing the website.</i> |

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.01

Continue to develop strong collaborative support for focused management practices, such as forest restoration, fuel reduction, wildlife habitat and population management, and treatments to control exotic pests and invasive plants, across integrated landscapes.

Reported Accomplishments:

<i>USFS</i>	<i>ASNF: Working with ranching permittees to complete Environmental Assessments to develop Allotment Management Plans (AMP). Several planning processes also include prescriptions for restoration of historic grasslands in the pinyon-juniper ecosystems which also contribute to fuels treatment and mechanical treatment acres. In addition the Forest, in coordination with permittees, completes rangeland monitoring as part of AMP implementation and adaptive management for livestock operations.</i>
<i>AZSF</i>	<i>Funded 7 Invasive Plants Grant projects which treated 1077 acres and assessed another 34 acres. Funded 6 Western Bark Beetle Initiative grant projects via partners to increase forest resiliency which treated 605 acres.</i>
<i>USFS</i>	<i>TNF: Partnered with ranching members who operate their allotments to agency standards as determined by "Reading the Range Monitoring" and utilization monitoring. These standards include reducing fine fuels across landscape while protecting wildlife habitat and controlling invasive plant species.</i>
<i>AZSF</i>	<i>Partner in development of the Greater Flagstaff Forests Partnership (GFFP).</i>
<i>USFS</i>	<i>TNF: Stakeholder and participant in Four Forest Restoration Initiative (4FRI). Prepare project areas for task orders across rim integrated landscape with stand density control and fuel reduction as objectives while improving wildlife habitat, reducing risk of insect attack and disease infestation to trees, and controlling invasive plants when found.</i>
<i>AZSF</i>	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments.</i>
<i>ERI</i>	<i>Science, technical and monitoring support for the "Bridge Projects and final monitoring summary of the White Mountain Stewardship monitoring on the Apache Sitgreaves National Forest.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.01

Continue to develop strong collaborative support for focused management practices, such as forest restoration, fuel reduction, wildlife habitat and population management, and treatments to control exotic pests and invasive plants, across integrated landscapes.

Reported Accomplishments:

USFS Kaibab NF - Four national forests are actively engaged in a collaborative, landscape-scale initiative designed to restore fire-adapted ecosystems in the Southwestern Region. Those forests are the Kaibab, Coconino, Apache-Sitgreaves and Tonto. In ongoing collaboration with a diverse group of stakeholders, the four forests are working to plan and carry out landscape-scale restoration of the ponderosa pine forests in northern Arizona.

The overall goals of the Four Forest Restoration Initiative (4FRI) is to restore the structure, pattern, composition, and health of fire-adapted ponderosa pine ecosystems; reduce fuels and the risk of unnaturally severe wildfires; and provide for wildlife and plant diversity. Doing so will involve a variety of restoration projects and rely on Forest Service personnel, partners and volunteers, and contractors to see these goals through.

USFS Kaibab NF - The Williams Ranger District is conducting environmental analysis via the Bill Williams Mountain Restoration Project. The purpose of the project is to improve the health and sustainability of forested conditions on and surrounding Bill Williams Mountain (adjacent to the City of Williams) by reducing hazardous fuels and moving vegetative conditions toward desired conditions.

USFS Coronado NF - FireScape is a response to the need for landscape-scale fire and ecosystem management. FireScape is a framework for expanding safe, ecologically sound, large-scale fire management across multiple land ownerships in the mountains of southeastern Arizona. The FireScape leadership team includes representatives from the Forest Service, The Nature Conservancy, the University of Arizona (UA), Bureau of Land Management, National Park Service, and other southeastern Arizona land managers.

USFS Kaibab NF - The forest's plan was revised and signed in February 2014. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment. Primary indicators were related to high risk and high value such as those with closed canopies containing large trees. These areas were identified as high priority for restoration because they already contain many components of the desired condition and a single treatment may come close to meeting the desired condition, but if lost, would take centuries to replace.

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.02

Develop and implement effective training, education and outreach programs to inform landowners, government officials and the general public about the benefits of resilient ecosystem process and functions. Develop and utilize a well educated cadre of natural resource professionals in Arizona, to address forest threats across all lands in the state.

Reported Accomplishments:

<i>USFS</i>	<i>The Coronado NF is part of an informal group called the Sky Island Restoration Cooperative (SIRC) which is a bi-national community-based collaboration of government and non-governmental organizations, private landowners, ranchers, students, volunteers, scientists, and restoration practitioners. This group has combined energy and knowledge to improve restoration activities, outcomes and awareness across the Madrean Archipelago and nurture an understanding of the importance of biodiversity. SIRC is a vehicle for information sharing, training, and project implementation through the identification of restoration research and resource needs. This cooperative also builds bridges across institutional, administrative, and cultural boundaries to create effective regional restoration strategies.</i>
<i>AZSF</i>	<i>Partner in development of the Rural Communities Fuels Management Partnership (RCFMP).</i>
<i>USFS</i>	<i>Kaibab NF - We have a long standing commitment to conducting meaningful government consultations with our tribal neighbors. This is done by building strong partnerships that stress collaborative planning and a shared stewardship approach to management of public lands.</i>
<i>AZSF</i>	<i>Partner in development of the Greater Flagstaff Forests Partnership (GFFP).</i>
<i>ERI</i>	<i>Since 2010 the ERI has conducted 17 Rapid Assessments to inform environmental impact states and treatment design; conducted 27 workshop for land managers, stakeholders and elected officials; Produced 36 Fact Sheets that summarize scientific literature for land managers; conducted 131 presentations; and produced 6 Systematic reviews, 7 White Papers and 15 Working Papers</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>TNF: Effective forestry, range, wildlife, soil, hydrology training is provided through in-state natural resource universities (i.e., ASU, UA, NAU), professional societies (i.e., SAF, SRM, TWS, ESA, SER, etc.), and agencies.</i>
<i>USFS</i>	<i>TNF: All ranger districts identify invasive species and take immediate action to control herbaceous plant population. Actions include manual extraction, and/or herbicide application.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.02

Develop and implement effective training, education and outreach programs to inform landowners, government officials and the general public about the benefits of resilient ecosystem process and functions. Develop and utilize a well educated cadre of natural resource professionals in Arizona, to address forest threats across all lands in the state.

Reported Accomplishments:

- USFS* ASNF: All ranger districts identify areas of invasive plant populations. The Forest supports employment of temporary employees to treat targeted areas, including invasive salt cedar treatments within the Blue Range.
- USFS* Kaibab NF - 4FRI Thinning project on Williams Ranger District. Tree removal has begun on the Williams Ranger District as a result of the Four Forest Restoration Initiative (4FRI). Objectives are to reduce the fuel loading and potential for future high-density wildfires, improve wildlife habitat, and overall improvement of forest health. This action has received several field trips by U.S. Senators McCain and Flake staff. The cities of Williams and Tusayan have Community Wildfire Protection Plans to aid in prioritizing funding for hazardous fuel reduction projects, including where and how federal agencies implement fuel reduction projects on federal lands.
- USFS* Coronado NF - The Coronado has partnered with the University of Arizona to maintain a public website providing information for the FireScape planning efforts
- USFS* PNF: Worked with the Highland Center for Natural History (HCNH) to make a presentation on the benefits of Forest Restoration to the general public, their Board of Directors, and their cadre of Naturalists that lead public nature walks at the Center for audiences of all ages. PNF partnered with HCNH on a RAC Grant to develop demonstration projects, including: hands-on implementation, opportunities for observing treatments (such as timber sales), long-term interpretive signs and citizen-science monitoring opportunities.
- AZSF* Hosted 3 Tree Risk Workshops in 2014/2015 and supported over 25 ACTC Homeowner Workshops; Distributed 10 Urban Tree Newsletters; Funded 21 Urban/Community Forestry project grants; Conducted approximately 60 community presentations for the public on Forest Health issues; Conducted 80 presentations to municipalities with technical information for Forest Health issues; ~35 AZSF staff have received training in Forest Health topics (2010-2015)

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 1 Protect, conserve and enhance ecological integrity, in order to maintain sustainable forest ecosystems, preserve ecosystem services and avoid public safety hazards associated with large scale catastrophic events.

Planned Action: 2.1.1.03

Provide adequate levels of funding allocated to vegetation and fuel treatments.

Reported Accomplishments:

<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments</i>
<i>AZSF</i>	<i>Collaborated with partners and leveraged state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i>
<i>USFS</i>	<i>ASNF: Funding is available for vegetation and fuel treatments for both 4FRI and ASNF "bridge" projects.</i>
<i>USFS</i>	<i>TNF: Presently, adequate funding is available for vegetation and fuel treatments for both 4FRI and TNF projects.</i>
<i>AZSF</i>	<i>5 RFPs have been released to the public for forest health opportunities (WBBI); Forest Health research projects have been funded (UA bark beetle trapping)</i>
<i>USFS</i>	<i>Kaibab NF: Presently, adequate funding is being made available for restoration (vegetation and fuel treatments) for both 4FRI and KNF projects.</i>
<i>USFS</i>	<i>PNF: The PNF successfully competed for the #1 priority Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and a substantial RAC Grant for the Bradshaw Vegetation Management Project.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.01

Coordinate with the Arizona Game and Fish Department, US Fish and Wildlife Service, and others to identify and implement best management practices related to wildlife and fish habitat.

Reported Accomplishments:

<i>ERI</i>	<i>Partnership with Arizona Game and Fish to understand tassel-eared squirrel and mule deer responses to restoration and thinning.</i>
<i>TNC</i>	<i>Forest Legacy project conservation easements protected primarily predominately mesquite bosque and Fremont cottonwood-Goodding willow riparian forest habitats which provide nesting habitat for southwestern willow flycatcher and yellow-billed cuckoo.</i>
<i>USFS</i>	<i>ASNF: Arizona Game and Fish Department (AGFD) is a cooperating agency on the Heber Wild Horse Territory Plan, Planning for Outfitter-Guide Term Permits, Travel Management, and the Black River Ecosystem Restoration NEPA planning processes. AGFD is also a cooperator with the Forest, USFWS, and Bureau of Reclamation on construction of the West Fork of the Black River Fish Barrier on the Alpine Ranger District.</i>
<i>USFS</i>	<i>PNF: The PNF is a signatory authority for the Central Arizona Grassland Conservation Strategy (2010). The PNF, AFGD, and other partners have coordinated on identifying priority areas and projects for implementation and have cooperatively funded projects. The CAZGCS team meets regularly to discuss project outcomes and refinement of the decision making process for future activities. The PNF is a core member of the Verde Watershed Restoration Coalition in implementing the Verde River Cooperative Invasive Plant Management Plan (2011). The plan targets invasive plant species along aquatic/riparian habitat of the Verde River and major tributaries and incorporates required protection measures for herbicide application related to fish and wildlife species of concern. The Prescott NF has been coordinating with the AGFD to implement the Mule Deer Habitat Enhancement Initiative in forested areas within Game Management Unit 21. The PNF maintains an excellent working relationship with the USFWS and regularly coordinates and consults on our annual program of work.</i>
<i>USFS</i>	<i>Kaibab NF: The Kaibab NF works closely with the U.S. Fish and Wildlife Service to address the habitat needs of the Mexican Spotted owl. The Kaibab NF signed a Candidate Conservation Agreement in September 2015 along with the Bureau of Land Management (Arizona Strip), and the U.S. Fish and Wildlife Service for the Paradine plains cactus to aid in managing this species. Population trends of management indicator species and/or species of conservation concern are monitored in cooperation with the Arizona Game and Fish Department.</i>
<i>AZSF</i>	<i>Funded 4 Invasive Plants Grants (flycatcher, cuckoo, garter snake surveys pre-treatment);</i>
<i>USFS</i>	<i>Pinaleno Ecosystem Management Project, FEIS completed in 2011, plan to protect and restore important habitat mixed-conifer habitat for multiple species. Partnered with both AZG&F and USFSW in project design. The Project is being Implemented under a Stewardship Agreement with the National Wild Turkey Federation.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.01

Coordinate with the Arizona Game and Fish Department, US Fish and Wildlife Service, and others to identify and implement best management practices related to wildlife and fish habitat.

Reported Accomplishments:

USFS

TNF: Arizona Game and Fish Department (AGFD) was cooperated with TNF for Travel Management Environmental Impact Statement (EIS). AGFD also partnered with TNF to complete a minimum tool environmental assessment for using helicopters in wilderness areas to relocate big horn sheep. US Fish and Wildlife Service (FWS) is consulted on every proposed action.

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.02

Encourage adoption of collaborative Wildlife Principals developed by the Arizona Forest Health Council for integrating wildlife habitat and biodiversity conservation with restoration, community protection, and fire management activities. (see SS 2.5.1)

Reported Accomplishments:

<i>USFS</i>	<i>ASNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and implementation of the on-the-ground project activities are designed to support restoration of ecosystem functionality; including integrating wildlife habitat and biodiversity conservation, watershed restoration, community protection and fire management activities.</i>
<i>TNC</i>	<i>Cost-share agreement with Kaibab National Forest in collaboration with RMRS and USFS-RSAC to collect field data for LiDAR model development to analyze Northern Goshawk habitat on the North Kaibab Ranger District.</i>
<i>USFS</i>	<i>PNF: The PNF initiates emergency consultation with the USFWS early during the incident management process when wildland fire suppression activities have any potential to impact T&E species or their habitats.</i>
<i>ERI</i>	<i>Partnership with US Fish and Wildlife Service to understand Mexican Spotted Owl responses to thinning as a part of the Flagstaff Watershed Protection Project</i>
<i>USFS</i>	<i>PNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and the on-the-ground activities they represent are used to integrate wildlife habitat, conserve biodiversity, and protect communities. Collaborative wildlife principals are also considered and applied to wildland fuel treatments and use of fire.</i>
<i>USFS</i>	<i>TNF: FWS is asked to provide emergency consultation when wildland fire encroaches into critical habitats.</i>
<i>USFS</i>	<i>TNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and the on-the-ground activities they represent are used to integrate wildlife habitat, conserve biodiversity, and protect communities. Collaborative wildlife principals are also considered and applied to wildland fuel treatments and use of fire.</i>
<i>USFS</i>	<i>ASNF: Emergency consultation and coordination with the USFWS is conducted on wildland fire management activities in occupied and critical habitats for listed species.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 2 Protect, conserve, and enhance wildlife and fish habitat

Planned Action: 2.1.2.03

Support implementation of Arizona's State Wildlife Action Plan wherever possible.

Reported Accomplishments:

<i>USFS</i>	<i>The Prescott NF has supported implementation of the AZ SWAP through numerous projects including prescribed fire, tree thinning, and noxious weed treatments in forested areas.</i>
<i>USFS</i>	<i>ASNF: Species listed in Arizona's State Wildlife Plan are considered when evaluating proposed activities and their potential impacts, when appropriate. AGFD, ASNF biologists and line officers participate in annual coordination meetings.</i>
<i>USFS</i>	<i>TNF: Species listed in Arizona's State Wildlife Plan are considered when evaluating proposed activities and their potential impacts, when appropriate.</i>
<i>USFS</i>	<i>Species listed in Arizona's State Wildlife Action Plan are considered when evaluating potential impacts of proposed actions, when possible.</i>
<i>AZSF</i>	<i>Funded 1 Invasive Plants grant in 2010.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.01

Identify and refine understanding of unique high priority Arizona ecosystems that are interrelated with Arizona forest resource issues and programs. These include aquatic systems, urban and community forest systems, deserts, grasslands, areas threatened by conversion by invasive plants, and other mixed-vegetation systems .

Reported Accomplishments:

<i>AZSF</i>	<i>Partner with Friends of the Verde River Greenway.</i>
<i>TNC</i>	<i>Obtained Shield Ranch at the confluence of West Clear Creek and the Verde River. In addition purchase and transfer of Rockin River Ranch to AZ State Parks was completed. Together these two properties form a critical linkage of healthy cottonwood-willow riparian forest along the river corridor, connecting the Coconino and Prescott National Forests.</i>
<i>ERI</i>	<i>Research and publications linked directly to unique Arizona ecosystems. Specific ecosystems include: ponderosa pine; pinyon/juniper; grasslands; dry mixed conifer. ERI has 389 peer reviewed publications in its on-line library</i>
<i>AZSF</i>	<i>Urban forestry information/education provided by UCF program; Funded 4 Invasive Plants project grants which trained 94 people.</i>
<i>USFS</i>	<i>PNF: The PNF recently completed our forest plan revision (2015) where many of these unique areas were identified by community and state members in assessment phase of planning process. NEPA processes related to on-the-ground activities also identify and study these unique ecosystems.</i>
<i>USFS</i>	<i>TNF: TNF is in process of revising 30-year old forest plan where many of these unique areas were identified by community and state members in assessment phase of planning process. NEPA processes related to on-the-ground activities also identify and study these unique ecosystems.</i>
<i>USFS</i>	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Many unique areas were identified for management area direction within the plan; including wildlife quiet areas, community-forest intermix areas, and research natural areas.</i>
<i>AZSF</i>	<i>Partner/Stakeholder of Verde Watershed Restoration Coalition.</i>
<i>AZSF</i>	<i>Partnership with The Nature Conservancy (TNC) and Arizona Game and Fish (AZGF), performed as project Administrator for the San Pedro River Forest Legacy conservation easement – 4 easement tracts.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.02

Identify and encourage collaborative partnerships between agencies and organizations with overlapping or coincident responsibilities and interests.

Reported Accomplishments:

<i>USFS</i>	<i>TNF: TNF is in process of developing a collaborative partnership with San Carlos Apache Tribe (SCAT) for the purpose of protecting tribal interests such as wildlife habitats, water quantity and quality, and cultural plants for food and medicine etc. which are present on national forest land.</i>
<i>AZSF</i>	<i>Collaborated with partners and leverage state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i>
<i>AZSF</i>	<i>Partner in development of the Greater Flagstaff Forests Partnership (GFFP).</i>
<i>AZSF</i>	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>
<i>USFS</i>	<i>The Kaibab National Forest and Grand Canyon National Park collaborate and coordinate in their fuels reduction programs.</i>
<i>AZSF</i>	<i>Partner with Friends of the Verde River Greenway.</i>
<i>ERI</i>	<i>Participate on the board of directors for Greater Flagstaff Forest Partnership; Monitoring and technical support to the Natural Resources Working Group; 2011-2013 Collaborative and administrative support for the Parashant Partnership; Arizona Prescribed Fire Council leadership, participation and we support the website</i>
<i>USFS</i>	<i>ASNf: A diverse group of community stakeholders in collaboration with the Forest formed the Natural Resources Working Group to build consensus on forest restoration efforts. Collaboration with citizens, other agencies, academics, communities and conservation groups has resulted in progress toward shared forest health and community protection goals.</i>
<i>AZSF</i>	<i>Partner/Stakeholder of Verde Watershed Restoration Coalition.</i>
<i>USFS</i>	<i>PNF: The PNF coordinates its land management responsibilities with adjacent federal and state land managers, including BLM and AZGFD. The PNF also coordinates with AZGFD and USFWS on management of wildlife and plant populations that occur on NFS lands.</i>
<i>USFS</i>	<i>The Coronado NF is in the process of developing a tri-agency (with the Bureau of Land Management and National Park Service) botany crew to conduct surveys for rare, native, and non-native plant species and collect seeds for rare and native plant species across all three land management boundaries in southeastern Arizona.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.02

Identify and encourage collaborative partnerships between agencies and organizations with overlapping or coincident responsibilities and interests.

Reported Accomplishments:

<i>AZSF</i>	<i>Partner in development of the Rural Communities Fuels Management Partnership (RCFMP)</i>
<i>AZSF</i>	<i>Provided urban forestry information/education by UCF program in collaboration with NGOs, municipalities and others; Conducted Aerial Detection Surveys - 1M-3M forested acres surveyed annually by State staff; Funded 1 Invasive Plants grant project -2010; Funded 1 Western Bark Beetle grant project - 2012.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.03

Develop and implement collaborative action plans to address needs of unique high priority Arizona ecosystems.

Reported Accomplishments:

<i>USFS</i>	<i>The Coronado NF works with several partners and collaborators across the forest on these actions.</i>
<i>ERI</i>	<i>Active involvement with 1st EIS for the 4FRI. Provide science support for national forest plan revisions on the Kaibab, Tonto, Coconino National Forests.</i>
<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 2 CCG grants; 2013 - 2 CCG grants; 2012 - 1 CCG grant</i>
<i>USFS</i>	<i>Kaibab NF - Assisted in development of the Kanab Watershed Coordinated Resource Management Plan of Northern Arizona and Southern Utah. This plan has provided the Kaibab NF with coordinated direction and an ability to leverage funding to complete watershed improvement projects with a great number of partner within the Kanab Watershed (Arizona Department of Water Resources, Bureau of Land Management, Arizona State Lands, Arizona Game and Fish Department, Natural Resources Conservation Service, City of Fredonia, Pauite Tribe, Kane County, Garfield County, and other Utah government agencies).</i>
<i>AZSF</i>	<i>Partnered with and collaborated with the Friends of the Verde River Greenway and the Verde Watershed Restoration Coalition.</i>
<i>USFS</i>	<i>TNF: The result of collaborative partnership with SCAT will be NEPA products which will address needs of unique high priority Arizona ecosystems related to use by native American populations.</i>
<i>USFS</i>	<i>PNF: The PNF has been involved in developing and implementing the Central Arizona Grassland Conservation Strategy (2010), which includes management of woodland vegetation types within the project assessment boundary. The PNF has been involved in implementing the Verde River Cooperative Invasive Plant Management Plan (2011).</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.04

Support implementation of action plans to address unique high priority ecosystems.

Reported Accomplishments:

<i>ERI</i>	<i>Technical and science support on request for the 6 national forests in Arizona, Hopi Tribal lands, and state lands</i>
<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 2 CCG grants; 2013 - 2 CCG grants; 2012 - 1 CCG grant; Developed 3-year Invasive Plant program strategic plan (2015-2017); Technical assistance provided to partners for ~35 plans since 2014 regarding insect and disease management</i>
<i>USFS</i>	<i>TNF: The result of collaborative partnership with SCAT will be NEPA products which will address needs of unique high priority Arizona ecosystems related to use by native American populations.</i>
<i>AZSF</i>	<i>Managing Landscape Scale Restoration (LSR) grant for \$300,000 for the Tri-Forest Verde Watershed Riparian Forest Restoration Project for removal of invasive plants for riparian plant restoration. Funding has been identified for a Riparian Forest Stewardship Plan development.</i>
<i>USFS</i>	<i>PNF: The PNF has been an active member of the Central Arizona Grassland Conservation Strategy since 2010.</i>
<i>USFS</i>	<i>ASNF: The Black River Restoration planning project will not be underway until 2017. However, data collection for the project has begun. Because of the size and complexity of the project, the Forest is in the process of working with a new stakeholder group similar to that of the Natural Resources Working Group to support data collection and the NEPA Planning Process.</i>
<i>USFS</i>	<i>The Kaibab National Forest, U.S. Fish and Wildlife Service, and Bureau of Land Management (Arizona Strip) signed the Candidate Conservation Agreement for the Paradine (Kaibab) Plains Cactus in September 2015. The Kaibab NF provided funding and technical support to the Springs Stewardship Institute in 2015 to complete spring survey monitoring for approximately 75 springs.</i>
<i>USFS</i>	<i>Galiuro FireScope</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 3 Identify and conserve unique high priority ecosystems and landscapes.

Planned Action: 2.1.3.05

Develop and implement practices to limit the spread of exotic invasive species such as Buffelgrass and others.

Reported Accomplishments:

<i>ERI</i>	<i>The ERI investigates exotic species responses to restoration in ponderosa pine. It produces working papers and peer reviewed publications to assist land managers make decisions relevant to avoiding the spread of exotic species.</i>
<i>AZSF</i>	<i>Partner/Stakeholder of Verde Watershed Restoration Coalition.</i>
<i>AZSF</i>	<i>Managing Landscape Scale Restoration (LSR) grant for \$300,000 for the Tri-Forest Verde Watershed Riparian Forest Restoration Project for removal of invasive plants for riparian plant restoration. Funding has been identified for a Riparian Forest Stewardship Plan development.</i>
<i>USFS</i>	<i>TNF: TNF is aggressively trying to control exotic invasive species through manual and herbicide treatments. TNF invites public members, including students from natural resource universities, to assist in control efforts.</i>
<i>USFS</i>	<i>Kaibab NF - Signed the Record of Decision for Integrated Treatment of Noxious or Invasive Weeds for the Coconino, Kaibab, and Prescott National Forests within Coconino, Gila, Mojave, and Yavapai Counties, AZ in November 2004.</i>
<i>AZSF</i>	<i>Partner with Friends of the Verde River Greenway.</i>
<i>USFS</i>	<i>Coronado NF - Southern AZ Buffelgrass Coordination Center developed the Southern AZ Buffelgrass Strategic Plan; Aimed at mitigating wildfire risks to life and property in areas where control is no longer feasible supporting the Pima County CWPP.</i>
<i>USFS</i>	<i>PNF: The 3 Forest Integrated Treatment of Noxious or Invasive Weeds EIS includes best management practices to limit the spread of invasive species on the forest.</i>
<i>USFS</i>	<i>ASNF: Noxious and invasive species mitigation measures are part of implementation for all ground disturbing projects.</i>
<i>AZSF</i>	<i>Developed 3-year Invasive Plant program strategic plan (2015-2017); Funded multiple Invasive Plants project grants: 2010 - 4 IPG grants; 2011 - 2 IPG grants; 2012 - 2 IPG grant; 2014 - 1 IPG grant</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 4 Identify and monitor threats to forests and ecosystem health.

Planned Action: 2.1.4.01

Support development and maintenance of ongoing inventory, monitoring, and detection efforts on all Arizona forestlands and other high priority ecosystems.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2011 - 2 TREE grants; 2014 - 3 CCG grants; 2013 - 2 CCG grants; 2012 - 2 CCG grants; 2011 - 2 CCG grants; Funded multiple Invasive Plants project grants - 2010 - 2 IPG grants (5 properties monitored); 2011 - 1 IPG grant (211 properties monitored along 37.4mi riparian); Aerial Detection Survey - 1M-3M forested acres surveyed annually; ~10K forested acres (on the ground) surveyed annually; ~100 technical assists provided to private landowners annually</i>
<i>USFS</i>	<i>Forest is surveyed annually by the FS Forest Health Office for forest insect and diseases. Follow up ground surveys and monitoring traps are utilized as needed.</i>
<i>ERI</i>	<i>The ERI maintains a network of Long-term Ecological Assessment and Research Network throughout the Southwest. Remeasurements help understand long-term vegetation responses to restoration, climate and other variables</i>
<i>TNC</i>	<i>Assisted in development of Monitoring and Adaptive Management Plan for the Four Forest Restoration Initiative.</i>
<i>USFS</i>	<i>ASNf: The personnel in all resource specialties are constantly monitoring landscapes for detection of threats to Arizona's forestlands and other high priority ecosystems found on national forest land.</i>
<i>USFS</i>	<i>Forest is surveyed annually by the FS Forest Health Office for forest insect and diseases. Follow up ground surveys and monitoring traps are utilized as needed.</i>
<i>USFS</i>	<i>TNF: TNF personnel are constantly monitoring landscapes for detection of threats to Arizona's forestlands and other high priority ecosystems found on national forest land.</i>
<i>USFS</i>	<i>PNF: The PNF is a core member of the VWRC in implementing the Verde River Cooperative Invasive Plant Management Plan (2011). The plan targets invasive plant species along aquatic/riparian habitat of the Verde River and major tributaries and incorporates required protection measures for herbicide application related to fish and wildlife species of concern.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 4 Identify and monitor threats to forests and ecosystem health.

Planned Action: 2.1.4.02

Integrate federal, state, university and other diagnostic/research resources to support surveillance, and detection efforts focused on delineating priority treatment areas and identifying science based treatment needs.

Reported Accomplishments:

USFS	<i>ASNF: The Forest along with the multi-party monitoring board (including the Nature Conservancy and the Northern Arizona University Ecological Restoration Institute) are in the process of evaluating the impacts of forest treatments from the 10-year White Mountain Stewardship Projects. The University of Arizona and NAU are active participants in conducting species surveys and habitat assessments for threatened and endangered species on the Forest. UofA conducted post Wallow Fire recovery assessments of herbaceous ecosystems on the Forest.</i>
USFS	<i>TNF: TNF cooperates with other federal agencies (i.e., NRCS, FWS, etc.), state agencies (i.e., ADEQ, AGFD, etc.), and in-state natural resource universities to detect and delineate treatment areas where science-based treatments are applied.</i>
ERI	<i>The ERI is a leader in the 4FRI Multi-party monitoring effort that is designed to guide long-term adaptive management. The ERI will produce the final summary of 10 Years of monitoring data resulting from the White Mountain Stewardship Contract</i>
ERI	<i>The ERI, in partnership with the Salt River Project and NAU hydrologist Abe Springer have launched a long-term paired watershed study of 4FRI treatments on surface and ground water</i>
USFS	<i>Kaibab NF - worked with range professionals from the University of Arizona, Natural Resources Conservation Service, Arizona Game and Fish Department, Natural Resources Conservation Districts, State Land Department, Bureau of Indian Affairs, and range permittees on cooperative rangeland monitoring efforts. This work has improved our working relationship with these professionals.</i>
AZSF	<i>Funded Urban/Community Forestry Community Challenge Grant: 2012 - 1 CCG grant; Implemented 2012-2015 WCG UFRI Project and all AZUTM products/materials and trainings; Funded 1 Invasive Plants project grant: 2010 2015; - Conducting project w/ UA to trap bark beetles in Tucson</i>
USFS	<i>PNF: The PNF cooperates with other federal agencies (i.e., NRCS, FWS, etc.), state agencies (i.e., ADEQ, AZGFD, etc.), and in-state natural resource universities (Prescott College) to detect and delineate treatment areas where science-based treatments are applied.</i>
AZSF	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 4 Identify and monitor threats to forests and ecosystem health.

Planned Action: 2.1.4.03

Develop a contingency plan for the potential ecological impacts of climate change.

Reported Accomplishments:

<i>USFS</i>	<i>The Land and Resource Management Plan for the Kaibab National Forest addresses climate change indirectly through desired conditions in the form of functional ecosystems and resilient landscapes, and directly in management approaches and the monitoring plan where appropriate. The Kaibab NF, in collaboration with our partners at Northern Arizona University and Grand Canyon Trust, is addressing these concerns by developing landscape-scale, spatially explicit models of occupancy for several species.</i>
<i>USFS</i>	<i>PNF: The PNF assessed and incorporated climate change variables and modeling in or 2015 Forest Plan revision. We developed our desired conditions to provide for ecosystem resilience that is responsive to climate change.</i>
<i>USFS</i>	<i>The Coronado NF includes climate change in our NEPA analysis and it may lead to mitigation measures.</i>
<i>USFS</i>	<i>TNF: Contingency plans are identified in NEPA documents.</i>
<i>ERI</i>	<i>The ERI has 17 publications measuring or modeling vegetation or insect responses to climate change.</i>
<i>USFS</i>	<i>ASNF: The Forest Plan Revision team are developing monitoring elements to be incorporated into the Monitoring Plan associated with ecological impacts of climate change on forest management activities.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 5 Protect forests and other high priority ecosystems from fragmentation and conversion.

Planned Action: 2.1.5.01

Identify and utilize resources to work with state and local governments on policy development and program implementation to protect ecosystems from fragmentation.

Reported Accomplishments:

<i>USFS</i>	<i>On the Kaibab NF, existing collaborations between the Arizona Game and Fish Department and Coconino County generally encourage the protection of open lands and the preservation of the land's natural character within local and regional contexts. These collaborative strategies should decrease the potential for future land fragmentation while improving the overall integrity of the landscape. This should also provide for more resilience with regard to climate change for those wildlife species that may need to adjust migration routes, foraging corridors, or breeding grounds.</i>
<i>USFS</i>	<i>PNF: The PNF incorporated wildlife and habitat associated travel corridors (i.e., the AZGFD linkages study) into the desired condition for terrestrial wildlife to address fragmentation.</i>
<i>TNC</i>	<i>The San Pedro Riparian Ecosystem Project was a partnership between TNC, private landowners near Cascabel, AZ, U.S. Forest Service, Arizona State Forestry and Arizona Game & Fish Department. The project ranked number one on a national priority list for Forest Legacy funding to protect 613 acres of private land and a 4-mile stretch of riparian forest habitat along the San Pedro river from conversion to residential development.</i>
<i>USFS</i>	<i>TNF: Forest planning collaborative NEPA efforts with several partners and stakeholders, including state and local governments are employed to identify and protect ecosystems from fragmentation</i>
<i>USFS</i>	<i>ASNF: The Forest works closely with Arizona Game and Fish Department to identify known migration corridors and incorporate habitat considerations into all landscape scale planning processes.</i>
<i>AZSF</i>	<i>Funded multiple Urban/Community Forestry Community Challenge Grants -2011 - 2 TREE grants; 2014 - 3 CCG grants; 2013 - 1 CCG grant; 2012 - 2 CCG grants; 2011 - 1 CCG grant</i>
<i>ERI</i>	<i>The ERI partnered with the Rural Policy Institute to demonstrate the full cost of the Schultz Fire and Flood. This publication made it all the way to Office of Management Budget. It demonstrated the cost of damage in the WUI as well as the importance of preventing catastrophic fire.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 5 Protect forests and other high priority ecosystems from fragmentation and conversion.

Planned Action: 2.1.5.02

Identify opportunities for Land exchanges with federal agencies and other groups.

Reported Accomplishments:

<i>AZSF</i>	<i>Partnership with TNC and Arizona Game and Fish, performed as project Administrator for the San Pedro River Forest Legacy conservation easement – 4 easement tracts.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>TNC</i>	<i>The Arizona State Forestry Department administers and coordinates the Forest Legacy Program in the State of Arizona, which is funded by the USFS. The Forest Legacy program provides funding for conservation easements to protect private forests.</i>
<i>USFS</i>	<i>PNF: The PNF identified opportunities for land exchange and legal access in the objectives of the 2015 Forest Plan revision.</i>

Planned Action: 2.1.5.03

Identify/develop and disseminate developmental guidelines/ policies for forested areas.

Reported Accomplishments:

<i>USFS</i>	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Many unique areas were identified for management area direction within the plan; including wildlife quiet areas and research natural areas.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>USFS</i>	<i>PNF: The PNF developed desired conditions and guidelines for management in our 2015 Forest Plan revision, based on habitat conditions and community input.</i>
<i>AZSF</i>	<i>Implementing 2012-2015 - WCG Urban Forest Resource Inventory (UFRI) Project. Hosted 7 urban tree inventory workshops for volunteers and community managers as part of the AZUTM (UFRI) project. Published AZ Urban Tree Monitoring (AZUTM) urban tree inventory, tree identification, and tree insect and disease guides for community managers and the general public.; Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 2 CCG grants; 2013 - 2 CCG grants; 2011 - 3 CCG grants</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 1 Resilient and diverse forest ecosystem structures, processes, and functions.

Objective: 5 Protect forests and other high priority ecosystems from fragmentation and conversion.

Planned Action: 2.1.5.04

Work with non-traditional partners to identify policy needs and bridge identified gaps.

Reported Accomplishments:

<i>USFS</i>	<i>PNF: The PNF invested a substantial amount of time and effort to reach out to the communities in and around the PNF, to solicit their input in managing the diverse resources on the PNF.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>ERI</i>	<i>The Society of American Foresters is in the process of revising its policy statement on loss of private forest land. ERI has provided support to this effort.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.01

Use science-based approaches to evaluate, understand and protect against the negative impacts of existing and emerging threats such as climate change, insect and disease outbreaks or land use changes on forest health and public safety, including the build up of hazardous fuel conditions and resulting fire behavior.

Reported Accomplishments:

<i>AZSF</i>	<i>2011 - WCG Air Quality Project - surveyed Phx urban forest and produced outreach materials (poster, factsheets, pole banners, etc.); Implemented 2012 - WCG Urban Forest Resource Inventory (UFRI) Project; Funded multiple Urban/Community Forestry Community Challenge Grants -2013 - 1 CCG grant; 2012 - 2 CCG grants; Provided technical assistance on ~35 plans since 2014 regarding insect and disease management</i>
<i>USFS</i>	<i>TNF: These are expected outcomes from forest plan and 4FRI efforts.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>TNC</i>	<i>Hart Prairie Preserve meadow and forest restoration activates on 40 acres. Development of grant and NEPA for Hart Prairie 70 acre meadow restoration on USFS land.</i>
<i>USFS</i>	<i>ASNF: Science-based approaches are used in all landscape scale planning efforts on the Forest, including Forest Plan Revision and 4FRI NEPA planning efforts.</i>
<i>USFS</i>	<i>ASNF: Many trees that survived the Wallow Fire are still at risk to bark beetle attack. Pheromone capsule tags are annually placed in key locations to protect Douglas Fir and Spruce trees from attack. Protection of the remaining trees also maintains critical wildlife habitat and helps stabilize soils. The Forest Service in conjunction with the Rocky Mountain Research Station annually survey forested areas for insect and disease outbreaks.</i>
<i>ERI</i>	<i>The ERI has an extensive library with almost 400 publications that provide science-based understanding on forest health, the ecological consequences of excess fuels. Etc.</i>
<i>TNC</i>	<i>Assisted in FIRESCAPE evaluations for the Huachuclas, Catalinas, Rincons, Galiuros, Chiricahuas and adjacent lands.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.01

Use science-based approaches to evaluate, understand and protect against the negative impacts of existing and emerging threats such as climate change, insect and disease outbreaks or land use changes on forest health and public safety, including the build up of hazardous fuel conditions and resulting fire behavior.

Reported Accomplishments:

<i>USFS</i>	<i>Coronado NF - FireScape is a collaboration of land managers, scientists, stakeholders, and the public. One of the main components of FireScape is science based information. The goals of the FireScape science group are to provide technical support and scientific data for planning, compliance, public engagement and implementation.</i>
<i>USFS</i>	<i>PNF: The PNF incorporated climate change, insect & disease, and the natural disturbance regime in our 2015 Forest Plan revision. We developed our desired conditions to provide for ecosystem resilience that is responsive to climate change, insects & disease and wildland fire.</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.02

Reduce hazardous fuels and reduce stand densities of unsustainable post-settlement trees, to prevent catastrophic losses from bark beetles and wildfire.

Reported Accomplishments:

- | | |
|------|---|
| AZSF | <i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i> |
| AZSF | <i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i> |
| USFS | <i>PNF: The Bradshaw Vegetation Management Project EA (2013) and Black Hills Vegetation Management Project EA (2011) were designed specifically to reduce the risk of catastrophic fire through mastication and prescribed burning.</i> |
| USFS | <i>ASNF: The forest is analyzing approximately 110,000 acres of the Wallow West Fire Salvage project area for prescribed fire treatments. A contract has been awarded to Geomorphic to complete the NEPA process in 2016. The West Escudilla and Black River Restoration Planning projects also include projects for prescribed fire treatments.</i> |
| AZSF | <i>Western Bark Beetle Initiative grant program: 605 acres treated (2010-2015)</i> |
| AZSF | <i>Collaborated with partners and leverage state hazardous fuel treatment funds with local municipalities for joint funded treatments.</i> |
| USFS | <i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i> |
| AZSF | <i>Implemented program to award state and federally funded hazardous fuels reduction grants. Wildland Fire Hazardous Fuels (WFHF) - 58 projects from 2010-2015 for approximately \$6 million. State Fire Assistance (SFA-WUI) - 16 projects for approximately \$2.3 million.</i> |
| USFS | <i>TNF: These are two main objectives for 4FRI planning and execution.</i> |

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.02

Reduce hazardous fuels and reduce stand densities of unsustainable post-settlement trees, to prevent catastrophic losses from bark beetles and wildfire.

Reported Accomplishments:

USFS Coronado NF - Forest thinning and restoration projects in the upper elevations of the Sky Islands have been ongoing. One example is the Pinaleno Ecosystem Restoration Program (PERP) project in the Pinaleno Mountains. The purpose of this project is to reduce fuel loading, encourage return of the natural fire cycle, increasing resiliency of mixed-conifer stands in the project area to insect and disease, and protect and restore habitat of the Mt Graham red Squirrel.

Planned Action: 2.2.1.03

Encourage adoption of collaborative Wildlife Principals developed by the Arizona Forest Health Council for integrating wildlife habitat and biodiversity conservation with restoration, community protection, and fire management activities. (see SS 2.5.1)

Reported Accomplishments:

USFS TNF: This is also a product of forest planning which the forest is now conducting. It will be followed with specific NEPA documents which outline specific treatment plans designed to integrate wildlife habitat and biodiversity conservation with restoration, community protection, and wildland fire management activities.

USFS PNF: All National Environmental Policy Act (NEPA) documents (i.e., CE, FA, EIS) and the on-the-ground activities they represent are used to integrate wildlife habitat, conserve biodiversity, and protect communities. Collaborative wildlife principals are also considered and applied to wildland fuel treatments and use of fire.

USFS ASNF: Site specific and landscape scale NEPA planning efforts outline specific treatment plans to integrate wildlife habitat and biodiversity conservation with restoration, community protection, and wildland fire management activities.

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.04

Develop and implement integrated landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies for forests across the state.

Reported Accomplishments:

AZSF	<i>Encourage and support Community Wildfire Protection Plan development (30 CWPP finalized).</i>
USFS	<i>PNF: The Bradshaw Vegetation Management Project EA (2013), Black Hills Vegetation Management Project EA (2011), and CAGCS are examples of the PNF's commitment and investment in collaborative and integrated landscape-scale restoration.</i>
AZSF	<i>Partner in development of the Greater Flagstaff Forests Partnership (GFFP).</i>
AZSF	<i>Funding/Implementing multiple project grants: 2015 - Landscape Scale Restoration Verde project; 2011 - 2 Invasive Plants grant projects (838ac treated over 37.4mi of riparian; 184ac treated over Greenlee, Cochise and Graham counties); 2011/2013 - 2 Western Bark Beetle Initiative projects funded. Western Bark Beetle program - 500ac treated (2014-2015)</i>
AZSF	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>
USFS	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
USFS	<i>ASNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. The four forest restoration initiative along with the other landscape scale "bridge" planning efforts on the ASNF are designed to integrate landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies.</i>
AZSF	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
AZSF	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.04

Develop and implement integrated landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies for forests across the state.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>USFS</i> | <i>Coronado NF - FireScape planning efforts have been underway on the Coronado, with the first Record of Decision being signed in 2009 for the Huachuca FireScape Project (400,000 acres). The Galiuro FireScape EA was completed in 2014, with implementation expected to begin in FY 2016.</i> |
| <i>USFS</i> | <i>TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is designed to integrate landscape-scale restoration, community protection, wildlife habitat, population management, and fire management strategies.</i> |
| <i>AZSF</i> | <i>Partner in development of the Rural Communities Fuels Management Partnership (RCFMP)</i> |
| <i>ERI</i> | <i>The ERI has helped develop numerous plans and EIS's related to landscape scale restoration. Activities include the 4FRI EIS#1; Forest Plan revisions on the Coconino, Kaibab and Tonto national forest. Science support for numerous information requests related to EIS preparation and treatment implementation across Arizona</i> |

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.05

Develop land-use policies and practices that support restoration, community protection, and fire management efforts.

Reported Accomplishments:

<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF forestry hand crews.</i>
<i>ERI</i>	<i>ERI provides technical support for preparation of Community Wildfire Protection Plans.</i>
<i>USFS</i>	<i>The Coronado NF works with several partners and collaborators across the forest on these actions. Also, see response to goal 1, objective 1 above re: SIRC</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>USFS</i>	<i>PNF: Restoration and community protection are integral facets of our 2015 Forest Plan revision.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>USFS</i>	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Plan direction supports restoration, community protection and fire management efforts.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.06

Federal and state land management agencies should collaboratively develop an integrated process to design and strategically place treatments in order to increase efficiency, maximize benefits and limit negative impacts of insect & disease outbreaks, invasive plants & wildfire.

Reported Accomplishments:

- AZSF* *Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF forestry hand crews.*
- AZSF* *Funded multiple Invasive Plants project grants: 2010 - 3 IPG grants (20ac high priority riparian treated);
2011 - 2 IPG grants (1022ac treated);
2012 - 1 IPG grant (15ac high priority riparian treated);
2014 - 1 IPG grant (20ac treated);
Implemented Western bark Beetle Initiative projects: 605ac treated in/around Flagstaff, Prescott and Greer*
- USFS* *PNF: The PNF collaborated with adjacent land managers on both the Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and the CAGCS projects.*
- USFS* *ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015. Site specific NEPA planning will outline specific treatment projects designed to increase efficiency, maximize benefits, and limit impacts of insect and disease outbreaks, invasive plant species, and wildland fire.*
- USFS* *Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.*
- USFS* *Coronado NF - The Coronado has been working collaboratively with partners to assist in the completion and implementation of CWPP's (Pinal, Pima, Graham and Cochise County CWPP's).*
- ERI* *The ERI is involved in implementation of the 1st 4FRI EIS. The goal is to encourage treatment timing and placement to maximize benefits.*
- USFS* *TNF: This is also a product of forest planning which the forest is now conducting. It will be followed with specific NEPA documents which outline specific treatment plans designed to strategically place treatments in order to increase efficiency, maximize benefits, and limit impacts of insect and disease outbreaks, invasive plant species, and wildland fire.*

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.06

Federal and state land management agencies should collaboratively develop an integrated process to design and strategically place treatments in order to increase efficiency, maximize benefits and limit negative impacts of insect & disease outbreaks, invasive plants & wildfire.

Reported Accomplishments:

AZSF Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.07

Best Management practices should be implemented to limit the spread of exotic invasive species during restoration and fire management activities.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>USFS</i> | <i>For PERP activities, inspection of equipment for exotic invasive species is required prior to entering the forest.</i> |
| <i>USFS</i> | <i>PNF: Best-Known Practices (BKPs) are part of the Forest Plan Amendment to implement the integrated treatment of noxious weeds and are applicable to all resource programs.</i> |
| <i>USFS</i> | <i>Coronado NF- The Coronado uses several BMPs to help limit the spread of exotic invasive species during restoration and fire management activities. We use the inspection and Cleaning Manual for equipment and vehicles to prevent the spread of invasive species (Technical Memo No.86-68220-07-05). The use of preventing the spread of Invasive Plants: Best Management Practices for Land managers is also used. For ground disturbing projects: Weed Prevention Best Management Practices for Ground-Disturbing Projects
Adapted from: Clark, J. 2003. Invasive Plant Prevention Guidelines. Center for Invasive Plant Management. Bozeman, MT is used.</i> |
| <i>USFS</i> | <i>ASNF: Design and implementation of BMP's are mitigation measures incorporated into planning for forest management activities. BMP's are also monitored post-project implementation to evaluate resource impacts and support adaptive management.</i> |
| <i>USFS</i> | <i>Kaibab NF - An example of Best Management Practices prescribed and analyzed are in the Bill Williams Mountain Project, BMP #8, Clean all equipment prior to leaving the project area with a high pressure washer to remove mud, debris, and vegetative material from the equipment. This will minimize the spread of invasive or noxious weeds into the project area.</i> |
| <i>AZSF</i> | <i>Funded multiple Invasive Plants Program project grants: 2010 - 3 IPG grants;
2011 - 2 IPG grants;
2012 - 1 IPG grant;
2014 - 1 IPG grant;
Provided technical assistance on ~35 mgmt plans since 2014 regarding insects/disease mgmt.</i> |
| <i>USFS</i> | <i>TNF: This is also a product of forest planning which the forest is now conducting. It will be followed with specific NEPA documents which outline specific treatment plans designed to strategically place treatments in order to increase efficiency, maximize benefits, and limit impacts of insect and disease outbreaks, invasive plant species, and wildland fire.</i> |

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.08

Develop incentives and an ethic of personal safety to support sustainable maintenance of fuel treatments.

Reported Accomplishments:

ERI Involvement with AZ Prescribed Fire Council

AZSF In process of developing Job Hazard Analysis program. Daily safety briefing. Annual operational readiness review program has been implemented and is in progress.

USFS PNF: Personal safety is a fundamental component of the Forest Service culture.

USFS TNF: This is also a product of forest planning which the forest is now conducting.

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.09

Increase coordination of forest restoration, fire management, and community protection planning and implementation across jurisdictional boundaries.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>USFS</i> | <i>PNF: The PNF collaborated with adjacent land managers on both the Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and the CAGCS projects. Coordination is an integral part of our project planning (NEPA) process, through scoping, proposed action development, and identifying alternatives.</i> |
| <i>USFS</i> | <i>Coronado NF - The Coronado has taken on a landscape planning approach (FireScape) to plan for treatments across agency boundaries. FireScape plans are developed collaboratively, by multiple land managers and other stakeholders.</i> |
| <i>USFS</i> | <i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i> |
| <i>ERI</i> | <i>The ERI Outreach team works with land managers and stakeholders to help coordinate restoration across multiple jurisdictions including tribal, state, federal and municipal lands.</i> |
| <i>USFS</i> | <i>ASNF: The West Escudilla Restoration planning project is coordinated across state line boundaries with the East Escudilla Restoration planning project on the Gila NF in New Mexico. Both projects include vegetation management, forest products, fuels treatments and watershed management along the common boundary. Watershed Restoration Action Plans are being developed for all 6th code HUCs (watersheds) within the Escudilla planning area (4 in AZ and 8 in NM).</i> |
| <i>USFS</i> | <i>TNF: This is also a product of forest planning which the forest is now conducting.</i> |

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 1 Restore ecologically unhealthy forest, desert and grasslands impacted by current fire regimes, insect & disease outbreaks, land management practices/uses, and exotic invasive species.

Planned Action: 2.2.1.10

Encourage development of integrated long-term restoration, wildlife management, and fire management plans for all federal, state, and tribal lands. (see SS 2.2.8)

Reported Accomplishments:

<i>USFS</i>	<i>Kaibab NF - Activities support this objective. See Ecosystem Goal 1 - Objectives 1 and 3.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>USFS</i>	<i>PNF: The PNF developed the desired conditions in our Forest Plan revision to provide for integrated long-term restoration of wildlife habitat and natural disturbance regimes.</i>
<i>USFS</i>	<i>The Coronado NF is part of an informal group called the Sky Island Restoration Cooperative (SIRC) which is a bi-national community based collaboration of government and non-governmental organizations, private landowners, ranchers, students, volunteers, scientists, and restoration practitioners. This group has combined energy and knowledge to improve restoration activities, outcomes and awareness across the Madrean Archipelago and nurture an understanding of the importance of biodiversity. SIRC is a vehicle for information sharing, training, and project implementation through the identification of restoration research and resource needs. This cooperative also builds bridges across institutional, administrative, and cultural boundaries to create effective regional restoration strategies.</i>
<i>AZSF</i>	<i>Developed 3-year Invasive Plant program strategic plan (2015-2017); provided technical assistance on ~35 mgmt plans since 2014 re: insects/disease mgmt</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 2 Restore frequent fire regimes as part of forest restoration measures.

Planned Action: 2.2.2.01

Adequately restore forest structures through mechanical or prescribed fire treatments to ensure landscapes are compatible with frequent fire regimes.

Reported Accomplishments:

<i>TNC</i>	<i>Four Forest Restoration Collaborative stakeholders and USFS completed EIS to restore fire to over 600,000 acres. In addition USFS has treated 290, 612 acres as of 2014.</i>
<i>AZSF</i>	<i>Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 1 IPG grant (20ac treated); 2011 - 2 IPG grants (1022ac treated); 2012 - 1 IPG grant (15ac high priority riparian treated); Western Bark Beetle Initiative Program: 605ac treated in/around Flagstaff, Prescott, Greer</i>
<i>USFS</i>	<i>PNF: The PNF considers the full complement of available tools to manage vegetation in order to move toward desired conditions identified in our Forest Plan revision.</i>
<i>USFS</i>	<i>TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is designed to restore forest structures through mechanical and prescribed burning to ensure landscapes are compatible with frequent fire regimes..</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>USFS</i>	<i>ASNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. The four forest restoration initiative along with the other landscape scale "bridge" planning efforts on the ASNF are designed to restore forest structures through mechanical and prescribed burning to ensure landscapes are compatible with frequent fire regimes.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 2 Restore frequent fire regimes as part of forest restoration measures.

Planned Action: 2.2.2.02

Implement forest management activities that will allow for reestablishment of frequent, low-severity fire as a key process in forested ecosystems, including increased use of prescribed fire following mechanical thinning and increased management of wildland fires for restoration objectives on appropriate lands.

Reported Accomplishments:

<i>USFS</i>	<i>Coronado NF - The Coronado Forest Plan was amended in 2005 to allow for the management of lightning-caused fires to restore fire's natural role in maintaining a healthy, diverse, and resilient ecosystem resistant to natural disturbances. As of 2014, over 86,000 acres have been treated with natural ignitions.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments – 3,201 acres treated. Treated 11,761 acres of federal and private land in Arizona with AZSF wildland fire crews.</i>
<i>USFS</i>	<i>ASNF: 4FRI includes restoration efforts across the Apache-Sitgreaves, Coconino, Kaibab and Tonto National Forests. The four forest restoration initiative along with the other landscape scale "bridge" planning efforts on the ASNF will support implementation of forest management activities that allow for reestablishment of frequent, low-severity fire as a key process in fire adapted ecosystems, including increased use of prescribed fire following mechanical thinning and increased management of wildland fires for restoration objectives on appropriate lands.</i>
<i>USFS</i>	<i>TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is implementing forest management activities that will allow for reestablishment of frequent, low-severity fire as a key process in forested ecosystems, including increased use of prescribed fire following mechanical thinning and increased management of wildland fires for restoration objectives on appropriate lands.</i>
<i>USFS</i>	<i>PNF: The PNF developed the desired conditions in our Forest Plan revision to provide for integrated long-term restoration of natural disturbance regimes.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 2 Restore frequent fire regimes as part of forest restoration measures.

Planned Action: 2.2.2.03

Planners should work with developers to incorporate appropriate buffer zones, based on anticipated fire hazard, public safety, and wildlife habitats into the design of new developments to allow for maintaining of conditions in adjacent forests and grasslands where natural or prescribed fires may continue or be introduced. (see SS 2.2.4)

Reported Accomplishments:

USFS	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
AZSF	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
USFS	<i>ASNF: The ASNF completed revision efforts and will implement the new Forest Plan in October, 2015.</i>
AZSF	<i>Firewise Community Program with 65 Firewise communities recognized.</i>
AZSF	<i>Encouraged and supported Community Wildfire Protection Plan development (30 CWPP finalized).</i>
AZSF	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments.</i>
USFS	<i>PNF: The PNF collaborated with adjacent land managers on both the Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and the CAGCS projects. Coordination is an integral part of our project planning (NEPA) process, through scoping, proposed action development, and identifying alternatives.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 2 Restore frequent fire regimes as part of forest restoration measures.

Planned Action: 2.2.2.04

Utilize state and local codes, planning options, laws and regulations, and Growing Smarter legislation to address fire risk at the landscape scale. (see SS 2.2.7)

Reported Accomplishments:

<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>AZSF</i>	<i>Firewise Community Program with 65 Firewise communities recognized.</i>
<i>AZSF</i>	<i>Encourage and support Community Wildfire Protection Plan development (30 CWPP finalized).</i>
<i>USFS</i>	<i>ASNF: Community Wildfire Protection Plans have been completed for Coconino, Apache, Navaho and Greenlee Counties. CWPP's help prioritize vegetation treatments in the wildland urban interface across jurisdictional boundaries.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.01

Develop and utilize a collaborative, science-based, multi-entity process to facilitate decisions on properly designing and implementing restoration projects within the social and political framework.

Reported Accomplishments:

- USFS* Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.
- USFS* Coronado NF - FireScope is a response to the need for landscape-scale fire and ecosystem management. FireScope is a framework for expanding safe, ecologically sound, large-scale fire management across multiple land ownerships in the mountains of southeastern Arizona. The FireScope leadership team includes representatives from the Forest Service, The Nature Conservancy, the University of Arizona (UA), Bureau of Land Management, National Park Service, and other southeastern Arizona land managers.
- USFS* PNF: The PNF invested a substantial amount of time and effort to reach out to the communities in and around the PNF, to solicit their input in managing the diverse resources on the PNF. Coordination is an integral part of our project planning (NEPA) process, through scoping, proposed action development, and identifying alternatives.
- USFS* TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative is a collaborative, science-based, multi-entity process to facilitate decisions on properly designing and implementing restoration projects within a social and political framework.
- USFS* The Coronado NF works with several partners and collaborators across the forest on these actions. Also, see response to goal 1, objective 1 above re: SIRC
- AZSF* Funded 1 IPG grant1 Invasive Plants Program project grant - 2010
- TNC* Heavily participated in development of Four Forest Restoration Initiative 1st Analysis Area EIS.
- AZSF* Participant in Four Forest Restoration Initiative (4FRI), with collaboration on development of Environmental Impact Statements (EIS).

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.01

Develop and utilize a collaborative, science-based, multi-entity process to facilitate decisions on properly designing and implementing restoration projects within the social and political framework.

Reported Accomplishments:

USFS ASNF: A diverse group of community stakeholders in collaboration with the Forest formed the Natural Resources Working group to build consensus on forest restoration. Collaboration with citizens, other agencies, academics, communities and conservation groups has resulted in progress toward shared forest health and community protection goals.

AZSF Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments. Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.

ERI Support for the 4FRI, participate in the GFFP, NRWG, Prescribed Fire Council. The ERI library contains information on restoration economic benefits, full cost accounting studies, tips to assist collaboratives, and a wide spectrum of analyses on socio-economic issues.

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.02

Facilitate the sharing of all data and analyses from all ownerships to assist natural resource agencies, county and city managers, and stake holders in planning and implementation of forest restoration activities. Development of a central repository or clearinghouse of information should be investigated.

Reported Accomplishments:

<i>ERI</i>	<i>The establishment and maintenance of the ERI website</i>
<i>TNC</i>	<i>Assisted in development of Monitoring and Adaptive Management Plan for the Four Forest Restoration Initiative.</i>
<i>AZSF</i>	<i>Funded/Implemented Urban/Community Forestry projects: 2012 - WCG Urban Forest Resource Inventory (UFRI) Project; 2014 - 1 Community Challenge Grant</i>
<i>AZSF</i>	<i>Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.</i>
<i>TNC</i>	<i>Developed and formalized adaptive management monitoring program with stakeholders and BLM at Las Cienegas with collaborative annual reviews of data.</i>
<i>USFS</i>	<i>TNF: This is also a product of forest planning which the forest is now conducting.</i>
<i>USFS</i>	<i>ASNF: The White Mountain Stewardship Monitoring Report is an analysis and assessment of the administrative, ecological, economic, and social monitoring data collected between 2005 and 2009. Monitoring Reports are available on the Forest website.</i>
<i>USFS</i>	<i>PNF: The PNF facilitates data sharing across boundaries through our participation in the CAGCS.</i>
<i>USFS</i>	<i>ASNF: The Forest along with the multi-Party Monitoring Board (including the Nature Conservancy and the Northern Arizona University Ecological Restoration Institute) are in the process of evaluating the impacts of forest treatments from the 10-year White Mountain Stewardship Projects.</i>
<i>USFS</i>	<i>Kaibab NF - The forest's plan was revised and signed in February 2014 and supports this recommendation. The management approach for Ponderosa Pine is a major factor in the Forest Plan. Restoration activities would be prioritized in the areas identified by the Kaibab Forest Health Focus (KFHF; NAU 2009) and then move to other areas of high risk and high value. The KFHF was a multi-stakeholder collaborative process that prioritized areas most in need of treatment.</i>

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.03

Undertake educational and outreach activities to increase awareness and understanding of the benefits of addressing forest health issues.

Reported Accomplishments:

USFS The Kaibab NF has a long standing commitment to conducting meaningful government consultations with its tribal neighbors. This is done by building strong partnerships that stress collaborative planning and a shared stewardship approach to the management of public lands. Our resource specialists are experts in everything from wildlife and local cultural history to tree health and geology.

USFS PNF: Worked with the Highland Center for Natural History (HCNH) to make a presentation on the benefits of Forest Restoration to the general public, their Board of Directors, and their cadre of Naturalists that lead public nature walks at the Center for audiences of all ages. PNF partnered with HCNH on a RAC Grant to develop demonstration projects, including: hands-on implementation, opportunities for observing treatments (such as timber sales), long-term interpretive signs and citizen-science monitoring opportunities.

AZSF Created the Arizona Wildfire Risk Assessment Portal (AzWRAP) to display the West Wide Wildfire Risk Assessment data (WWA), increasing awareness about hazardous areas and helping planners with wildfire issues across Arizona.

USFS ASNF: In 2015 the American Conservation Experience worked in the Wallow Fire area installing bark beetle pheromone capsule tags to protect the remaining fir and spruce trees from beetle attacks.

AZSF Distributed 10 Urban Tree Talk Newsletters;
Conducted Tree Risk Workshops;
Funded multiple Urban/Community Forestry Community Challenge Grants -2014 - 8 CCG grants;
2013 - 3 CCG grants;
2012 - 3 CCG grants;
2011 - 2 CCG grants;
2010 - 1 CCG grant;
Funded multiple Invasive Plants Program project grants -2010 - 1 IPG grant (Buffel Busters book);
2011 - 1 IPG grant;
2014 - 1 IPG grant (The Creekside Almanac distributed to 450 ppl);
Distributed 5 Forest Health Conditions Report;
Distributed ~35 Forest Health Alerts since 2010

ERI The ERI has been in 237 news articles over the last 5 years. These numbers reflect the original, primary source of the article and do not include syndication. This means that particularly for wire services like the Associated Press (AP) and Reuters, the impact can be 10-100 fold when an article is plucked off the wire by other outlets across the U.S. and globe. ERI has appeared in a total of 6 AP/Reuters articles over the past 3 years.

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.03

Undertake educational and outreach activities to increase awareness and understanding of the benefits of addressing forest health issues.

Reported Accomplishments:

USFS TNF: This is also a product of forest planning which the forest is now conducting.

USFS Coronado NF - The Coronado has partnered with the University of Arizona to maintain a public website providing information for the FireScape planning efforts

PROTECT FORESTS FROM HARM

Ecosystem Health (2)

Goal 2 Progress toward landscape scale outcomes, restoration of unhealthy ecosystems, and enhanced sustainability with limited negative impacts.

Objective: 3 Integrate collaborative, science based, planning processes and public education into restoration treatments

Planned Action: 2.2.3.04

Develop funding mechanisms for the successful implementation of all aspects of ecosystem restoration activities and education projects.

Reported Accomplishments:

<i>USFS</i>	<i>The Kaibab NF's Leadership Team prioritizes allocated funds based on forest priorities.</i>
<i>AZSF</i>	<i>Implemented hazardous fuel reduction program to identify, fund and treat state owned land with hand, mechanical, and prescribed fire treatments</i>
<i>USFS</i>	<i>TNF: 4FRI includes restoration efforts across Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests. This four forest initiative has a funding mechanism for successful implementation of all aspects of ecosystem restoration activities and education projects.</i>
<i>USFS</i>	<i>ASNF: The Black River Restoration planning project will not be underway until 2017. However, data collection for the project has begun. The Forest is in the process of working with a new stakeholder group similar to that of the Natural Resources Working Group to support data collection and the NEPA Planning Process.</i>
<i>AZSF</i>	<i>Utilization of interagency service agreements (ISA) with other state entities; collaborative funding options through REPI, etc.; 5 RFPs released to fund Forest Health improvement projects (WBBI program)</i>
<i>USFS</i>	<i>The Coronado NF's Integrated Restoration Project Team prioritizes allocated funds based on forest priorities</i>
<i>ERI</i>	<i>Provide science support for the successful passage of \$10 of bond funding to advance the Flagstaff Watershed Protection Project. The ERI "Efficacy of Hazardous Fuel Treatments: A praid Assessment of the Economic and Ecologic Consequences of Alternative Hazardous Fuel Treatments". Was used to effective argue for the restoration of hazardous fuels dollars to the Forest Service and Department of Interior in 2013-2014.</i>
<i>USFS</i>	<i>PNF: The PNF successfully competed for the #1 priority Joint Chiefs Award for Region 3 (Prescott Basin Cross-Boundary Project) and a substantial RAC Grant for the Bradshaw Vegetation Management Project.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.01

Fuel reduction treatments. Reduce excessive fuel loading to prepare fire adapted landscapes for historic fire regimes through fuel treatment activities.

Reported Accomplishments:

<i>BLM</i>	<i>BLM Arizona's Hazardous Fuels Reduction accomplishments- FY2010: Fire-12,097acres Mechanical-4,586 acres; FY2011: Fire-3,984acres Mechanical-4,411acres; FY2012: Fire-4,687acres Mechanical-2,811acres; FY2013: Fire-974acres Mechanical-3,341acres; FY2014: Fire-1,500acres Mechanical-1,287acres</i>
<i>USFS</i>	<i>AZ NFs Hazardous Fuels Reduction accomplishments- FY2010 Fire- 79,393 acres Mechanical-21683 acres FY2011 Fire- 102,197 acres** Mechanical - 15,688 acres FY2012 Fire- 51,824 acres** Mechanical - 28,350 acres FY2013 Fire - 43,192 acres** Mechanical - 53,748 acres FY2014 Fire - 101,737 acres** Mechanical - 46,414 acres ** (includes wildfire accomplishments) FY 15 KNF/PNF/COF/CNF/ASF Fire - 149,456** Mechanical - 8185 acres</i>
<i>APS</i>	<i>Vegetation management to reduce fire risk due to electrical equipment.</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 1 IPG grant; 2011 - 1 IPG grant (838ac treated); 2012 - 1 IPG grant (15ac high priority riparian treated) Funded multiple Western Bark Beetle Initiative project grants: 2010 - 2 WBBi grants; 2011 - 1 WBBi grant; 2012 - 2 WBBi grants; 2013 - 1 WBBi grant</i>
<i>AZSF</i>	<i>Since 2010 approx 6000 acres of crew fuels work and approx 800 acres of mechanical fuels treatment.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.02

Strategic placement of treatments. Design fuels treatments strategically on the landscape to effectively reduce fire risk.

Reported Accomplishments:

<i>APS</i>	<i>ASP is clearing vegetation on 375K poles in the urban interface based on the Western States Fire Risk Assessment</i>
<i>AZSF</i>	<i>Community risk assessment completed. Fuels treatment work has occurred within over 43 cities, municipalities of unincorporated communities since 2010.</i>
<i>USFS</i>	<i>WUI Fuels accomplishments- strategically placed fuels treatments designed to further defensibility of federal, state, and private lands and infrastructure. Of the above accomplishments, this includes treatments of 287,357 acres in WUI areas between 2010 and 2014 The Prescott NF - Completed year one of the Joint Chief's Landscape Restoration Partnership project which included 250 acres of thinning, 1000 acres of mastication and 500 acres of prescribed fire in Prescott Basin Cross Boundary Project area. The Coronado NF continues to partner with Fort Huachuca to implement fuel treatments adjacent to NFS land. Fuels treatment projects adjacent to State and private lands are coordinated annually with AZ State Forestry during the Non-Federal Lands Hazardous Fuels Projects Meeting. COF- Flagstaff Watershed Protection Project (Citizens of Flagstaff voted to fund work on NF lands) is in NEPA Planning Phase, CC Cragin (SRP manages this water that supplies the Town of Payson) is a National Forest Foundation (NFF) project that is in the NEPA Planning phase. Upper Beaver Creek is also an NFF project that is in the implementation phase. ASF-Thru the mechanical treatments of White Mountain Stewardship task orders, treatments were strategically placed to protect infrastructure and also placed within the landscape to minimize large high severity runs.</i>
<i>BLM</i>	<i>Geospatial and ground based assessments of WUI have been conducted ahead of designing fuels treatment projects at the district level. Fuels treatment projects are designed and strategically placed to enhance the defensibility of federal, state, private lands and infrastructure. Between 2010 and 2014 over 15,000 acres of WUI has been treated on BLM managed lands. Fuels treatment projects adjacent to other Federal lands, state or private land are coordinated annually locally or via Arizona State Forestry via the Communities at Risk Agreement/Hazardous Fuels Treatment program meetings.</i>
<i>AZSF</i>	<i>Funded multiple Western Bark Beetle project grants: 2010 - 1 WBBi grant; 2011 - 1 WBBi grant; 2012 - 1 WBBi grant; 2013 - 1 WBBi grant; (all WBBi grants completed in sensitive areas in and around neighborhoods or up-wind from communities)</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.03

Encourage collaborative long-term forest restoration and fire management planning by all land managers. (see SS 2.2.8)

Reported Accomplishments:

<i>AZSF</i>	<i>Collaboration with Federal Partners on multiple landscape scale forest restoration projects; 4FRI, White Mtn. Stewardship</i>
<i>BLM</i>	<i>Via the Communities at Risk agreement and partnership with AZSF Hazardous Fuels program, treatments conducted on Non-Federal Land adjacent to BLM managed land can account for at least 400 acres across the state since 2013.</i>
<i>USFS</i>	<i>Non-Federal Land accomplishments, these treatments conducted by local Fire Districts with federal funding created an additional 3115 acres of accomplishments on Private lands immediately adjacent to USFS lands. This increased defensibility and restoration efforts on all lands by all land managers and communities. In 2015, the Record of Decision was signed for the first Phase of the 4 Forest Restoration Initiative (Coconino, Apache-Sitgreaves, Tonto, and Kaibab NF). This collaborative process has accomplished approximately 241,109 acres of restoration using mechanical treatments and fire since 2010 and has cleared upwards of 600,000 acres for additional treatments. The Coronado has taken on a landscape planning approach (FireScape) to plan for treatments across agency boundaries. FireScape plans are developed collaboratively, by multiple land managers and other stakeholders</i>
<i>ERI</i>	<i>Ongoing/continued outreach actions by ERI - (ERI's contribution is in addition to other statewide efforts from a variety of partners).</i>
<i>APS</i>	<i>Working with HOA, Fire Dist. And community leadership. Close collaboration with Forest Service, Private Landowners as well as BLM and State Forestry.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.04

Provide adequate resources for planning & resource support during implementation of fire management strategies.

Reported Accomplishments:

<i>USFS</i>	<i>All AZ NFs utilize WFDSS as a decision support tool when developing fire management strategies for wildfires. This enhances resource specialist support during planning processes. The SW Region hosts 2 Type 1 IMTS, 3 Type 2 IMTs, and several Type 3 IMTs which consists of members of all federal agencies, AZ St employees, and Fire District employees. These IMTs, in addition to single resource assignments, provide an interagency resource support mechanism for all land managers to utilize during fire management activities. OTHER FOREST SPECIFIC ITEMS?</i>
<i>AZSF</i>	<i>Moving towards implementing WFDSS at the State Level</i>
<i>AZSF</i>	<i>Equipment Mobilization Plan to more effectively mobilize local government equipment</i>
<i>APS</i>	<i>APS has qualified planners and resources specialist including fire mitigation.</i>
<i>AZSF</i>	<i>Participation on and support of Regional IMTs at all levels</i>
<i>BLM</i>	<i>BLM Arizona utilizes local resource specialists as well as technology including WFDSS to identify and support fire management strategies. Agency fire managers work within their agency and with partners and cooperators to ensure fire readiness and support.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 1 Manage forest structure to restore fire regimes and minimize negative impacts from unwanted wildfire (recognizing the diversity of federal, tribal, state and private landownership in Arizona).

Planned Action: 3.1.1.05

Restore impaired ecosystems through mechanical treatments and use of fire to achieve desired effects and sustained natural fire regimes.

Reported Accomplishments:

<i>AZSF</i>	<i>approx 125 acres</i>
<i>APS</i>	<i>APS uses the practice of Integrated Vegetation Management to use mechanical removal as well as herbicide to achieve a natural fire regimes.</i>
<i>USFS</i>	<i>In 2015, the Record of Decision was signed for the first Phase of the 4 Forest Restoration Initiative (Coconino, Apache-Sitgreaves, Tonto, and Kaibab NF). This collaborative process has accomplished approximately 241,109 acres of restoration using mechanical treatments and fire since 2010 and has cleared upwards of 600,000 acres for additional treatments. Prescott NF- Bradshaw Vegetation Management Project signed in 2013 provides 47,500 acres to be restored with prescribed fire and mechanical treatments.</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 2 IP grants; 2011 - 1 IP grant (838ac treated); 2012 - 1 IP grant (15ac high priority riparian restored)</i>
<i>BLM</i>	<i>BLM continues to analyze and prioritize projects in accordance to Healthy Lands initiatives within the agency, working with multiple resource functional areas and incorporating those initiatives into partnerships. Fire, mechanical and herbicide treatments are utilized as appropriate to restore and/or minimally impact impaired ecosystems.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 2 Use appropriate application of fire to meet resource and community protection objectives

Planned Action: 3.1.2.01

Develop integrated planning efforts to achieve desired outcomes from fire, utilizing CWPP's, and fire and land management plans considering private landowner and community objectives.

Reported Accomplishments:

<i>BLM</i>	<i>BLM has been very active in participating in the development and maintenance of CWPPs across Arizona and in 2014 performed a full revision of its statewide fire management plans to incorporate and better display partnerships and planning objectives with private/community stakeholders.</i>
<i>APS</i>	<i>APS is working to educate the need for interface vegetation management. We partner and highlight the efforts of local state and community programs to create combustible free space.</i>
<i>AZSF</i>	<i>6 Community Wildfire Protection Plans (CWPP) have been completed since 2010 for a total of 27 CWPPs current across the state. Several more are in development and several are undergoing revision and update.</i>
<i>USFS</i>	<i>KNF has recently completed a new Land Management Plan. This was a collaborative process with all partners and stakeholders aimed at defining desired conditions and the goals and objectives of achieving those conditions. The Prescott NF Land and Resource Management Plan completed in June 2015 and will go into effect September of 2015. Completed numerous pre-season stakeholder meetings focused on fuels treatments, incident response, and interagency cooperation. Bradshaw Vegetation Management Project opened the way for 47,500 acres of fuels treatments much of which is in the greater Prescott basin wildland urban interface. COF- has published a Draft EIS that should lead to a Final EIS and corresponding Land Management Plan in 2016. We have two large CWPPs (Greater Flagstaff and Blue Ridge).</i>
<i>AZSF</i>	<i>Supported development of 6 Community Wildfire Protection Plans (CWPP) since 2010. 27 total</i>

Planned Action: 3.1.2.02

Utilize fire in fire adapted ecosystems, ensuring acceptable intensities, timing and duration of treatments.

Reported Accomplishments:

<i>USFS</i>	<i>AZ NFs Hazardous Fuels Reduction accomplishments utilizing wildfire and prescribed fire- FY2010 Fire- 79,393 acres, FY2011 Fire- 102,197 acres, FY2012 Fire- 51,824 acres, FY2013 Fire - 43,192 acres, FY2014 Fire - 101,737 acres</i>
<i>BLM</i>	<i>BLM Arizona's Hazardous Fuels Reduction accomplishments utilizing Prescribed or Wildfire - FY2010: Fire-12,097acres ; FY2011: Fire-3,984acres ; FY2012: Fire-4,687acres ; FY2013: Fire-974acres ; FY2014: Fire-1,500acres</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 2 Use appropriate application of fire to meet resource and community protection objectives

Planned Action: 3.1.2.03

Avoid management use of fire in areas where it will establish or encourage unwanted invasive species

Reported Accomplishments:

BLM Land Management Plans as well as the recent revisions of Fire Management Plans have identified treatment strategies and areas where fire is detrimental to native species and/or would encourage unwanted invasive species.

USFS The Coronado is in the process of wrapping up Land Management Plan revision. Direction will be provided that discourages the use of fire in non-fire adapted desert ecosystems, including those areas where buffelgrass exists.

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 3 Use best available science to define appropriate levels (acceptance) of fire for different ecosystems or vegetation types:

Planned Action: 3.1.3.01

Conduct research to define appropriate timing and acceptable fire intensities in various ecosystems.

Reported Accomplishments:

<i>APS</i>	<i>APS crews and contractors are Certified Arborists as well as OPM herbicide applicators.</i>
<i>ERI</i>	<i>Various research publications completed</i>
<i>USFS</i>	<i>COF- The Ecological Restoration Institute has ongoing research (LEARN project) on the southern end of our forest. Fort Valley Experimental Forest has ongoing fire research, including fire return interval studies in Ponderosa Pine, at the southern base of the San Francisco Peaks. Long Valley Research Station has expressed interest in fire related work.</i>
<i>AZSF</i>	<i>AZSF staff sit on Executive Board of Southwest Fire Science Consortium</i>

Planned Action: 3.1.3.02

Conduct research to define requirements for post fire re-habilitation.

Reported Accomplishments:

<i>USFS</i>	<i>All wildfires over 500 acres receive a Burned Area Emergency Response (BAER) assessment to determine potential needs for rehab work to occur. Between 2010 and to date in 2015, 71 BAER assessments covering 1,203,166 acres have been completed across AZ NFs. COF has ongoing BAER work in the Slide Fire area.</i>
<i>ERI</i>	<i>Various research publications completed</i>

Planned Action: 3.1.3.03

Conduct research to Identify appropriate use of fire and other management actions in areas populated with invasive species.

Reported Accomplishments:

<i>APS</i>	<i>APS herbicide specialist have developed applications to assist.</i>
<i>ERI</i>	<i>Various research publications completed</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 1 Wildland ecosystems where appropriate fire regimes maintain health and resiliency of natural vegetation.

Objective: 3 Use best available science to define appropriate levels (acceptance) of fire for different ecosystems or vegetation types:

Planned Action: 3.1.3.04

Support Firescape and similar programs to Increase all lands fire management knowledge and expertise.

Reported Accomplishments:

<i>USFS</i>	<i>Coronado NF - FireScape is a response to the need for landscape-scale fire and ecosystem management. FireScape is a framework for expanding safe, ecologically sound, large-scale fire management across multiple land ownerships in the mountains of southeastern Arizona. The FireScape leadership team includes representatives from the Forest Service, The Nature Conservancy, the University of Arizona (UA), Bureau of Land Management, National Park Service, and other southeastern Arizona land managers.</i>
<i>APS</i>	<i>Through APS Pole Clearing Program we will create about 300 Sqft of defensible space on each pole treated.</i>
<i>AZSF</i>	<i>AZSF staff provides direct input into presentation of research to fire managers</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.01

Encourage development and implementation of CWPP's or equivalent plans in areas at high risk of wildfire. (see SS 2.4.1 & SS 3.1.7)

Reported Accomplishments:

<i>USFS</i>	<i>KNF- City of Williams and Tusayan CWPPs in place, Kaibab Forest Health Focus (Collaborative project with partners and stakeholders to identify priority landscapes on KNF) Prescott NF - Yavapai Communities Wildfire Protection Plan, Prescott Basin Operations Plan Annex. Coronado NF - CWPPs in place for Cochise, Pima, Pinal, Graham and Greenlee Counties. Coronado NF and AZ State (A3S Staff) are working with Santa Cruz County staff to get funding and develop a County-wide CWPP for Santa Cruz County. COF- The Greater Flagstaff Forest Partnership has had ongoing Hazard Fuels Reduction projects since the late 1990s- work continues in areas west, south and east of the City of Flagstaff and several surrounding communities. The Blue Ridge Urban Interface project is ongoing around subdivision in the Happy Jack/Blue Ridge area. ASF-CWPP's in place for Navajo, Apache, Coconino & Greenlee counties. Currently involved in a collaborative effort with Navajo county on revising/updating there CWPP.</i>
<i>BLM</i>	<i>BLM Arizona has provided funding and participated in the development and maintenance of CWPPs in Mohave, La Paz, Yuma, Maricopa, Yavapai, Gila, Graham, Greenlee, Pima, Pinal, Cochise and Santa Cruz counties.</i>
<i>APS</i>	<i>Partnership with APS is possible in this area</i>
<i>AZSF</i>	<i>All plans developed are in some level of active implementation. AFD actively helps communities within these CWPPs to seek and secure grant funding</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.02

Build leadership capacity and support dedicated personnel to sustain implementation of CWPPs and other community wildfire planning.

Reported Accomplishments:

<i>USFS</i>	<i>KNF-Actively engaged in Wildland Fire Advisory Council (which includes Fed, AZ ST, and VFD partners) COF- Ponderosa Fire Advisory Council (which includes Fed, AZ ST, and VFD partners)Prescott NF - Involved with the Prescott Area Wildland Urban Interface Commission, Prescott Basin Wildland Response Group, Verde Valley Chiefs Association, Western Yavapai Fire Chiefs Association, Central West Zone Coordinating Group, Central West Zone Fire Restrictions Group, Prescott Interagency Dispatch Center Operations Group. Hosted and participated in multiple pre-season decision maker and key stakeholder meetings focused around risk management, values at risk, and interagency agency response. Coronado NF - Southern AZ Buffelgrass Coordination Center developed the Southern AZ Buffelgrass Strategic Plan; Aimed at mitigating wildfire risks to life and property in areas where control is no longer feasible supporting the Pima County CWPP. The AZ Prescribed Fire Council is active in AZ working primarily on liability issues associated with private burning and multi-partner prescribed fire training opportunities in Northern Arizona. ASFis involved in White Mountain Restrictions coordination group, NE Arizona fire chiefs association, Regional Smoke coordination group & significant collaboration and interaction with AZ State Forestry.</i>
<i>AZSF</i>	<i>AZSF plays an active role in many fire advisory groups around the state. AZSF was instrumental in the creation of the Arizona Prescribed Fire Council and plays an active leadership role within the council. AZSF meets regularly with Fire Chief organizations around the state and actively coordinates with these organizations.</i>
<i>AZSF</i>	<i>All plans developed are in some level of active implementation. AFD actively helps communities within these CWPPs to seek and secure grant funding</i>
<i>BLM</i>	<i>Fire, Fuels and Mitigation/Education management specialists at the District and State level work with local and state emergency managers and fire departments.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.03

Design and implement effective restoration and fuel treatment activities in the Wildland Urban Interface to meet community protection objectives.

Reported Accomplishments:

<i>AZSF</i>	<i>Most of the 6000 acres of Crew work 800 acres of Mechanical work and is within communities adjacent to Fed Land and coordinated with those agencies to tie in priority areas</i>
<i>BLM</i>	<i>Fire, Fuels and Mitigation/Education management specialists at the District and State level work with local and state emergency managers, fire departments or other organizations to ensure complementary objectives are being met with the community and adjacent public land.</i>
<i>AZSF</i>	<i>Funded multiple Western Bark Beetle project grants: 2010 - 1 WBBi grant; 2011 - 1 WBBi grant; 2012 - 1 WBBi grant; 2013 - 1 WBBi grant; (all WBBi grants occurred in sensitive areas in and around neighborhoods, or up-wind from communities.)</i>
<i>AZSF</i>	<i>A web-based Arizona Wildfire Risk Assessment Portal (AZWrap) is in development. It will allow planners to identify those areas most at risk and look at the factors contributing to the risk. This will allow for more effective mitigation to reduce the associated risk. It will allow planners to prioritize treatments to those areas at the highest risk and tailor projects to mitigate the factors contributing to the risk.</i>
<i>USFS</i>	<i>WUI Fuels accomplishments- strategically placed fuels treatments designed to further defensibility of federal, state, and private lands and infrastructure. Of the above accomplishments, this includes treatments of 287,357 acres in WUI areas between 2010 and 2014</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 1 Assist communities in planning for and reducing wildfire risks.

Planned Action: 3.2.1.04

Integrated and collaborative development of implementation plans (CWPPs, FMP's, etc) for an all-lands approach should be considered wherever appropriate. (see SS 2.3.1)

Reported Accomplishments:

<i>APS</i>	<i>APS is interested in possible partnership in this area.</i>
<i>AZSF</i>	<i>All plans developed are in some level of active implementation. AFD crews are actively working on Federal lands under Federal agency direction on fuels treatment projects.</i>
<i>BLM</i>	<i>Many areas identified as high priority and/or at high risk are being approached in a coordinated effort with multiple stakeholders. Many of those communities are recipients of funding from BLM's Communities at Risk Agreement/AZSF Hazardous Fuels Grant program.</i>
<i>USFS</i>	<i>Coronado NF - CWPPs in place for Cochise, Pima, Pinal, Graham and Greenlee Counties. Coronado NF and AZ State (A3S Staff) are working with Santa Cruz County staff to get funding and develop a County-wide CWPP for Santa Cruz County.</i>

Planned Action: 3.2.1.05

Develop consistent fire hazard classifications for all developed and undeveloped lands using standard assessment methods. (see SS 2.2.1)

Reported Accomplishments:

<i>BLM</i>	<i>BLM AZ Collaborates frequently with AZSF in local and state wide community assessment processes.</i>
<i>AZSF</i>	<i>The state-wide assessment is complete and the web-based Arizona Wildfire Risk Assessment Portal (AZWrap) is in final development/testing stages.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 2 Design and implement effective smoke management strategies and protocols. (see AIR Strategy)

Planned Action: 3.2.2.01

(See AIR Strategy Actions)

Reported Accomplishments:

<i>AZSF</i>	<i>All AZSF burn bosses attend refresher classes every two years with emphasis on smoke management procedure and practices.</i>
<i>USFS</i>	<i>All AZ NF Fire/Fuels Managers participate in an annual Interagency Smoke Management Meeting with AZ ST and AZ Dept Of Environmental Quality officials. During peak Rx season, AZ NFs, in conjunction with other land management agencies, participate in smoke coordination conference calls to help inform others and reduce potential air shed conflicts. AZ NFs request approval to conduct prescribed fire operations. Implementation measures, acres, location and duration, are adjusted to comply with ADEQ approval. All USFS Prescribed Fire Burn Bosses are required to complete a refresher course every two years. In these refreshers, smoke management has always been an active discussion topic to ensure fire managers are current on policies.</i>
<i>AZSF</i>	<i>Through partnership with ADEQ there is a very active smoke management plan that promotes fire use in suppression and RX arenas</i>
<i>AZSF</i>	<i>AZSF is supporting development of an on-line smoke permitting system with Arizona Department of Environmental Quality to track smoke emissions from wildland prescribed burning. Development of associated training materials, user manuals, and public information material is ongoing.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 3 Develop additional fire adapted communities that meet Firewise standards and support increased local scale implementation.

Planned Action: 3.2.3.01

Support adoption of Wildland/Urban Interface development codes by Counties and communities. (see SS 2.2.2 & SS 2.2.3)

Reported Accomplishments:

APS APS Pole Clearing is in compliance to the IFC and UWIC around electrical transmission and distribution.

BLM BLM AZ employees have provided advice and council to some of its adjacent communities/stakeholders looking to begin the development of codes.

Planned Action: 3.2.3.02

Promote and implement Firewise USA Communities and Ready-Set-Go Programs to increase public awareness and encourage local level responsibility. (see SS 5.2.1)

Reported Accomplishments:

BLM BLM AZ works closely with AZSF and assists in the promotion of Firewise Education, community assessments and RSG program information. Each district has a Fire Mitigation/Education/Prevention Specialist that coordinates locally and a Mitigation/Education/Prevention Specialist at the State Level that work to ensure affected communities are being educated and informed.

APS Our combustible Free Space Program for the distribution and transmission lines of APS increase and support the message of RSG and other PE.

AZSF 33 new Firewise communities have been established since 2010. Arizona now has 63 established Firewise communities with many existing communities processing requests to renew their status. Program presentations and training are ongoing throughout the state. Ready-Set-Go and other programs are included in the AZSF Prevention program and marketed in presentations across the state.

AZSF 33 FIREWISE Community USA since 2010, 63 since inception. The Ready, Set, Go! Program is a part of the AZSF prevention program.

USFS KNF-Actively engaged in Wildland Fire Advisory Council (which includes Fed, AZ ST, and VFD partners) COF- Ponderosa Fire Advisory Council (which includes Fed, AZ ST, and VFD partners) Prescott NF - Active participation with the Prescott Area Wildland Urban Interface Commission (Fed, State, Local, public/private partners) and the Yavapai County Chiefs Associations. Participated in the annual Wildland Fire Expo. ASF actively participates with the NE Fire Chiefs Association including fire wise specific events.

PROTECT FORESTS FROM HARM

Fire (3)

Goal 2 "Fire Adapted Communities" that provide shared stakeholder responsibility for healthy landscapes and wildfire prepared communities.

Objective: 3 Develop additional fire adapted communities that meet Firewise standards and support increased local scale implementation.

Planned Action: 3.2.3.03

Provide GIS and WUI assessment training, equipment, and support to local communities to build local capacity.

Reported Accomplishments:

<i>AZSF</i>	<i>FIREWISE assessor training classes provided with hundreds of people trained.</i>
<i>USFS</i>	<i>Coronado NF and AZ State (A3S) have been cooperating in sponsoring FireWise Assessor and Advisor training courses and working with local community and HOA groups to train more community stakeholders.</i>
<i>BLM</i>	<i>BLM AZ works closely with AZSF and assists in providing Assessor/Advisor training to communities and with assessments.</i>
<i>APS</i>	<i>The information and data we gather in our programs is available to the communities and partners anytime to support the greater goal.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.01

Provide adequate fire preparedness and suppression funding to maintain firefighter and public safety and provide for private property and natural resource protection .

Reported Accomplishments:

<i>AZSF</i>	<i>Provided grant funding to rural Arizona fire departments to support purchase of personal protective gear, wildland fire fighting equipment, and wildland firefighter training. Over 150 grant awards for approximately \$840,000 provided utilizing US Forest Service funds over 5 year period.</i>
<i>USFS</i>	<i>AZ NFs are funded through appropriations to maintain a preparedness organization, which includes; prevention, detection, preparedness resources, aviation assists, Regional and National resources, and a workforce to support local, Regional, and National Incident Management Teams. Preparedness funding are to support organizations that respond to wildland fires, implement prescribed fire projects, and support all hazard response with the priority objective of protecting life, property, and natural resources.</i>
<i>BLM</i>	<i>In Fiscal Year 2015 BLM Arizona secured funding to create a new Interagency Hotshot crew stationed in Sierra Vista, Arizona. This crew will be operational in the spring of 2016.</i>
<i>AZSF</i>	<i>Annual State Fire funding is \$3 million, \$1.4 is used for preparedness used in part to fund Seasonal/on-call aircraft to be on duty during the main fire season as appropriate. A state Incident Management Team (IMT) team was in place from 2010-2014.</i>
<i>AZSF</i>	<i>AZSF has received approval to spend Suppression funding for Preparedness. The funds allow AZSF to preposition resources and have resources available through the fire season. This allows for a quicker and more effective response on initial attack. Funded resources include Single Engine Air Tankers, a Department of Public Safety helicopter that is bucket equipped and qualified, and air attack platforms. Engines are staffed on an as needed basis and on high risk days. AZSF and local government provide many members to the Incident Management Teams hosted in this Region.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.02

Collaborate with Federal, State, local and private partners to study and implement most efficient utilization of existing firefighting and fuel treatment resources.

Reported Accomplishments:

<i>AZSF</i>	<i>Arizona Dispatch Center has been built into a highly effective center, and the addition of Arizona Department of Agriculture dispatch services has increased radio coverage.</i>
<i>AZSF</i>	<i>AZSF has agreements in place to allow for direct initial attack utilization of local resources by our federal partners. AZSF has entered into agreements to provide resources for prescribed fire projects. AZSF has developed and implemented the Statewide Equipment Mobilization plan to more effectively and efficiently dispatch equipment to extended attack and project fires in and out of state.</i>
<i>USFS</i>	<i>The Southwest Coordination Center (SWCC) is the interagency focal point for coordinating the mobilization of resources between the twelve Federal and State Dispatch Centers of the SW Area and, when necessary, the National Coordination Center in Boise, ID. Located in Albuquerque, New Mexico, the SWCC mobilizes resources for wildland fire, prescribed fire, and other all-risk incidents. In addition, the Center provides Predictive Services and Intelligence related-products in support of incident management decision-making for wildland fire managers and on-the-ground wildland firefighters. KNF maintains several agreements with AZ ST Forestry for use of AZ ST resources to accomplish fuels treatments, including Prescribed Fire projects. This has given KNF an increase in resource capacity, as well as offered increased prescribed fire experience to those state resources. Prescott NF - Partnered and participated with the Prescott Basin Wildland Response Group, Verde Valley Chiefs Association, Western Yavapai Fire Chiefs Association, Central West Zone Coordinating Group, Prescott Interagency Dispatch Center Operation Group in on-going efforts to increase management efficiencies. Partnered with GCFD to provide wildland fire dispatching services to boundary fires. Coronado NF hosts the Tucson Interagency Dispatch Center (TDC), located at the Tucson Interagency Fire Center. TDC supports all 5 Federal land management agencies plus AZ State, including all municipal fire departments in the Southeast Arizona Zone. This Zone-wide center supports firefighters over 17.5 million acres of land in SE Arizona and by adhering to closest-forces practices, fire responses are timely, efficient and effective for all cooperating agencies.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.03

Build additional initial and extended attack fire suppression and fuel treatment capacity.

Reported Accomplishments:

<i>AZSF</i>	<i>Approximately 400 units assigned total.</i>
<i>USFS</i>	<i>AZ NFs participate in Type 1, Type 2, and Type 3 Incident Management Teams. The development and recruitment process for these teams supports all agencies in developing local, regional, and national capacity. In addition, the SW Region has developed and implemented a Priority Training program aimed and developing all levels of qualification to support IMTs. Prescott NF - Hosted multiple fire/fuels courses on the Forest and within the Central West Zone. Provided significant contribution to the AZ Wildfire Academy with coordination, instruction, and students. Participated in and helped coordinated the Prescott Basin Wildfire Operations drill and Verde Valley Wildland Fire drill. Hosted an interagency aviation drill with fed and local cooperators. In cooperation with the Yavapai Apache Nation, the Prescott NF sponsors a T2 Crew Program. Coronado NF is supporting a Type 3 IMT in the Southeast Arizona Zone which has managed 2 fires in the Zone this season and 1 in the Pacific Northwest.</i>
<i>BLM</i>	<i>Arizona through guidance from the Southwest Coordinating Group has increased its formal Incident Management Type 3 team numbers to 3 teams statewide.</i>
<i>AZSF</i>	<i>Through agreement with local government, AZSF has access to over 400 pieces of suppression equipment. Statewide training is being offered to bring more wildland fire trained fire fighters online. Training assignments are emphasized to increase the operational capacity of local government departments and districts. State and local government members of the IMTs are used to provide training at the local level to improve the qualifications of local government. AZSF is a leading supporter of the Arizona Wildland Academy as a source for funding, instructors, and students.</i>

Planned Action: 3.3.1.04

Develop more accurate statewide wildfire reporting/statistical cause database

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF is increasing its Wildland Fire Reporting (WFR), and is moving to implement a web Based WFR. AZSF is also working with local fire departments to capture the wildland fire reports within District to get a better picture of the fire occurrences in AZ</i>
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PROTECT FORESTS FROM HARM

Fire (3)

Goal 3 Enhance wildland fire management capacity in Arizona.

Objective: 1 Increase Firefighting Response Capabilities and Efficiencies

Planned Action: 3.3.1.05

Utilize new technologies in firefighting and dispatch systems to increase efficiencies.

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF has implemented Zimmergrams in conjunction with the large fire decision analysis, and is working to implement WFDSS</i>
<i>AZSF</i>	<i>AZSF is working to implement the Wildland Fire Decision Support System at the State level. AZSF is exploring technology for tracking individual resources on the fire ground.</i>
<i>USFS</i>	<i>Dispatch Centers such as the Tucson, Phoenix, Prescott, Flagstaff, and Kaibab Interagency Dispatch centers have recently implemented new organizational changes that incorporate interagency organizations and dispatching protocols. The ability to dispatch to a broader area has been supported by newer technology in communications infrastructure and is aimed at increasing efficiencies to all partners when providing dispatch support.</i>
<i>BLM</i>	<i>BLM Arizona in cooperation with interagency partners has implemented IDOPP recommendations for dispatch consolidations in Tucson dispatch and Phoenix Dispatch. BLM Arizona was also instrumental in consolidating the Colorado River agencies into Prescott Dispatch.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 3 Enhance wildland fire management capacity in Arizona.

Objective: 2 Assure adequate Wildland and Prescribed Fire Training is provided to all necessary personnel.

Planned Action: 3.3.2.01

Develop and maintain statewide wildland training needs database.

Reported Accomplishments:

- | | |
|-------------|---|
| <i>USFS</i> | <i>Northern and Southeast Arizona Boards includes all federal and state agencies and collectively provide the SW Region with an annual training needs assessment. Central West Zone Training Coordinator maintains a training needs database for participating members at the fed, state, and local levels.</i> |
| <i>AZSF</i> | <i>AZSF has partnered with Prescott FD and the AWIMA to leverage the organizations resources to bring more training opportunities to more agencies. An assessment of needs has been done to further this cause.</i> |

Planned Action: 3.3.2.02

Develop NWCG qualified firefighting and prescribed burn personnel within the Arizona fire departments and various state and local agencies, through formal training and on-the-job task book completion.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>AZSF</i> | <i>The AZ Red Card committee has been developed to ensure qualification issuing is standardized and a policy has been implemented to certify all qualifications listed within it. Priority training lists are collected annually.</i> |
| <i>USFS</i> | <i>KNF maintains several agreements with AZ ST Forestry for use of AZ ST resources to accomplish fuels treatments, including Prescribed Fire projects. This has given KNF an increase in resource capacity, as well as offered increased prescribed fire experience to those state resources while supporting approximately 15 fuels treatment projects. Prescott NF - Hosted multiple fire/fuels courses on the Forest and within the Central West Zone. Significant contribution to the AZ Wildfire Academy with coordination, instruction, and students. Participated and coordinated the Prescott Basin Operations Drill. Hosted an interagency aviation drill. In cooperation with the Yavapai Apache Nation, the Prescott NF sponsors a T2 Crew Program. Supplied numerous personnel to T1, T2, and T3 IMTs.</i> |

PROTECT FORESTS FROM HARM

Fire (3)

Goal 3 Enhance wildland fire management capacity in Arizona.

Objective: 2 Assure adequate Wildland and Prescribed Fire Training is provided to all necessary personnel.

Planned Action: 3.3.2.03

Provide adequate financial support for wildland fire training opportunities within the State (Arizona Wildfire Academy, weekend workshops, community colleges)

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF has partnered with Prescott FD and the AWIMA to leverage the organizations resources to bring more training opportunities to more agencies</i>
<i>BLM</i>	<i>BLM has supported educational efforts via specialized funding such as Ready Reserve and more recently Local Cooperator assistance. Funds are used to provide training to local cooperators via BLM District/State fire specialists or through funding support of the Arizona Wildfire Academy.</i>
<i>AZSF</i>	<i>Provided grant funding to rural Arizona fire departments to support purchase of personal protective gear, wildland fire fighting equipment, and wildland firefighter training. Over 150 grant awards for approximately \$840,000 provided utilizing US Forest Service funds over 5 year period.</i>
<i>USFS</i>	<i>Many AZ NFs contribute personnel to support the AZ Wildfire Academy's IMT and/or participate as course instructors in order to provide the wildland fire training necessary to develop and support and interagency fire community. Southeast Arizona Board member agencies all provide financial support to the training program so that all Zone-sponsored training can be offered tuition-free. KNF has an multi-year agreement with Northern AZ University to train and recruit diverse applicants for fire management positions. This agreements utilizes National USFS funding to promote fire management skills from a diverse applicant pool at the university.</i>

Planned Action: 3.3.2.04

Develop processes and methodology for local firefighting agencies to gain OJT wildland experience to improve skills.

Reported Accomplishments:

<i>USFS</i>	<i>AZ NFs participate in several endeavors aimed at building firefighting skills through OJT experience. Endeavors such as: AZ Wildfire Academy, Women if Wildland Fire Boot Camp, SW Engine Academy, and local fire preparedness reviews and Sand Table Exercises allow fire managers from all agencies to train as an interagency community.</i>
<i>AZSF</i>	<i>AZSF has Partnered with Prescott FD and the AWIMA to leverage the organizations resources to bring more training opportunities to more agencies. Priority training lists are collected annually. Trainees are routinely added.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 1 Develop and deliver Arizona specific educational information and tools to increase citizens and community awareness of wildland fire issues and preparedness.

Planned Action: 3.4.1.01

Collaboratively develop and maintain Arizona specific information, educational materials, and common messages about wildland fire to help residents of forest and other communities understand the risks inherent in living in fire-prone areas, and to educate developers and the community about steps that can be undertaken to reduce exposure to fire hazard and to improve forest health. (see SS 2.3.1 & SS 5.1.1)

Reported Accomplishments:

<i>BLM</i>	<i>BLM Arizona works with AZSF to maintain a website, multiple educational publications, and educational campaigns such as One Less Spark, RSG and Firewise.</i>
<i>USFS</i>	<i>Implementation and Collaboration with Fed, State, Private, and Public partners of One Less Spark Program across AZ National Forests .Prescott NF - Hosted multiple key stakeholder meetings focused around risk management, fire response and awareness. Delivered numerous fire education programs to schools and community groups. Coronado NF and other Southeast Arizona Zone Board members are participating with the University of Arizona in an update of the Arizona-specific FireWise DVD series. They are also working with AZ State (A3S) staff in developing trailers to be used for FireWise education at fairs, schools, special events, etc. KNF has been active in providing information, site visits, and interviews to local media outlets to educate and inform the general public on fire management strategies, tactics, and program goals. Newspaper, radio, and online messages provide consistent message regarding fire management strategies.</i>
<i>APS</i>	<i>APS is interested in possible partnership in this area.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grant: CCG 14-1102</i>
<i>AZSF</i>	<i>Use NWCG Curriculum. Created FIREWISE training specific to AZ. Continue to participate in FIREWISE, Ready Set Go!, One less Spark, One Less Wildfire.</i>
<i>ERI</i>	<i>Establishment of the Arizona Prescribed fire Council (See Mission Statement)</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 1 Develop and deliver Arizona specific educational information and tools to increase citizens and community awareness of wildland fire issues and preparedness.

Planned Action: 3.4.1.02

Collaboratively develop and maintain programs and methodologies for delivery of information about wildland fire issues and activities. (see SS 2.3.1 & SS 5.1.1)

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF has implemented webinars for WUI grant applications to help grantees create better fuels management projects and better grant applications</i>
<i>APS</i>	<i>APS is interested in possible partnership in this area.</i>
<i>USFS</i>	<i>Inciweb, Incident Information System, is a national online database used by AZ NFs to provide incident information to a wide audience. This system is used for both wildfires and prescribed fires. Prescott NF - Provided timely and accurate information through the Prescott Interagency Dispatch Website.</i>

Planned Action: 3.4.1.03

Use current technology to provide up to date educational information (social networking sites, websites etc).

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Urban/Community Forestry project grant: CCG 14-1102</i>
<i>USFS</i>	<i>Use of Twitter, Inciweb, and Facebook has allowed fire information to be shared with a broader audience. This has help to educate others as to fire management strategies and activities.</i>
<i>AZSF</i>	<i>AZSF uses the Defense Logistics Agency (DLA) and multiple private vendors to acquire gear and equipment.</i>
<i>BLM</i>	<i>BLM Arizona works with AZSF to maintain http://wildlandfire.az.gov as well as a Fire Restrictions website http://firerestrictions.us/az. They also maintain the twitter for @WildlandFireAZ to help amplify the wildfire education and messaging from Arizona's interagency partners.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 1 Develop and deliver Arizona specific educational information and tools to increase citizens and community awareness of wildland fire issues and preparedness.

Planned Action: 3.4.1.04

Collaboratively develop and maintain an organized cadre of trained individuals to provide educational opportunities to communities and the general public.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>BLM</i> | <i>BLM Arizona participates on the SWA Prevention and Information group which ensures that local needs for Fire Prevention and Education are being met across the SW Area and there is a strong Arizona interagency contingent that communicates regularly to request, provide or promote training and interagency outreach opportunities.</i> |
| <i>USFS</i> | <i>Use of Prevention/Education Teams across AZ NF's during peak fire season. Tonto NF-2015, Coconino NF-2015, Coronado 2015 Coronado National Forest added a Prevention Technician position to the SO staff to help develop the Forest-wide and Zone-wide Prevention programs. This position is serving as the lead for the OLS bi-lingual project and is taking the lead in working with Prevention Teams, etc.</i> |
| <i>AZSF</i> | <i>Continue to participate and look for growth opportunities in educational programs including, FIREWISE, Ready Set Go!, One less Spark, One Less Wildfire.</i> |
| <i>AZSF</i> | <i>More than 35 AZSF staff have been trained in Forest Health issues/concerns since 2010</i> |

Planned Action: 3.4.1.05

Identify adequate resources (fiscal and other) to support ongoing fire education materials and programs.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>BLM</i> | <i>BLM has supported educational efforts via specialized funding such as Ready Reserve and more recently Local Cooperator assistance.</i> |
| <i>AZSF</i> | <i>Provided grant funding to rural Arizona fire departments to support purchase of personal protective gear, wildland fire fighting equipment, and wildland firefighter training. Over 150 grant awards for approximately \$840,000 provided utilizing US Forest Service funds over 5 year period.</i> |
| <i>USFS</i> | <i>Implementation and Collaboration with Fed, State, and Public partners of One Less Spark Program across AZ National Forests. Coronado NF is taking the lead on development of Spanish-language One Less Spark materials with financial support from the Washington Office</i> |
| <i>ERI</i> | <i>Arizona Prescribed Fire Council (AZPFC) Website (Developed & maintained by ERI)</i> |
| <i>AZSF</i> | <i>Utilized grants to promote the FIREWISE program</i> |

PROTECT FORESTS FROM HARM

Fire (3)

Goal 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 2 Increase government leadership awareness of wildland fire preparedness and appropriate actions.

Planned Action: 3.4.2.01

Develop and maintain specific wildland fire materials for outreach to federal, state, county, and local government officials.

Reported Accomplishments:

<i>AZSF</i>	<i>Continue to participate and look for growth opportunities in educational programs including, FIREWISE, Ready Set Go!, One less Spark, One Less Wildfire.</i>
<i>APS</i>	<i>APS is interested in possible partnership in this area.</i>
<i>USFS</i>	<i>Implementation and Collaboration with Fed, State, and Public partners of One Less Spark Program across AZ National Forests.</i>
<i>BLM</i>	<i>BLM has supported educational efforts via specialized funding such as Ready Reserve and more recently Local Cooperator assistance. Funds are used to provide training to local cooperators via BLM District/State fire specialists or through funding support of the Arizona Wildfire Academy.</i>

Planned Action: 3.4.2.02

Develop and implement a plan to inform federal, state, county, and local officials on Arizona wildland fire preparedness and other fire issues.

Reported Accomplishments:

<i>BLM</i>	<i>Local Fire managers and specialist at the District level work with area Fire Chiefs and or Emergency Managers to collaborate on emergency response planning. State level specialists also meet with their state and regional Emergency Manager counterparts to ensure collaboration at all levels.</i>
<i>AZSF</i>	<i>AZSF continuously improves its effective internal organization to keep federal and state officials updated on fire management issues</i>
<i>USFS</i>	<i>Coconino and Kaibab NF have worked with Coconino County officials to build a better understanding of Coconino/Kaibab NFDRS plan and restrictions process and have supported Coconino Co's development of a restriction implementation process. Coronado NF engaged other land managers in SE AZ and produce an Interagency NFDRS Plan to support fire management decisions across jurisdictional boundaries. Prescott NF - Hosted pre-season key stakeholder meetings. Coordinate and participate in zone fire restrictions and preparedness calls and meetings. Southeast Arizona Zone Board includes County OES representatives in Restrictions calls held regularly during the fire season. The Northern AZ, Central West, Southeast Zone Boards all participate on interagency fire restriction coordination calls to promote understanding and knowledge of every participating agency's process of entering fire restrictions. Coordination follows the SW Interagency Restriction Program and restriction levels are provided at an online website to allow ease of access for public users.</i>

PROTECT FORESTS FROM HARM

Fire (3)

Goal 4 An Arizona public and government leadership that is well informed about wildland fire management, science, and prevention issues.

Objective: 2 Increase government leadership awareness of wildland fire preparedness and appropriate actions.

Planned Action: 3.4.2.03

Provide adequate funding to support government leadership outreach materials and program maintenance.

Reported Accomplishments:

BLM Annual programs of work are developed to anticipate needs as determined locally. While in general the need outweighs the funding, projects and efforts are ongoing and occur annually.

AZSF AZSF continuously improves its effective internal organization to disburse and manage its many grants that are administered.

Objective: 1 Collaboratively protect and enhance water quality and quantity of forested watersheds.

Planned Action: 4.1.1.02

Collaboratively identify or develop best management guidelines (BMG) .

Reported Accomplishments:

Borderlands Restoration Through Walton Family Foundation grant, worked closely with Babo landowner, USGS, NRCS/Santa Cruz NRC, Audubon Research Ranch, Fort Huachuca, City of Sierra Vista, UA Coop Ext to install and monitor large and small erosion control structures--gabions and one-rock strucs--to slow water and increase water infiltration. Qualitative and quant data have been used to demonstrate best techniques and placement of strucs, and multiple field visits with community members to sites have provided educ and outreach. Approx 350 small and 25 large erosion strucs still being monitored for hydro and veg responses over time in order to make the case for future work at scale in region.

USFS Arizona's Forests have been working with the ADEQ for over 20 years developing programmatic and site specific BMPs for land disturbing projects. The FS implemented a National BMP program in 2012 furthering that effort on a national scale. Forests have been developing/implementing site specific BMPs for projects for decades, especially as it relates to logging practices, prescribed burning and road construction/maintenance. Each Forest completed 6 implementation and effectiveness evaluations in 2013 and 2014 and must complete 6 in 2015 for many activities .

PROTECT FORESTS FROM HARM

Water (4)

Goal 1 Improved water quality and quantity from forested watershed .

Objective: 3 Minimize negative impacts from wildfire in watersheds of concern.

Planned Action: 4.1.3.01

Develop and implement fire management strategies within watersheds of concern to minimize negative impacts

Reported Accomplishments:

<i>USFS</i>	<i>Private community, county, State and FS District burning and fuel treatment strategies have resulted in mitigating direct losses to life, property and forest resources, and resulted in fewer acres burned at high soil burn severity as seen in Wallow and more recent San Juan fires, as well as others across the State. Effects of high soil burn severity within watersheds has resulted in increased peak flows an estimated 2 to 10 times in magnitude resulting in flood damage and loss of life as well as soil erosion rate increases at up to 1000 times natural levels as found with studies on the RC fire and others.</i>
<i>TNC</i>	<i>TNC helped Ramsey Canyon homeowners develop FireWise program, obtained \$105,000 hazardous fuels grant to treat 165 acres.</i>
<i>US FWS</i>	<i>Completed Endangered Species Act (ESA) section 7 consultation for the Four Forests Restoration Initiative</i>
<i>US FWS</i>	<i>Completed Endangered Species Act (ESA) section 7 consultation for the Flagstaff Watershed Protection Project</i>
<i>Joint Chiefs Partnership</i>	<i>The US Forest Service, Natural Resources Conservation Service (NRCS), Arizona State Forestry (AZSF), the City of Prescott, Prescott Area Wildland Urban Interface Commission (PAWUIC), the Highlands Center for Natural History, and private landowners will implement and “all lands, all hands” approach to address fuel hazards and ecosystem health in the Prescott Basin Area within the Verde River Watershed. This collaborative effort will also promote forest health in the greater Prescott area. An Environmental Assessment was signed in 2013 relating to the management area designated under this project. Work has begun, but over 3 years, treatments on private, municipal, county, state and federal land will include prescribed burning, mastication, hand thinning, and tree shearing over many hundreds of acres in the Prescott Basin.</i>
<i>TNC</i>	<i>Ramsey Canyon identified as high-risk area for Sierra Vista WUI, with high fuel loads. In 2013, TNC obtained funding from ASF to have Dept of Corrections work crew treat 40 acres in 2013, another 44 in 2014.</i>
<i>Borderlands Restoration</i>	<i>Begun to develop Firewise program for Patagonia community in coordination with Town, TNC, and Revitalist Botanicals to reduce ladder fuels and educate public about forest health and how people can have a hand in improving and stabilizing shared lands</i>

PROTECT FORESTS FROM HARM

Water (4)

Goal 2 Improved health and resiliency of forested aquatic systems (riparian areas, springs, and wet meadows.)

Objective: 2 Restore aquatic systems, and improve water availability.

Planned Action: 4.2.2.03

Encourage and protect existing native vegetation and supplement with native vegetation plantings where appropriate.

Reported Accomplishments:

<i>TNC</i>	<i>TNC coordinates with USFS on protection activities within the Bebb willow community at Hart Prairie. Examples include invasive weed management, Bebb willow plantings, and fencing around strategic seeps, springs and bebb willow sites.</i>
<i>US FWS</i>	<i>Our Partners for Fish and Wildlife Program has provided funding to support numerous projects that assist with control of non-native vegetation and support restoration of native riparian communities</i>
<i>Borderlands Restoration</i>	<i>Borderlands seeking to be major connecting node in region among agencies, private landowners, organizations in order to improve efficiencies and effectiveness</i>
<i>AZSF</i>	<i>Funded multiple Invasive Plants Program project grants: 2010 - 2 IPG grants; 2011 - 1 IPG grant (838ac riparian treated); 2012 - 1 IPG grant (15ac high priority riparian treated); 2014 - 1 IPG grant (20ac riparian treated)</i>
<i>USFS</i>	<i>The forests completed a limited amount of planting, but treated invasive riparian species, such as tamarisk on the Blue River, and other locations.</i>

Planned Action: 4.2.2.05

Restore natural spring discharge by removing outdated improvements where possible.

Reported Accomplishments:

<i>USFS</i>	<i>A landmark project working with APS to remove an obsolete hydroelectric plant and diversions resulted in returning free flow to Fossil Creek on Tonto and Coconino NFs that was completed in 2005 has been recently returned to wild and scenic status. Riparian and spring improvements continue within the creek. A large culvert under an old railroad fill across the West Fork of the Little Colorado was removed and grade restored in 2010 and 2 aquatic organism passages (AOPs) have replaced round culverts with open bottom culverts on Apache trout streams on the ASNF.</i>
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PROTECT FORESTS FROM HARM

Air (5)

Goal 1 Improved air quality.

Objective: 3 Improve coordination of smoke management related to wildland fire and forest restoration treatments. (Arizona Enhanced Smoke Management Program)

Planned Action: 5.1.3.01

Develop GIS map data of smoke sensitive airsheds and areas for use by land managers, fire mgt organizations, and the national Wildland Fire Decision Support System (WFDSS).

Reported Accomplishments:

ADEQ A GIS layer was created to show Arizona airsheds (i.e., Smoke Management Units). Federal and state land managers (F/SLMs) have access to this information in the Arizona Smoke Management Database (AZSMD) along with additional overlays of Class 1 areas, PM-10 NAAs, and PM-2.5 NAAs with respect to an agency's location of Rx burn projects.

AZSF Map generated and available on ADEQ website which shows airsheds, non-attainment areas, class 1 airsheds and other relative information

Planned Action: 5.1.3.03

Develop and utilize improved fuel modeling to better predict fire behavior and inform emission calculations.

Reported Accomplishments:

AZSF Using Landfire and Scott/Burgan fuel models to more accurately predict fire behavior and consumption as it relates to smoke production

PROTECT FORESTS FROM HARM

Air (5)

Goal 1 Improved air quality.

Objective: 4 Reduce negative impacts of forest treatments on air quality.

Planned Action: 5.1.4.02

Work with interagency partners to design and implement reintroduction of fire adjacent to communities (to manage intensity, duration and timing of smoke emissions from fire management activities.)

Reported Accomplishments:

AZSF Smoke reduction techniques and modeling are required inputs to all prescribed fire planning from state and federal agencies. 12 Rx plans approved with some implemented

AZSF Working to include local government agencies in smoke management reporting database with inclusion of smoke management requirements in Rx plans.

Planned Action: 5.1.4.03

Design fire management and implementation activities to effectively manage the intensity and duration of smoke impacts.

Reported Accomplishments:

ADEQ The Arizona Smoke Management Program (AZSMP) at ADEQ tracks Emission Reduction Techniques (ERTs), that are intended for F/SLMs to utilize (if applicable) to aid mitigation of potential PM-2.5 emissions from prescribed burns.

AZSF Using more effective modeling techniques to gauge smoke production and travel of particulates. Smoke reduction techniques and modeling are required inputs to all prescribed fire planning from state and federal agencies

Planned Action: 5.1.4.04

Develop integrated planning efforts to achieve desired outcomes from fire, utilizing CWPP's, and fire and land management plans considering private landowner and community objectives.

Reported Accomplishments:

AZSF Using Hazard viewer portal to identify planning areas supported by need, CWPPs, threat. Actively engaged in ongoing CWPP rewrites and original production.

PROTECT FORESTS FROM HARM

Air (5)

Goal 2 Increased public understanding of the importance and effects of fire on Arizona's air quality.

Objective: 1 Enhance public outreach & education regarding fire management and air quality.

Planned Action: 5.2.1.01

Develop interagency educational materials for distribution on the benefits of prescribed fire and its role in the ecosystem and good management practices in regards to air quality.

Reported Accomplishments:

AZSF 2010 - WCG grant (Air Quality Project): completed urban tree assessments in Phoenix, El Paso, Albuquerque and Las Cruces that generated values for urban trees to particulate matter reduction and improved air quality; produced website, brochure (10K copies), 4 factsheets (1.25K copies/ea), 1 tree poster (5K copies) and pole banners (100 banners); provided ~15 presentations to community groups and at national conferences; will host 3 internal AZSF staff trainings in Oct2015

ADEQ Benefits of prescribed fire are discussed in ADEQ's "Fires Smoke and Your Health" brochure.

Planned Action: 5.2.1.02

Provide interagency public service announcements in regards to wildland and prescribed fire and their relationship to air quality issues.

Reported Accomplishments:

ADEQ ADEQ has created "Fires Smoke and Your Health," and Winter Wood Smoke in Northern Arizona" brochures. Additional helpful links concerning smoke are provided on the "Smoke Management" section of the ADEQ's website.

AZSF 2010 - WCG grant (Air Quality Project): completed urban tree assessments in Phoenix, El Paso, Albuquerque and Las Cruces that generated values for urban trees to particulate matter reduction and improved air quality; produced website, brochure (10K copies), 4 factsheets (1.25K copies/ea), 1 tree poster (5K copies) and pole banners (100 banners); provided ~15 presentations to community groups and at national conferences; will host 3 internal AZSF staff trainings in Oct2015

PROTECT FORESTS FROM HARM

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.03

Convene a biomass working group to coordinate and lead a statewide approach to developing markets, infrastructure, and connecting treatment by-projects to markets.

Reported Accomplishments:

AZSF Arizona Statewide Wood Energy Team

ECO Focus by ECO on the "biomass bottleneck" in 2015 Forest Health, Vibrant Economy Conference.

AZSF Arizona Statewide Wood Energy Team (USDA-FS Wood Innovations Program).

Planned Action: 6.1.1.05

Ensure that wood utilization opportunities and challenges are clearly identified in CWPPs and other local and regional planning efforts.

Reported Accomplishments:

USFS Arizona Forest Action Plan (Utilization and Marketing) and Forest Plan Revision for the 5 National Forests in Arizona are considering this in the social and economic assessments during Forest Plan Revision.

Planned Action: 6.1.1.10

Develop and support incentive programs that encourage the use of restoration-generated materials by businesses across the state. (see SS 4.2.4)

Reported Accomplishments:

AZ Commerce Authority Reauthorization and extension of the Arizona Commerce Authority's Healthy Forest Enterprise Incentives Program.

AZSF Reauthorization and extension of the Arizona Commerce Authority's Healthy Forest Enterprise Incentives Program

PROTECT FORESTS FROM HARM

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.11

Explore federal contracting authorities, permitting policies and other support opportunities to attract and keep viable and appropriate fiber utilization industries that meet multi-level collaborative goals and plans.

Reported Accomplishments:

<i>ECO</i>	<i>In addition to supporting the Stewardship Agreement authority in 4FRI, ECO is using the Stewardship Agreement authority to manage the Burro Stewardship project, and is exploring the use of the new Good Neighbor authority with AZSF and USFS for the Black River project.</i>
<i>USDA FSA</i>	<i>Four Eligible Material Owner hauled woody biomass to two approved conversion facilities under the BCAP.</i>
<i>AZSF</i>	<i>Two businesses in Arizona have become certified facilities under the USDA Biomass Crop Assistance Program (BCAP)</i>
<i>USDA FSA</i>	<i>Two businesses in Arizona have become approved conversion facilities under the USDA Biomass Crop Assistance Program (BCAP)</i>

PROTECT FORESTS FROM HARM

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 2 Federal, state, and local units of government should identify and enhance the use of small-diameter wood and biomass generated from forest treatments wherever possible.

Planned Action: 6.1.2.01

Federal, state, and local government entities should use forest restoration treatment-generated material whenever and wherever possible. This includes use of renewable energy sources in new buildings, retrofitting of existing heating systems, and use of treatment by-products for transportation applications such as guard rails, etc. (see SS 4.2.2, SS 4.2.3, SS 4.2.5)

Reported Accomplishments:

- | | |
|-------------|--|
| <i>AZSF</i> | <i>Explored options for working with Arizona Governor's Office of Energy Policy. Continued work with Arizona Statewide Wood Energy Team and Good Earth Energy - Composting forest biomass.</i> |
| <i>AZSF</i> | <i>Arizona Statewide Wood Energy Team</i> |
| <i>AZSF</i> | <i>Round Wood Guardrail Post Demonstration Project</i> |
| <i>AZSF</i> | <i>Round Wood Guardrail Post Demonstration Project</i> |

Planned Action: 6.1.2.02

Data about use of forest restoration treatment-generated material by federal, state, and local governments should be reported, collated, and shared.

Reported Accomplishments:

- | | |
|-------------|--|
| <i>USFS</i> | <i>Monthly updates on acres treated by the 4FRI Team Leaders to the 4FRI Stakeholders Group. Periodic newsletter from Stewardship Contractor - Good Earth Power.</i> |
| <i>AZSF</i> | <i>Monthly updates on acres treated by the 4FRI Team Leaders to the 4FRI Stakeholders Group</i> |

PROTECT FORESTS FROM HARM

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 3 Expand and support the coordination of multi agency, collaborative, large landscape scale forest treatment projects that will be conducive to the development and support of a wood products industry.

Planned Action: 6.1.3.02

Identify and enhance opportunities for utilizing small-diameter wood and biomass generated from landscape scale forest treatments.

Reported Accomplishments:

AZSF Arizona Statewide Wood Energy Team

AZSF USFS Wood Innovation Assistance Program: Arizona Statewide Wood Energy Team, Roundwood Guard Rail Assessment, and Good Earth Power - Composting Marketing/Manufacturing grant.

Planned Action: 6.1.3.03

Develop presentation materials and information to facilitate funding support for landscape-scale restoration work.

Reported Accomplishments:

AZSF Support and participation of AZSF personnel in SRP Forest Restoration Conferences

AZSF More than 5 RFPs released to provide financial assistance to landowners and communities for forest health remedies via Western Bark Beetle (WBB) grant program; 2010 - 2 WBB grants; (WBB grants were on private property, where landowners were interested in forest land improvement.)

SRP SRP Forest Restoration Conferences

AZSF Support and participation of AZSF personnel in SRP Forest Restoration Conferences

ECO In addition to presenting its annual Report to many AZ Legislators, ECO organized a 2015 field trip for AZ Legislators and created and distributed widely a forestry restoration brochure discussing the field trip.

TNC 2010: Completed White Mountain Stewardship Project's Five Year Monitoring Report, which analyzed monitoring data on nation's largest-to-date forest restoration project. Report distributed to over 250 people and accessible online; included reaching AZ Governor, Congressional representatives and senators; media; USFS and USDA headquarters, city/county supervisors, hundreds of stakeholders, and academic institutions.

PROTECT FORESTS FROM HARM

Economics (6)

Goal 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 1 Develop and maintain land use change and ecosystem services data for Arizona

Planned Action: 6.2.1.01

Develop a cooperative multi-agency (natural resource) working group that can share data and prioritize opportunities to jointly focus program delivery to the highest priority landscapes.

Reported Accomplishments:

USFS In 2015 the Southwest Region - Forest Service hired a fulltime Ecosystem Services Coordinator to assist with new and ongoing collaborative work groups.

ECO ECO staffs the position of Chair of the White Mountains Natural Resources Working Group (NRWG) and provides executive and administrative support to the group.

Planned Action: 6.2.1.02

Collect, assess, and maintain data about land use changes across the state - utilizing GIS and/or other technologies.

Reported Accomplishments:

USFS At a coarse scale and on an annual basis, the Interior West Forest Inventory and Analysis (FIA) Unit of the Forest Service measures, assesses, and reports the extent, condition, and health of forested land in the Interior West, including Arizona.

Planned Action: 6.2.1.03

Collect, assess, and maintain data about realized and potential ecosystem services throughout Arizona - utilizing GIS and/or other technologies.

Reported Accomplishments:

USFS FIA is a good source for this information. The main website for FIA provides background and links to a variety of information.

AZSF Implementing WCG Urban Forest Resource Inventory (UFRI) Project; Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 5 CCG grants; 2013 - 1 CCG grant; 2012 - 1 CCG grant; 2011 - 1 CCG grant

PROTECT FORESTS FROM HARM

Economics (6)

Goal 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 2 Focus and prioritize programs into communities that will experience significant urban growth, to assist local leaders in devising effective ways to grow, develop, and protect their communities while also integrating important economic contributions made by forest ecosystems and natural areas to be impacted.

Planned Action: 6.2.2.01

Develop and maintain a natural resource assistance network. The network of local, state, federal, public, and private organizations will assist community leaders and landowners with the development and integration of valuable proactive management tools and technical support systems to manage growth and development to conserve, protect, and enhance important natural resources in advance of impending population growth and development.

Reported Accomplishments:

<i>AZSF</i>	<i>Implementing WCG 14-501 (Diverse Urban Forests); Funded Urban/Community Forestry project grants: 2014 - 1 CCG grant; 2012 - 1 CCG grant</i>
<i>ECO</i>	<i>ECO provides expertise and support for forest and watershed restoration issues to Apache, Cochise, Gila, Graham, Greenlee, and Navajo counties, as well as numerous AZ Legislators elected in these counties.</i>
<i>USFS</i>	<i>In 2015, the FS-Southwest Region hired a full-time coordinator to accelerate ecosystem services. Current natural resource networks include the White Mountain Stewardship and 4-FRI projects.</i>
<i>USFS</i>	<i>USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, and Forest Health programs.</i>

PROTECT FORESTS FROM HARM

Economics (6)

Goal 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 3 Prioritize / focus program delivery and agency resources into high priority landscapes where resource threats (wildfire, insect / diseases, land conversion) will most likely threaten / negatively impact critical forest landscapes across Arizona.

Planned Action: 6.2.3.01

Develop and maintain data on current and expected resource threats.

Reported Accomplishments:

<i>USFS</i>	<i>AZSF does monitoring with FS (aerial detection surveys and ground monitoring).</i>
<i>AZSF</i>	<i>Implemented WCG (UFRI Project); Completed Aerial Detection Survey: 1M - 3M ac of forest surveyed annually (2010-2015)</i>

Planned Action: 6.2.3.02

Work collaboratively and strategically to design and place treatments in order to increase efficiency and maximize benefits on these priority landscapes.

Reported Accomplishments:

<i>USFS</i>	<i>CWPP's were designed specifically to meet this objective. Also, the Arizona Forest Action Plan and Forest Service - Forest Plan Revision are addressing this at a programmatic level.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 7 CCG grants; 2013 - 4 CCG grants; 2012 - 2 CCG grants; 2011 - 5 CCG grants; 2010 - 1 CCG grant; 2010 - 1 WBBI grant; 2011 -1 WBBI grant; 2012 - 1 WBBI grant; 2013 - 1 WBBI grant; (WBBI projects were implemented in sensitive areas in and around neighborhoods, or up-wind from communities.)</i>
<i>ECO</i>	<i>ECO staffs the position of Chair of the 4FRI Planning Workgroup, which works on the temporal and geographical prioritization of treatments among many other aspect of restoration planning</i>

PROTECT FORESTS FROM HARM

Economics (6)

Goal 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 4 Recognizing the diversity of federal, tribal, state and private landownership in Arizona, maintain and enhance the economic benefits and values of natural resources

Planned Action: 6.2.4.02

Promote an understanding of the costs and benefits of all encompassing (watershed and other) property management to provide ecosystem services.

Reported Accomplishments:

AZSF Support and participation of AZSF personnel in SRP Forest Restoration Conferences

*AZSF Implemented WCG UFRI Project;
Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 5 CCG grants;
2013 - 1 CCG grant; 2012 - 1 CCG grant; 2011 - 1 CCG grant*

USFS Forest Plan Revision for the 5 National Forests in Arizona are considering this in the social and economic assessments during Forest Plan Revision.

Planned Action: 6.2.4.03

Encourage relevant ecosystem services capabilities expansion on private land.

Reported Accomplishments:

*AZSF Implementing WCG UFRI Project;
Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 5 CCG grants;
2013 - 1 CCG grant; 2012 - 1 CCG grant; 2011 - 1 CCG grant*

USFS In 2015 Forest Service hired a fulltime Ecosystem Services Coordinator who will work with the State of Arizona (agreement) and National Forests in AZ.

PROTECT FORESTS FROM HARM

Economics (6)

Goal 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 4 Recognizing the diversity of federal, tribal, state and private landownership in Arizona, maintain and enhance the economic benefits and values of natural resources

Planned Action: 6.2.4.05

Develop and maintain a natural resource assistance network. This network of local, state, public, and private organizations can assist community leaders and private land owners with the development and integration of valuable proactive management tools and technical support systems needed to address the economic benefits of "working" landscapes.

Reported Accomplishments:

USFS The SWERI are dedicated to developing relevant knowledge and delivering effective service to communities, stakeholders, and land managers. These groups identify information needs, inform effective methods of knowledge transfer, and, ultimately, report on the effectiveness of our work. According to a recent five-year evaluation of the Institutes' performance, "No other existing entity has the capacity or mandate to carry out landscape-scale forest restoration."

AZSF Implementing WCG 14-501 (Diverse Urban Forests)
Funded Urban/Community Forestry project grants:2014 - 1 CCG grant; 2012 - 1 CCG grant

Planned Action: 6.2.4.06

Implement research to identify and quantify current and long-term key drivers, barriers and opportunities, for the supply and demand sides of both the forest products and range industries in Arizona.

Reported Accomplishments:

USFS USFS Wood Innovation Assistance Program and SWERI. Continue with current projects and explore new opportunities.

PROTECT FORESTS FROM HARM

Economics (6)

Goal 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 1 Develop and maintain information about available programs, suitability of lands, and recommendations for greatest benefits and efficiencies.

Planned Action: 6.3.1.01

Continue to monitor stewardship, conservation and resource protection programs and activities, and collaboratively maintain information about priority areas and opportunities.

Reported Accomplishments:

*AZSF WCG UFRI Project (urban tree inventories to document community benefits; information is available on AZUTM website);
WCG Air Quality Project (iTree ECO completed for Phx; educational materials developed/disseminated; public outreach completed)*

USFS Both the White Mountain and 4-FRI stewardship projects have multi-party monitoring. SWERI also provides monitoring services.

PROTECT FORESTS FROM HARM

Economics (6)

Goal 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 2 Promote economic value of urban and community forests and provide capacity to develop sustainable leadership and programs.

Planned Action: 6.3.2.01

Encourage local and regional collaborative groups to coordinate activities in communities and watersheds at risk.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grants: 2014 - 3 CCG grants; 2013 - 2 CCG grants; 2011 - 3 CCG grants; 2010 - 1 CCG grant

AZSF Support and participation of AZSF personnel in SRP Forest Restoration Conferences

USFS Support and participation of AZSF personnel in SRP Forest Restoration Conferences. Continue to use CWPPs a place to coordinate communities and watersheds at risk.

Planned Action: 6.3.2.02

Develop Arizona specific guides, tools and plans to assist local and community leaders plan for green infrastructure to increase energy efficiency, consumer patronage and commercial occupancy rates in Arizona's cities and towns.

Reported Accomplishments:

USFS The Growing a Healthier Community -The Desert Canopy Project, funded by the USDA-Forest Service Urban Forestry Program, is an example of this work.

AZSF Implementing WCG 14-501 (Diverse Urban Forests); WCG UFRI Project; Funded Urban/Community Forestry project grants: 2014 - 6 CCG grants; 2013 - 3 CCG grants; 2012 - 2 CCG grants; 2011 - 5 CCG grants

PROTECT FORESTS FROM HARM

Economics (6)

Goal 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 3 Provide comprehensive program leadership, for a variety of programs to address land management issues associated with the high priority landscapes.

Planned Action: 6.3.3.01

Develop a website which incorporates available GIS-based resource data, hazard maps, agency contacts and other pertinent resource management information into a centralized system designed to address land management issues in Arizona. The Initiative would include stewardship, forest health, and wildfire prevention (public awareness and hazard mitigation) guidelines as well as contact information for fire suppression, land management, and other natural resource agencies in the region.

Reported Accomplishments:

USFS USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Stewardship and Legacy, Forest Health, and Utilization and Marketing programs.

AZSF WCG UFRI Project;
Continuously overhauling AZSF website (improving design, updating content, identifying and fixing bugs, and coordinating with content providers and program managers)

Planned Action: 6.3.3.02

Develop and distribute fire management, forest restoration, and wildlife habitat and conservation protection Training Modules to educate the public and landowners. These modules could include videos, presentation materials, and brochures on fire prevention, invasive native and non-native plants, and other forest health problems, stewardship, reforestation, wildlife management, ecosystem services, etc.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grants: 2014 - 5 CCG grants; 2013 - 3 CCG grants; 2012 - 2 CCG grants; 2011 - 2 CCG grants
Funded Invasive Plants Program projects: 2010 - 1 IPG grant (Buffel Busters);
IPG presentation at 2014 SWVMA Conf; USDA-FS "Invasive Plants and Weeds" book distributed to 10+ collaborators;
>760 tech assists to landowners on ~2K acres conducted (2010-2015);
annual forest health conditions reports (5);
>35 forest health alerts (2010-2015);
~60 educational programs provided to communities on forest health and benefits of forest resources;
~80 presentations to municipalities have provided tech information about forest resource benefits and threats

USFS State WUI conferences. Firewise and other relevant programs.

PROTECT FORESTS FROM HARM

Economics (6)

Goal 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 3 Provide comprehensive program leadership, for a variety of programs to address land management issues associated with the high priority landscapes.

Planned Action: 6.3.3.03

Promote employment of professional staff to address local stewardship and resource protection needs in high priority communities and regions.

Reported Accomplishments:

USFS USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, Forest Health, and Utilization and Marketing programs.

AZSF Funded Urban/Community Forestry project grants: 2014 - 3 CCG grants; 2013 - 2 CCG grants; 2012 - 1 CCG grant; 2011 - 3 CCG grants; 2010 - 1 CCG grant

Planned Action: 6.3.3.04

Provide training sessions and public workshops (i.e., Resource Management Expos) with a variety of stakeholders to promote forest stewardship, forest health, and wildfire management.

Reported Accomplishments:

USFS Arizona and Forest Conservation Education Programs.

AZSF Funded Urban/Community Forestry project grants: 2014 - 9 CCG grants; 2013 -6 CCG grants; 2012 - 5 CCG grants; 2011 - 7 CCG grants; 2010 - 4 CCG grants
Funded Invasive Plants Program projects: 2010 - 2 IP grants (33 ppl trained; 1 workshop); 2011 - 1 IP grant (74 ppl trained); 2014 -1 IP grant (68 ppl trained; 3 workshops)
Also: ~60 educational programs provided to communities on forest health and benefits of forest resources;
~80 presentations to municipalities have provided tech information about forest resource benefits and threats
>35 AZSF forestry staff have been trained in forest health issues (2010-2015)

PROTECT FORESTS FROM HARM

Economics (6)

Goal 3 Community recognition of the economic importance to protecting healthy natural systems.

Objective: 4 Recognize and promote the economic benefits of "avoided costs" on state and local budgets through enhancing ecosystem health and community and urban forests.

Planned Action: 6.3.4.01

Build sustainable urban and community forestry programs that are a part of the core infrastructure of a community - benefiting air quality, heating and cooling cost and improved water quality.

Reported Accomplishments:

USFS USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, Forest Health, and Utilization and Marketing programs.

AZSF Funded Urban/Community Forestry project grants: 2014 - 10 CCG grants; 2013 - 10 CCG grants; 2012 - 10 CCG grants; 2011 - 12 CCG grants; 2010 - 12 CCG grants
2011 - 2 TREE grants

Planned Action: 6.3.4.02

Promote personal and community investment in Fire Adapted communities resilient to wildfires.

Reported Accomplishments:

USFS Completion and implementation of CWPPs. Coordinate Firewise community programs.

PROTECT FORESTS FROM HARM

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.01

Develop threats assessment information on current and expected effects of climate change to Arizona forests and other ecosystems . Place focus on potential negative impacts to ecosystem health, impacts to water quality and quantity, and changing wildland fire behavior.

Reported Accomplishments:

- USFS* *The FS (especially R2) is also a key partner in the Southern Rockies LCC, which also has supported a number of projects with climate change focus. Several of these are relevant, including assessments of soil and riparian habitat vulnerability, and projections of future water balance (and implications for dependent ecosystems).*
- USFS* *An assessment of watershed vulnerability to climate change was conducted for the Coconino NF.*
- LCC - USGS* *Navajo Nation Climate Data Recovery, The Navajo Nation have been both sparse and sporadic during the past 100 years, and have been limited to daily data from a handful of National Weather Service Cooperative Observer sites. Climate science researchers have identified the area in and around the Navajo Nation as among the most climate-data poor in the region.*
- USFS* *In 2012, RMRS scientists compiled a review and information needs assessment regarding climate change in grasslands, shrublands and deserts of the Interior American West (including Arizona). This report focuses on a variety of topics, including modeling approaches (with some predictions included), restoration and management, impacts to species groups (arthropods, plants and animals are each treated in separate chapters), disturbance regimes, and invasive species.*
- AZSF* *WCG UFRI Project (related to urban forest health, insect/disease outbreaks); AZSF participation in Desert Landscape Conservation Cooperative.*
- Sky Island Alliance* *Assessing Large-Scale Effects of Wildfire and Climate Change on Avian Communities and Habitats in the Sky Islands, Arizona, By re-measuring vegetation and bird populations following wildfires and applying climate change models, they will assess the singular and synergistic effects of climate change and wildfire and provide strategies for managing resilient forests and conserving the avian community structure.*
- LCC - USGS* *Fire and Water: Assessing Springs Ecosystems and Adapting Management to Respond to Climate Change, Science and conservation-based guidance to assist natural resource managers in responding to expected climate change and other stressors on springs ecosystems in sky island regions of the Desert LCC*
- LCC - UA* *Springs and Seeps Inventory, Assessment and Management Planning Project, Develop new information regarding the current biological and management status of springs and seeps in the Sky Island region of southeastern Arizona; Climate change adaptation workshops held to assess priority and management options.*

PROTECT FORESTS FROM HARM

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.01

Develop threats assessment information on current and expected effects of climate change to Arizona forests and other ecosystems . Place focus on potential negative impacts to ecosystem health, impacts to water quality and quantity, and changing wildland fire behavior.

Reported Accomplishments:

- USFS* We worked with scientists at the Integrated Landscape Assessment Project (Oregon State University and Portland State University) who conducted climate-informed vegetation modeling for the Apache-Sitgreaves NF to predict future ecosystem extents, wildfire extents, and vegetation structure using three climate models.
- USFS* RMRS scientists and University of Arizona scientists have produced a number of relevant analyses and reports focused especially on species vulnerability to climate change. Links are provided at right.
- USFS* The USDA Southwest Climate Hub has released a 'Southwest Region and California Vulnerability Assessment' that addresses (in broad terms) expected changes to forests and other ecosystems across the region, including Arizona. Changing wildland fire behavior and water quantity are also lightly addressed.
- USFS* A review of potential climate change effects on quaking aspen was conducted by the PSW Research Station for the western US, including Arizona.
- LCC - UA* Utility Guide to Rainwater/Stormwater Harvesting as an Adaptive Response to Climate Change Rainwater Harvesting and Stormwater Research to identify regulatory barriers, cost and benefits, water quality issues and avenues for increasing utilization of stormwater and rainwater at the regional, community and individual property level
- USFS* An ecological vulnerability assessment has been conducted for all NF lands in Arizona, addressing the likelihood of climatic conditions shifting outside of the range currently tolerated by each of the ecosystems that we manage (Triepke et al.). A socio-economic climate change vulnerability assessment is underway (anticipated completion in Fall 2015), addressing the additive effects of ecosystem vulnerability (from the Triepke et al. work) and various other stressors (at their current levels), such as wildfire risk and insect damage to forests, at the NF and District level and again covering all NF lands in Arizona. Note that this analysis does not address impacts to water quality and quantity.
- USFS* In 2010, USFS R3 staff compiled a summary of climate change trends as relevant to forest planning, including information for NFs in Arizona as well as New Mexico (Periman et al. 2010).

PROTECT FORESTS FROM HARM

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.01

Develop threats assessment information on current and expected effects of climate change to Arizona forests and other ecosystems . Place focus on potential negative impacts to ecosystem health, impacts to water quality and quantity, and changing wildland fire behavior.

Reported Accomplishments:

USFS The Forest Service, Southwestern Region is a key partner in the Desert Landscape Conservation Cooperative (DLCC) of which there is a 'critical management question' working group that addressing the changes in fire regimes as a result of climate change. This project is primarily focused presently on riparian areas. The Desert LCC has also supported a number of projects focused on climate change impacts to suites of species, their habitats, water quality, wildfire dynamics, and more. See the Desert LCC website for more information.

LCC - UA Fire Effects and Management in Riparian Ecosystems of the Southwestern United States and Mexico, Southwestern riparian ecosystems are vulnerable to projected climate change toward hotter and drier conditions and increasing frequency and severity of wildfire which could have drastic and potentially irreversible effects on biota and ecosystem function in these critical areas.

LCC - NAU Predicting effects of Climate Change on Riparian Obligate Species of the Southwestern United States; A central scientific challenge is to generate quantitative predictions of how changes in water availability will affect the amount and quality of riparian wildlife habitat.

PROTECT FORESTS FROM HARM

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.02

Maintain up-to-date threat assessment and impact information.

Reported Accomplishments:

<i>AZSF</i>	<i>AZSF participation in Desert Landscape Conservation Cooperative</i>
<i>LCC - NAU</i>	<i>Assessing Evapotranspiration Rate Changes for Proposed Restoration of the Forested Uplands of the DLCC, As part of the Four Forests Restoration Initiative, a new paired watershed study is being planned to assess the hydrologic effects of mechanically thinning and restoring a more frequent fire regime to the ponderosa pine forests of Arizona. Water and energy balances will be measured and modeled in these paired watersheds to help inform and better plan for the hydrologic responses of future forest restoration actions.</i>
<i>LCC - NAU</i>	<i>Publication and dissemination of information about "Genetics-based land management strategies for restoring landscapes threatened by climate change and invasive species on the Little Colorado River"</i>
<i>LCC - UA</i>	<i>An Ecosystem Conservation Assessment for the lower San Pedro Watershed in Arizona, This study will achieve an ecosystem conservation assessment for the lower San Pedro (LSP) watershed. The assessment will include an evaluation of high-value biodiversity, hydro-ecological processes, protected areas, landscape connectivity, and climate change adaptation.</i>
<i>LCC - Sonoran Joint Venture</i>	<i>Developing tools for detecting climate change impacts on birds and their habitats in the desert southwest and northwest Mexico, This collaborative effort by the Sonoran Joint Venture, Desert Landscape Conservation Cooperative, and Point Reyes Bird Observatory will develop a foundation for monitoring environmental change in the desert southwest by identifying where and what to monitor in order to evaluate climate-change impacts.</i>
<i>USFS</i>	<i>The threat assessments completed to date are still quite current, and no needs for updates have yet been identified. However, as new climate predictions and/or new ecosystem mapping become available, R3 intends to update the ecological climate change vulnerability assessment accordingly. New approaches may also be adopted as this field advances and new assessment techniques are developed.</i>
<i>LCC</i>	<i>Grasslands Conservation Geospatial Data Compilation and Synthesis, Grasslands are among the most threatened ecosystems on the planet. The following information is needed: 1) The location, quantity, and quality of desert grasslands, 2) the regional risks associated with loss or degradation of grasslands, 3) the vulnerability of those grasslands and the species that depend on them to environmental and climate stressors...</i>

PROTECT FORESTS FROM HARM

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 1 Develop and maintain threats analysis for Arizona's forests and other high priority ecosystems using the best available scientific information,

Planned Action: 7.1.1.02

Maintain up-to-date threat assessment and impact information.

Reported Accomplishments:

LCC - NAU *Linking Forest Landscape Management and Climate Change to the Conservation of Riparian Habitat in the Grand Canyon, The project will study how forest treatment practices and climate change may impact water balance across the Kaibab Plateau and critical habitats in lower elevations of the Grand Canyon.*

Planned Action: 7.1.1.03

Identify and secure resources to support development and maintenance of ongoing assessment work.

Reported Accomplishments:

USFS *FS funding is used to support broad scale monitoring and watershed condition assessments that, while not tailored to questions regarding climate change, provide some relevant data. The broad scale monitoring approach is still under agency development. Over the long term, data collection on FIA plots will also be relevant for climate change analyses.*

PROTECT FORESTS FROM HARM

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 2 Develop adaptation plans for Arizona's forests and other high priority ecosystems to increase resilience to climate change.

Planned Action: 7.1.2.01

Encourage an all lands approach to land, water, and fire management through effective and efficient collaboration.

Reported Accomplishments:

<i>LCC</i>	<i>Physiological Effects of Climate Change on Species within the Desert LCC, Relatively few studies have examined specifically the physiological effects of climate change on species inhabiting this region. This manuscript provides a synthesis of peer-reviewed papers related to the physiological stress of climate change on species and/or species groups present within the Desert Landscape Conservation Cooperative (Desert LCC) study area.</i>
<i>LCC - NAU</i>	<i>Predicting Snow Water Equivalence (SWE) and Soil Moisture Response to Restoration Treatments in Headwater Ponderosa Pine Forests of the Desert LCC: The goal of this project is to combine remotely sensed data, field measurements, and geospatial statistics to model snow water equivalence and soil moisture response to ponderosa pine forest restoration treatments at existing already-treated research sites in the Verde River basin of northern Arizona and to identify those treatments that are optimal from a water-balance perspective for sustaining water availability for plants as well as downstream water users in Verde Valley and the Phoenix metropolitan area.</i>
<i>LCC - ASU</i>	<i>Effects of Bio-Control and Restoration on Wildlife in Southwestern Riparian Habitats, This project will determine if the introduction of the biocontrol agent (tamarisk leaf beetle, <i>Diorhabda</i> spp.) as an insect consumer and defoliator of salt cedar influences wildlife populations and communities via alterations to food resources and/or habitat.</i>
<i>AZSF</i>	<i>WCG 14-501 (Diverse Urban Forests) - edible tree water use and adaptation plans available via guidebook under development</i>
<i>LCC</i>	<i>From Genotype to River Basin: The combined impacts of climate change on bio-control on a dominant riparian invasive tree/shrub (<i>Tamarisk</i> spp.)</i>

PROTECT FORESTS FROM HARM

Climate (7)

Goal 1 Increased resilience of forest ecosystems to climate change.

Objective: 2 Develop adaptation plans for Arizona's forests and other high priority ecosystems to increase resilience to climate change.

Planned Action: 7.1.2.01

Encourage an all lands approach to land, water, and fire management through effective and efficient collaboration.

Reported Accomplishments:

USFS

The best information we have compiled regarding collaboration to promote an all lands approach to management is included in the summary developed for the Western Forestry Leadership Coalition. Please see attached Word document containing this summary. This summary does not include information on the White Mountains stewardship project, which also took a collaborative, all lands approach.

The Watershed Condition Framework and associated Watershed Condition Assessment identified 6th code watershed of mixed ownership that are in need of restoration by partner groups and other stakeholders.

The National Forests in Arizona have a wide variety of science and management collaborations underway with agencies and organizations operating both regionally and locally. These include collaborations with the groups listed below, under Goal 3, Objective 2. If interested in the particulars of any of these collaborations, please contact Priya Shahani, who will follow up with relevant NFs to investigate further.

Planned Action: 7.1.2.03

Identify resources to facilitate high priority statewide management actions.

Reported Accomplishments:

AZSF

Funded Urban/Community Forestry project grants: 2012 - 1 CCG grant

PROTECT FORESTS FROM HARM

Culture (8)

Goal 1 Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests,

Objective: 2 Improve broader understanding of various cultural perspectives as they relate to forest resources, fire management, and other natural resource issues.

Planned Action: 8.1.2.02

Expand research on how various cultural groups perceive and interact with the state's forests, trees, and other natural resources.

Reported Accomplishments:

USFS The Tonto National Forest and Coronado National Forests completed ethnographic studies related to large, complex out-service projects.

PROTECT FORESTS FROM HARM

Culture (8)

Goal 2 Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal

Objective: 1 Where appropriate, share data and implementation strategies to leverage successful outcomes on tribal and adjacent lands with similar management objectives.

Planned Action: 8.2.1.01

Enhance collaborative approaches to collection and sharing of data, utilizing existing planning models, leveraging funding sources, and sharing implementation opportunities.

Reported Accomplishments:

AZSF Yavapai-Prescott Apache Tribe is represented on the Community Forestry Committee (UCF Advisory); Funded Urban/Community Forestry project grants: CCG 12-105 - San Carlos Apache Tribe conducted urban tree inventories in Bylas and other tribal communities in order to develop an urban tree management plan

USFS Region 3 Tribal Relations Program Manager Dan Meza has worked with tribes to do collaborative projects on adjacent forest service lands. The Regional Office State and Private Forestry office has Collaborative Forest Landscape Restoration Project that involves tribal interests. There were several projects over the past few years.

Planned Action: 8.2.1.02

Recognize or encourage BIA and Tribal management plans and implementation strategies that take an all-lands or collaborative approach.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grants: CCG 12-105 - San Carlos Apache Tribe conducted urban tree inventories in Bylas and other tribal communities in order to develop an urban tree management plan

Planned Action: 8.2.1.04

Recognize and communicate tribal implementation of NEPA processes when undertaking forest land management and integrated resource planning.

Reported Accomplishments:

USFS The Arizona forests work with the tribes for NEPA when on their lands.

**Enhance
Public Benefits
From
Trees and Forests**

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ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.01

Develop and implement educational programs for county and community leaders, schools, and civic groups to increase public awareness regarding the benefits of sustainable trees and forest ecosystems, and impacts of urban heat islands, impervious surfaces, and other forest resource issues.

Reported Accomplishments:

<i>ASU-SCN</i>	<i>2011 Regional Tree & Shade Summit – March 9, 2011. One day event drew 225 professionals (public officials, municipal staff, NGOs, companies and professional associations) to educate on benefits of trees and shade, and identify strategies for increasing tree & shade, urban forestry, green infrastructure in communities creating more livable and healthier communities. SCN awarded a number of scholarships to municipal and nonprofit professionals to obtain certified arborist training and certification.</i>
<i>ANA</i>	<i>Through our "Plant Something" campaign, ANA strives to educate community leaders and civic groups about the economic, monetary and environmental benefits of trees.</i>
<i>SRP</i>	<i>SRP has developed videos, brochures, K-12 curriculum, and integrated messaging into teacher workshops, and presents to a variety of interest groups on the importance of forest health, ecosystem services, water supplies, and resiliency.</i>
<i>City of Flagstaff</i>	<i>Flagstaff WUI Code w/emphasis on forest treatment of entire property (prior to construction); Firewise and Fire Adapted Communities efforts;</i>
<i>City of Flagstaff</i>	<i>Engagement with Greater Flagstaff Forests Partnership; Leadership within Four Forests Restoration Initiative; Flagstaff Watershed Protection Project</i>
<i>TCB-Trees For Tucson</i>	<i>Urban forestry outreach to schools has expanded dramatically over the last three years. Trees for Tucson leverages its electric utility-sponsored energy efficiency tree programs (through TEP and Trico) with various public and private resources to provide 400+ trees per year to schools. TFT engages with upwards of 30 schools each year each year with hands-on tree education, sometimes planting as many as 35 trees at a time. This year TFT led 30 middle school youth in stewardship and environmental education activities over the course of a seven week summer camp in conjunction with City of Tucson Parks and Recreation.</i>
<i>WMG</i>	<i>Watershed Management Group, as a non-profit, leads a significant number of educational programs every year focused on the benefits of water harvesting and urban forests for urban heat island reductions, flood mitigation, habitat creation, water conservation, property value increases, improved stormwater quality, reduced heating and cooling needs, air quality improvements and reduced groundwater pumping needs.</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.01

Develop and implement educational programs for county and community leaders, schools, and civic groups to increase public awareness regarding the benefits of sustainable trees and forest ecosystems, and impacts of urban heat islands, impervious surfaces, and other forest resource issues.

Reported Accomplishments:

<i>AZSF</i>	<i>AZ Forestry supported 5 ACTC Conferences; 5 ANA Conferences; Also supported 36 Urban/Community project grants to local organizations over the period of 2010 to 2014. 35 AZSF staff have been trained in Forest Health in 5 years</i>
<i>WMG</i>	<i>In the first half of 2015, Watershed Management Group reached 1,184 members of the public and professionals through presentations and volunteers contributed almost 2,500 hours toward implementing water harvesting and forestry projects that created over \$100K of community benefits.</i>
<i>City of Tucson</i>	<i>Developed written materials: Street Landscape Maintenance Guidelines - 2011; annual Urban Heat Island Workshops - 2006-2014; assist with programming Desert Horticulture Conference - 2006-2015; Sponsor and part of program development team for regional Green Infrastructure-Low Impact Development Workshop 2011 & 2015; assist and present at international Border Environmental Green Infrastructure conference - 2014 & 2015; complete and place on-line Green Infrastructure Maintenance Video 2015;</i>
<i>AZSF</i>	<i>AZ Arbor Day - Annual (5 events hosted); 2015 Tour des Trees; 10 UTT Newsletters; approximately 750 technical assists to landowners for more than 2,000 acres; 5 Southwest Vegetation Management conferences. Presented AZUTM resources to 7 communities as part of hands-on inventory workshops; Surveyed 7 communities on AZUTM resources and workshops</i>
<i>City of Phoenix</i>	<i>Developed posters , fact sheets, brochures detailing i-eco study information for the city; distribution to citizens and policy makers; developed a series of presentations (Local, regional, and national) to distribute the information.</i>
<i>AZSF</i>	<i>Collaborated in conducting 4 Arizona Community Tree Council (ACTC) Conferences...</i>
<i>City of Phoenix</i>	<i>Improved web page to provide information to citizens.</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.01

Develop and implement educational programs for county and community leaders, schools, and civic groups to increase public awareness regarding the benefits of sustainable trees and forest ecosystems, and impacts of urban heat islands, impervious surfaces, and other forest resource issues.

Reported Accomplishments:

<i>AZSF</i>	<i>Approximately 75 Homeowner workshops hosted throughout state in 5 years; 60 Forest Health community programs in 5 years; More than 80 presentations to municipalities (all workshops provided technical information about forest resources/benefits); Developed Arizona urban tree inventory, tree ID and tree insect/disease guides for community managers and the public; Presented AZUTM resources to 7 communities as part of hands-on tree inventory workshops</i>
<i>City of Flagstaff</i>	<i>Annual: 25-35 public events, 10-20 Development project reviews, 400-600 acres thinning and debris disposal, 150-250 acres prescribed burning (broadcast),</i>
<i>City of Phoenix</i>	<i>Developed and provided educational workshops for citizen groups pertaining to proper tree selection, planting, and care.</i>

Planned Action: 1.1.1.02

Improve access to forests and trees for recreation, education, and other uses.

Reported Accomplishments:

<i>City of Phoenix</i>	<i>Ranger programming and trail improvement for city Preserve system.</i>
<i>City of Flagstaff</i>	<i>150-250 hazard tree removals, website updates; 3-5 City Council briefings, 8-11 4FRI Stakeholder group meetings + 20+ Steering Committee conference calls, subject of 4-7 outside articles and studies/reports, 15+ GFFP meetings, etc.</i>
<i>AZSF</i>	<i>Developed and managed Arizona's Magnificent Trees Program</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 1 Connect people to trees & forests and improve their understanding of the benefits provided by Arizona's forests.

Planned Action: 1.1.1.04

Expand collaborative efforts with academic organizations and schools to strengthen environmental education of Arizona youth.

Reported Accomplishments:

<i>ACTC</i>	<i>Planted trees with numerous Girl Scout troops in local parks. During the plantings the participants were taught the benefits of urban trees and their proper care. Planted trees in AZ as part of a grant from Freeport McMoRan. Created a career poster and supporting website for high school students to encourage understanding of the arboriculture profession and its importance to the environment. Invited the schools of sustainability at Arizona's universities to participate in the annual conference and tree climbing championship (TCC). Northern Arizona University attending the TCC as part of their work to become a tree campus and distributed maps of their campus tree walk. Arizona State University attended the annual conference. Provided Certified Arborists to support the Hands On Phoenix work day at the Brooks Community School Greenhouse. Supported Annual Arbor Day poster contest for school children in Arizona.</i>
<i>WMG</i>	<i>WMG has a school yard program to partner with K-12 schools throughout AZ. We've done many public presentations and education sessions as well as implemented 24 projects in Nogales (Mexico), Sierra Vista, the Tucson area, Phoenix and Flagstaff.</i>
<i>City of Tucson</i>	<i>Collaborate with Univ. of AZ Institute for the Environment - studies and presentations; Univ. of AZ School of Geography and Univ. of AZ College of Architecture, Planning & Landscape Architecture; mentor for middle school in Sunnyside School District for Future Cities Competition</i>
<i>SRP</i>	<i>SRP supports youth education related to watershed function and forest health through development of curriculum and integration of lesson planning with teacher workshops (project WET, STEM, etc.). Check out Arizona Water Story and Yellow Belly Ponderosa.</i>
<i>AZSF</i>	<i>Supported 15 Urban/Community project grants over 5 year period. AZ Arbor Day - Annual (5 events hosted); 2010 - 2 Invasive Plants grants supported; 2012 - 1 Western Bark Beetle grant supported; UA bark beetle trapping in 2015</i>
<i>WMG</i>	<i>WMG is working in partnership with UofA to develop a robust internship program: WaterWRLD. In our first year we have 8 interns from a diverse background in environmental sciences, biology and hydrology.</i>
<i>City of Phoenix</i>	<i>Developed and presented urban forest management information for Arizona Envirothon.</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.01

Maintain and update the Urban & Community Forestry one- and five-year plans to increase benefits from urban forests.

Reported Accomplishments:

City of Phoenix

Development of the city's Tree and Shade Master Plan.

AZSF

Urban Community Forestry Program - Completed 2014

TCB-Trees For Tucson

Trees for Tucson engages partners across multiple sectors in the preservation and expansion of the urban forest. Working across jurisdictions, with multiple departments such as transportation, parks and recreation, environmental service, flood control and political appointees, with support and participation from corporations, non-profits and volunteer groups, TFB's work expanding and protecting the urban forest is broad-based and engaging. TFB works with neighborhoods and HOAs engaged in street tree planting and reforestation efforts and provides technical assistance and high quality trees to approximately 25 communities a year.

TEP

TEP has partnered with the City of Tucson for a "right tree right place" program. TEP is removing the City owned trees that are growing into the power lines causing a hazardous condition. These trees are usually pruned with a V or side cut which remedies the hazard, but leaves an unsightly tree. This new program will allow us to remove the hazardous tree and plant 2 trees for every one removed. The new tree will be a species that will not grow into the lines. This not only adds to the tree count, but also creates a more appealing landscape.

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.02

Engage communities, tree organizations, conservation groups, and green industry groups to identify local community needs and build local capacity.

Reported Accomplishments:

<i>City of Phoenix</i>	<i>Development of the Citizen Forester training program; Planting programs with community and business groups.</i>
<i>AZSF</i>	<i>Distributed 10 Urban Tree Newsletters; Supported 30 Urban/Community project grants over 5 year period. Sponsored volunteer-driven urban tree inventories in 7 communities</i>
<i>City of Tucson</i>	<i>Teach session of Tucson Clean & Beautiful's Y.A.R.D.S program for past 3 years; teach tree inventory and urban heat island module of Tucson Botanical Garden's Urban Forestry Program; collaborate with Tucson Clean & Beautiful's Trees for Tucson program; work with AZ Nursery Association S.H.A.D.E. conference program development</i>
<i>ANA</i>	<i>Through our Plant Something campaign, ANA strives to educate community leaders and civic groups about the economic, monetary and environmental benefits of trees.</i>
<i>WMG</i>	<i>Through our public presentations, technical trainings and co-op workshops, WMG is a leader in building local capacity for stewardship of our urban forests through appropriate care and water harvesting infrastructure.</i>
<i>TEP</i>	<i>The yearly goal is to remove 100 hazardous trees and replace them with 200 trees that are a better fit.</i>
<i>ACTC</i>	<i>Met with local industry professionals during the SHADE Conference to facilitate a conversation around engaging communities and local needs. Provided education for tree professionals serving communities and industry and supported their work to meet community needs and build capacity. Expanded the ACTC website to provide support for communities seeking information to meet local needs. Produce a monthly newsletter to keep our community of members and subscribers connected and engaged. Provided planting support with volunteers during the Earth Day celebration at Phoenix Renews.</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.03

Identify, fund, and encourage partnerships to facilitate stewardship in urban tree protection and planting programs.

Reported Accomplishments:

<i>WMG</i>	<i>WMG is a leader in appropriate care for water harvesting landscapes and urban trees. In the first half of 2015 volunteers logged over 200 hours caring for public water harvesting sites at Tucson Ward Offices.</i>
<i>AZSF</i>	<i>Supported 69 Urban/Community project grants.</i>
<i>ACTC</i>	<i>Facilitated three ceremonial plantings in Sedona with national groups during their annual conferences. Funded the plantings and during the presentation, encouraged partnership and support across Arizona and the US for tree stewardship from the groups: REI, Mountain Khaki, National Plant Board. Collaborated with the UofA Cooperative Extension office to encourage members to observe and report issues related to tree insects and threats such as engraver beetles, ficus white fly, and witches broom. Held classes for homeowners and industry professionals related to pest and threat issues.</i>

Planned Action: 1.1.2.04

Promote and support Tree City USA , Tree Campus USA, Tree Line USA and similar programs.

Reported Accomplishments:

<i>ANA</i>	<i>Through our Plant Something campaign, ANA strives to educate community leaders and civic groups about the economic, monetary and environmental benefits of trees. Our SHADE educational conference tree track also fulfills this goal.</i>
<i>City of Tucson</i>	<i>Past Board member of Univ. of AZ Arboretum (assisted developing proposal for Tree Campus; put together annual renewal for City of Tucson's Tree City designation</i>
<i>City of Phoenix</i>	<i>Tree city USA 29 Years; Sterling Growth Award 19 years.</i>
<i>AZSF</i>	<i>Distributed 10 Urban Tree Newsletters Arizona currently 27 Tree City USA; 2 Tree Campus USA; 2 Tree Line USA Supported 11 Urban/Community project grants</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.05

Encourage and conduct educational outreach that empowers communities and schools to sustain and enhance forests and urban canopy programs.

Reported Accomplishments:

<i>ACTC</i>	<i>Supported numerous school plantings. Created a career poster and supporting website for high school students to encourage understanding of arboriculture profession and its importance to the environment.</i>
<i>City of Phoenix</i>	<i>Community presentations regarding the benefit and value of trees. Banners in downtown and signs on Public Works vehicles emphasizing the benefits of trees.</i>
<i>WMG</i>	<i>WMG's fall 2014 newsletter focused on rain garden and urban forestry care. Development of this Field Guide was supported by funding from ASF.</i>
<i>AZSF</i>	<i>Supported 33 Urban/Community project grants across Arizona. Held 7 urban tree inventory workshops for volunteers and community managers as part of the AZUTM project. Published AZUTM urban tree inventory, tree ID, and tree insect/disease guides for community managers and the public</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 2 Enhance urban and community forests

Planned Action: 1.1.2.06

Educate community leaders on urban forest issues, including tree ordinances, development standards, and the need to support urban forest infrastructure.

Reported Accomplishments:

<i>AZSF</i>	<i>Organized 3 Tree Risk Assessment Workshops and approximately 60 ACTC Homeowner Workshops. Supported 19 Urban/Community project grants. Held 7 urban tree inventory workshops for volunteers and community managers as part of the AZUTM project.</i>
<i>City of Phoenix</i>	<i>Participation in the Sustainable cities Network Green Infrastructure Work Group on the development of a countywide Tree and Shade Plan. Developed a presentation to share with industry leaders and policy makers regarding the importance of establishing tree ordinances. Initiated a Tree Ordinance Review Task Force with numerous city departments to review, enhance and develop new ordinances.</i>
<i>WMG</i>	<i>WMG has led the creation/revision of development codes and ordinances to promote urban forestry and water harvesting in Tucson (Green Streets Policy) and Sierra Vista (Development Code revisions).</i>
<i>City of Tucson</i>	<i>Regularly conduct talks to service organizations, garden clubs, HOA's and neighborhood associations about city of Tucson's tree canopy goals</i>

Planned Action: 1.1.2.07

Work with the Arizona Community Tree Council and communities to plant area-specific, drought-tolerant trees.

Reported Accomplishments:

<i>City of Phoenix</i>	<i>Cooperate to provide educational programs to both citizens and industry, including planting projects.</i>
<i>AZSF</i>	<i>Supported 6 Urban/Community Forestry project grants over 5 year period.</i>
<i>ACTC</i>	<i>Provided numerous Homeowner's Workshops around the state to educate communities on planting the right tree in the right place, including species selection for drought tolerant landscapes. Supporting the Linking Edible Arizona Forests Network in their efforts to educate Arizona on planting area-specific trees and managing water appropriately. Maintain a relevant list of low-water use plants for Arizona Municipal Water Users Association.</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 1 People and communities receive maximum benefits from Forests and Trees.

Objective: 3 Improve energy conservation through tree planting and maintenance.

Planned Action: 1.1.3.02

Increase tree planting aimed at energy conservation in accordance with the American Forests tree canopy recommendations.

Reported Accomplishments:

<i>AZSF</i>	<i>Supported 13 Urban/Community Forestry project grants over 5 year period.</i>
<i>City of Tucson</i>	<i>Participate in work with Trees for Tucson for private and public tree plantings within City of Tucson</i>
<i>ANA</i>	<i>Through our "Plant Something" campaign, ANA strives to educate communities about the economic, monetary and environmental benefits of trees.</i>
<i>TEP</i>	<i>TEP has a partnership with "Trees for Tucson" to supply TEP customers with low cost trees. The plan requires the homeowner to plant the trees away from power lines and in areas where they will provide the most shade to the house (South and West). There are several thousand trees planted each year with this program.</i>

Planned Action: 1.1.3.03

Promote Tree City USA and similar programs to communities and continue to expand collaborative efforts with groups like Arizona Community Tree Council to educate communities on the energy benefits that trees provide.

Reported Accomplishments:

<i>City of Tucson</i>	<i>Yes.</i>
<i>AZSF</i>	<i>Updated the state's Tree City USA website</i>
<i>City of Phoenix</i>	<i>Presentations to other communities in the county regarding the benefits of Tree City USA status.</i>
<i>AZSF</i>	<i>Funded 11 Urban and Community Forestry project grants.</i>

ENHANCE PUBLIC BENEFITS

People and Forests (1)

Goal 2 Minimized negative human impacts to trees and forests.

Objective: 1 Increase awareness of threats to Arizona's forests - and awareness of available tools to mitigate those threats.

Planned Action: 1.2.1.02

Develop and maintain education materials, programs, and outreach to increase awareness of available tools to address forest threats.

Reported Accomplishments:

<i>SRP</i>	<i>SRP Hosted: Healthy Forest, Vibrant Economy Conference – this event is a convergence of business leaders, government partners, scientists, researchers and those with an interest in forest health.</i>
<i>AZSF</i>	<i>10 Urban Tree Newsletters. Funded 33 Urban and Community project grants. Provided more than 760 technical assists to landowners on more than 2K acres (5 years); Annual Forest Health Conditions Reports have been developed (5); ~35 Forest Health Alerts (5 years) 89 unique webpage views for Jan-Aug 2015 (UCF)</i>

Objective: 2 Engage people in environmental stewardship activities.

Planned Action: 1.2.2.01

Increase awareness, coordination, and landowner participation in technical & financial assistance programs.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Invasive Plants grant IPG 11-101 (211 private landowner agreements)</i>
<i>AZSF</i>	<i>5 RFPs out - providing financial assistance opportunities to landowners through WBB and IPG; Project Grant IPG 10-702 (5 landowner properties assessed); Project Grant IPG 14-701 (3 educational presentations); 2010 - 2 Western Bark Beetle Initiative grants - improving forest health conditions Reorganized, redesigned and updated Urban and Community Forestry and sub-category websites. Reorganized, redesigned and updated Forest Health and sub-category websites.</i>
<i>WMG</i>	<i>WMG conducts 1-2 sessions per month to educate citizens about the Water Harvesting rebates from Tucson Water. The rebate enables Tucson Water customers to receive up to \$2,000 back on projects that implement water harvesting for responsible irrigation of our urban forest.</i>

ENHANCE PUBLIC BENEFITS

Water (4)

Goal 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 1 Collaboratively develop information and education materials on watershed and riparian issues.

Planned Action: 4.3.1.01

Develop education materials such as brochures and public service announcements about watershed and riparian issues.

Reported Accomplishments:

<i>TNC</i>	<i>TNC leads an AmeriCorps program to use 2-4 interns per year to outreach Project WET water outreach; outreach focused on urban, rural, and minority groups as well as general public. Hart Prairie Preserve leads guided nature walks that discuss watershed health to an estimated 1000 people annually.</i>
<i>Borderlands Restoration</i>	<i>Regular public presentations in community, articles in local papers, public outreach events and training for community members to lend a hand and start own businesses</i>
<i>SRP</i>	<i>SRP has developed numerous paper, video and web outreach materials to help connect Valley residents, businesses, and stakeholders about the connection and importance of upstream forest health to watershed function, water quality and water reliability. SRP also partnered to help develop curriculum (K-12) as part of the Yellow Belly Ponderosa Program.</i>
<i>USFS</i>	<i>Forests work with the Natural Resources Working Group tied to the 4FRI initiative which monitors restoration treatments and provides collaboration and public education on restoration goals, objectives and opportunities, including watershed condition and water yield.</i>
<i>AZSF</i>	<i>Distributed Urban Tree Talk Newsletter Q1 and Q3, 2013; Fund Urban/Community Forestry project grant: 2012 - 1 CCG grant</i>
<i>ECO</i>	<i>In addition to presenting its annual Report to many AZ Legislators, ECO organized a 2015 field trip for AZ Legislators and created and distributed widely a forestry and watersheds restoration brochure discussing the field trip.</i>
<i>ADEQ</i>	<i>Prescott Creeks through a grant with ADEQ has developed a Creek Care Guide and Manure Management Guide to inform the public on ways they can improve water quality. A watershed guide was also developed for the San Francisco River Watershed by the Gila Watershed Partnership</i>

ENHANCE PUBLIC BENEFITS

Water (4)

Goal 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 1 Collaboratively develop information and education materials on watershed and riparian issues.

Planned Action: 4.3.1.02

Collaboratively develop common watershed and riparian messaging for use by all agencies.

Reported Accomplishments:

Borderlands Restoration *Wrote erosion control structure guidelines for USFS*

USFS *Ecological Restoration Institute is co-funded by the Forest Service and NAU to act as a conduit for restoration information exchange between agencies, governments and the public.*

US FWS *The Service was a co-author on the Bureau of Land Management Technical Reference "Riparian Management: Proper Functioning Condition Assessment for Lotic Areas". This assessment process is used by federal land managers in the western United States.*

ENHANCE PUBLIC BENEFITS

Water (4)

Goal 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 2 Collaboratively develop and implement outreach and education programs on watershed and riparian issues.

Planned Action: 4.3.2.01

Develop outreach programs to communicate with community groups and leaders, schools, and the general public.

Reported Accomplishments:

<i>SRP</i>	<i>SRP Hosts an annual Healthy Forests and Vibrant Economy Conference, meant to connect business, elected officials, cities, counties, agencies, universities and non-profits around the issue of watershed and forest health. In addition, SRP hosts education workshops in which forest restoration is integrated as part of the lessons</i>
<i>ADEQ</i>	<i>ADEQ has funded the Oak Creek Ambassadors program since 2013 to visit high recreation areas of Oak Creek to provide outreach to visitors and collect trash and waste. Ambassadors have collected over 6300 pounds of trash and 315 pounds of feces which reduces E. coli in Oak Creek.</i>
<i>Borderlands Restoration</i>	<i>Working with high school, TNC, Native Seeds and USFWS on small grants to create Living Watershed Laboratory for incorporation into high school Ag and science curricula</i>
<i>USFS</i>	<i>Participated in Kids in the Woods program for school aged children teaching aspects of forest management activities. Currently hosting Tribal Youth Council summer program to educate kids from local native American tribes on aquatic management (fish, riparian) and upland range and watershed condition. Youth Conservation Corp is active on many forests. Information is shared with state, county and local governments as well as NGOs many times throughout each year.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 1 CCG grant; 2013 - 1 CCG grant</i>

Planned Action: 4.3.2.02

Identify appropriate funding support to implement outreach and education programs.

Reported Accomplishments:

<i>USFS</i>	<i>FS funding of Kids in the Woods, YCC and Tribal Youth with forest employee salary and volunteers.</i>
<i>Borderlands Restoration</i>	<i>USFWS, NRCS/NRCD on youth education; Windsong Peace and Leadership Center on environmental justice training; Deep Dirt Farm Institute provides demos to public in coord with BR</i>
<i>Upper Verde Coalition</i>	<i>Will be working with the NRCS ED center for outreach and education programs relative to forest thinning or grassland restoration</i>

ENHANCE PUBLIC BENEFITS

Water (4)

Goal 3 Increased public understanding of the importance of forests to Arizona's water quality.

Objective: 3 Encourage Public involvement

Planned Action: 4.3.3.01

Develop and implement programs to engage non profit organizations in watershed and riparian cleanup and planting activities.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 1 CCG grant; 2013 - 1 CCG grant</i>
<i>SRP</i>	<i>NAFF partners with non-profit organizations to assist with the monitoring associated with implementation of annual restoration projects</i>
<i>USFS</i>	<i>Forests have developed relationships with many non-profit groups including the Tonto Recreation Alliance, Friends of the Tonto, Friends of the Coconino, Prescott Creeks. Resulted in many miles of hiking and ohv trail work, river cleanup and projects resulting in reducing sediment and pollutants to streams.</i>
<i>Borderlands Restoration</i>	<i>Working closely with Sky Island Alliance across southern AZ on planting thousands of plants at springs in coord with public volunteer events</i>

ENHANCE PUBLIC BENEFITS

Air (5)

Goal 1 Improved air quality.

Objective: 3 Improve coordination of smoke management related to wildland fire and forest restoration treatments. (Arizona Enhanced Smoke Management Program)

Planned Action: 5.1.3.02

Develop improved Smoke Management Program monitoring capabilities including the use of technology such as particulate monitors and real-time cameras.

Reported Accomplishments:

AZSF Monitoring network currently deployed for PM 10 and 2.5. Working with grant providers to secure funding for additional monitors to expand network or replace aging units.

ADEQ Since the 2011 Wallow Fire, ADEQ E-BAM network was changed from measuring PM-10 to PM-2.5 concentrations to be more representative of estimating smoke impacts, stemming from both prescribed burn and wildfire activity. Although, a semi-permanent portable particulate monitoring network has been established in Arizona, ADEQ has additional E-BAMs available for air quality emergency response related to smoke. Near-real time continuous PM-2.5 data (i.e., hourly and 24-hour concentrations) are available to government and public parties via website. Additional monitoring sites can be quickly listed and viewed on the designated webpage through a contract with ARS.

Planned Action: 5.1.3.04

Support the Arizona Interagency Coordination Group in improving communication and coordination between land management agencies in regards to air quality issues.

Reported Accomplishments:

AZSF AZSF has been and continues to be an active partner in Arizona Interagency Coordinating Group (AICG) and the Interagency Smoke Management Program.

Planned Action: 5.1.3.05

Assist ADEQ and other partners in reviewing and updating smoke management program as needed.

Reported Accomplishments:

AZSF AZSF is an active partner in the formation and management of the Arizona Prescribed Fire Council

ADEQ Through a grant received from Arizona State Forestry, ADEQ is currently working with Air Sciences Inc. to develop and implement a more streamlined online approval process for F/SLMs that will become the Arizona Smoke Management Database (AZSMD). The online database serves to digitize data contained on the four required forms of the Enhanced Arizona Smoke Management Program (EAZSMP): Annual Registration, Burn Plan, Daily Burn Request, and Daily Burn Accomplishment. Each F/SLM has a unique login giving the ability enter and edit their agency's prescribed burn projects and make daily burn requests remotely from ADEQ approved and registered burn plans.

ENHANCE PUBLIC BENEFITS

Air (5)

Goal 1 Improved air quality.

Objective: 3 Improve coordination of smoke management related to wildland fire and forest restoration treatments. (Arizona Enhanced Smoke Management Program)

Planned Action: 5.1.3.06

Improve smoke monitoring processes, communication, and coordination on resource management activities including wildland and resource benefit fires .

Reported Accomplishments:

ADEQ ADEQ and the Interagency Smoke Program host weekly smoke coordination calls among F/SLMs during the prescribed burn season (if appropriate). Additionally, a pre-wildfire season call is hosted to provide information concerning availability and capabilities of smoke monitoring in Arizona to emergency personnel (local, county, and state) that could be involved with an emergency wildfire smoke response.

Planned Action: 5.1.3.07

Continue to improve smoke management database and technologies.

Reported Accomplishments:

ADEQ Coordination with Air Sciences Inc. (developers of the AZSMD) is ongoing to make the database more efficient and possesses the minimum requirements set forth in the EAZSMP. Examples of improved efficiency are 1) making the database accessible via website, and therefore mobile friendly, and 2) the addition of a Google Maps interface with GIS overlays displaying Arizona's Class 1 areas and PM nonattainment areas in relation to point location for anticipated burn projects.

Planned Action: 5.1.3.08

Seek various funding, information, training, and technology alternatives to assist agencies in addressing urgent smoke impacts.

Reported Accomplishments:

AZSF Providing funding for training, reference materials and manuals for new smoke database

ADEQ ADEQ and the Interagency Smoke Program have a cache of E-BAM monitors available on request to address smoke impacts. Monitoring data would become posted in near-real time on the designated website.

ENHANCE PUBLIC BENEFITS

Air (5)

Goal 2 Increased public understanding of the importance and effects of fire on Arizona's air quality.

Objective: 1 Enhance public outreach & education regarding fire management and air quality.

Planned Action: 5.2.1.03

Coordinate key messages with other cooperators and stakeholders to ensure timely and effective messages are provided.

Reported Accomplishments:

AZSF

2010 - WCG grant (Air Quality Project): completed urban tree assessments in Phoenix, El Paso, Albuquerque and Las Cruces that generated values for urban trees to particulate matter reduction and improved air quality; produced website, brochure (10K copies), 4 factsheets (1.25K copies/ea), 1 tree poster (5K copies) and pole banners (100 banners); provided ~15 presentations to community groups and at national conferences; will host 3 internal AZSF staff trainings in Oct2015

ENHANCE PUBLIC BENEFITS

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.04

Fund staff capacity to assist rural communities convene, recruit and support forest products and bioenergy enterprises.

Reported Accomplishments:

AZSF Five year Action Plan for the Arizona State Forestry Division includes supporting a Statewide Utilization & Marketing Specialist and the Arizona Statewide Wood Energy Team. Include USDA staffing to support biomass programs (eg., BCAP) and contracting efforts.

AZSF Five year Action Plan for the Arizona State Forestry Division includes supporting a Statewide Utilization & Marketing Specialist

Planned Action: 6.1.1.06

Encourage land management planning efforts that support a sustainable wood products industry.

Reported Accomplishments:

ECO In addition to supporting 4FRI and energizing the Bridge the Gap project, ECO developed the Black River Project with federal, state and NGO partners to treat the entire 130,000 acres Black River watershed.

USFS In 2014, the Kaibab NF completed their Forest Plan Revision. Presently, the Apache/Sitgreaves, Coconino, Coronado, and Prescott NFs are in the process of revising their Forest Plans. The Tonto NF will be initiating this process in 2015.

Planned Action: 6.1.1.07

Develop land-use policies and practices that support forest restoration, community protection, fire management efforts and ecosystem services.

Reported Accomplishments:

USFS See NF Plan Revision Process. Development of best available science paper: RMRS-GTR-310:

ENHANCE PUBLIC BENEFITS

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 1 Develop policies, plans and incentives to encourage the development and perpetuation of forest products businesses that will diversify the economy and facilitate forest restoration activities.

Planned Action: 6.1.1.08

Work collaboratively and strategically to design and place forest management treatments to help facilitate the development of a wood products industry.

Reported Accomplishments:

AZSF Provided some guidance to the 4FRI Stakeholder Group

AZSF Examples include the 4-FRI stakeholder and White Mountain Natural Resource Group stewardship projects. CWPPs also provide collaborative opportunities for development of wood products industry.

Planned Action: 6.1.1.09

Maintain or increase funding to federal, tribal, and state land management agencies to furnish the capacity essential for collaboratively planning, implementing and monitoring restoration treatments that will support the development and continuance of a wood products industry.

Reported Accomplishments:

AZSF USFS Wood Innovation Assistance Program: Arizona Statewide Wood Energy Team, Roundwood Guard Rail Assessment, and Good Earth Power - Composting Marketing/Manufacturing grant.

ECO Outreach by ECO to Arizona US Senator Flake & McCain to fund out of the USFS Chief's fund the NEPA analyses required for the Bridge the Gap project.

AZSF Round Wood Guardrail Post Demonstration Project

AZSF Arizona Statewide Wood Energy Team

ENHANCE PUBLIC BENEFITS

Economics (6)

Goal 1 Realized long-term economic potential of sustainable forest products and bioenergy (while achieving Ecosystem Health goals).

Objective: 3 Expand and support the coordination of multi agency, collaborative, large landscape scale forest treatment projects that will be conducive to the development and support of a wood products industry.

Planned Action: 6.1.3.01

Land managers should work with stakeholders to clarify the amount, availability, and location of wood and biomass across the State.

Reported Accomplishments:

Western Forestry Leadership Council *Data collected and analyzed by the Western Forestry Leadership Council*

AZSF *Data collected and analyzed by the Western Forestry Leadership Council*

ECO *Development by ECO of a template for the creation by the Apache-Sitgreaves NF of a 5 Year Timber Sale Action Plan (TSAP) and the A/S semiannual Periodic Sales Announcement (PSA).*

ENHANCE PUBLIC BENEFITS

Economics (6)

Goal 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 2 Focus and prioritize programs into communities that will experience significant urban growth, to assist local leaders in devising effective ways to grow, develop, and protect their communities while also integrating important economic contributions made by forest ecosystems and natural areas to be impacted.

Planned Action: 6.2.2.02

Network with community leaders to promote, coordinate, and deliver information that will help community leaders, planners, and emergency response organizations address growth and the preservation of resource areas that are critical from an economic ecosystem services standpoint.

Reported Accomplishments:

<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2014 - 5 CCG grants; 2013 - 1 CCG grant; 2012 - 2 CCG grants; 2011 - 2 CCG grants</i>
<i>ECO</i>	<i>ECO provides updates and planning support for forest and watershed restoration issues to Apache, Cochise, Gila, Graham, Greenlee, and Navajo counties, as well as numerous AZ Legislators elected in these counties.</i>
<i>USFS</i>	<i>Plan Revision for National Forests in Arizona will addressing. Annually, land management agencies will plan and implement Incident Command to mitigate risk of wildfire on all lands.</i>

Planned Action: 6.2.2.03

Increase understanding of the economical value of recreational use of our forests.

Reported Accomplishments:

<i>USFS</i>	<i>Data collected and analyzed by the Headwaters Economics Group. Forest Plan Revision for the Apache/Sitgreaves, Coconino, Coronado, Kaibab, and Tonto National Forests are evaluating social/economic conditions.</i>
<i>AZSF</i>	<i>Funded Urban/Community Forestry project grants: 2011 - 1 TREE grant; 2014 - 1 CCG grant; 2013 - 1 CCG grant; 2012 - 3 CCG grants; 2011 - 2 CCG grants; 2010 - 4 CCG grants</i>
<i>AZSF</i>	<i>Data collected and analyzed by the Headwaters Economics Group</i>

ENHANCE PUBLIC BENEFITS

Economics (6)

Goal 2 Protection of areas with economic development potential related to ecosystem services.

Objective: 4 Recognizing the diversity of federal, tribal, state and private landownership in Arizona, maintain and enhance the economic benefits and values of natural resources

Planned Action: 6.2.4.01

Support the development of other emerging voluntary markets including water, habitat and green tourism.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grants: 2012 - 2 CCG grants; 2012 - 1 CCG grant; 2011 - 1 CCG grant

USFS Work with the Arizona Office of Tourism to explore opportunities. There also may be programs available with Arizona RC&D.

Planned Action: 6.2.4.04

Encourage landowners to use restoration management techniques that result in socially accepted desired future conditons.

Reported Accomplishments:

USFS USDA-FS funds are granted to Arizona for Forestry and Community Forestry including: Urban and Community Forestry, Stewardship, Legacy, Forest Health, and Utilization and Marketing programs.

AZSF Funded Urban/Community Forestry project grants: 2010 - 1 IPG grant; Funded Invasive Plants Program project grants: 2011 - 1 IPG grant (211 landowners participating); Western Bark Beetle Initiative (WBBi) projects - 605ac treated between 2010-2015

Objective: 4 Support urban and community forestry programs to increase resiliency to climate change.. (see People and Forests Strategies)

Planned Action: 7.1.4.01

(See People & Forests Actions)

Reported Accomplishments:

*AZSF Funded multiple Urban/Community Forestry project grants. Implementing multiple Urban Forestry projects:
2010 - WCG (Air Quality); 2012 - WCG (UFRI);
2014 - WCG (Diverse Urban Forests)
2010 - WCG (Air Quality); 2012 - WCG (UFRI);
2014 - WCG (Diverse Urban Forests)*

ENHANCE PUBLIC BENEFITS

Climate (7)

Goal 2 Reduced rate of future climate change through maximized carbon sequestration in Arizona forests and trees.

Objective: 1 Support landowners and land management practices which implement high quality mitigation practices that reduce carbon loss.

Planned Action: 7.2.1.01

Increase opportunities for biomass and other wood product utilization.

Reported Accomplishments:

USFS Acceleration and expansion of wood energy and other wood product markets. Through the USDA - Forest Service - Wood Innovations Federal Assistance Program (formerly Woody Biomass Program). Participate in the Farm Credit Service's Biomass Crop Assistance Program.

Planned Action: 7.2.1.02

Improve opportunities for certification of carbon sequestration and wood products on all lands.

Reported Accomplishments:

USFS Although carbon assessments are required by the 2012 Planning Rule there are currently no Agency directives or policies that require certification regarding carbon sequestration.

ENHANCE PUBLIC BENEFITS

Climate (7)

Goal 2 Reduced rate of future climate change through maximized carbon sequestration in Arizona forests and trees.

Objective: 3 Support continued research to understand the effects of forest management on sequestration.

Planned Action: 7.2.3.01

Identify and pursue opportunities to improve understanding of climate change science.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grants: 2012 - 2 CCG grants; 2013 - 1 CCG grant

USFS As detailed for Goal 1, Objective 1 and Goal 3, Objective 1, R3 Forest Service staff have identified and pursued many opportunities to improve our understanding of climate change science, including through our own analyses (e.g., Triepke et al. climate change vulnerability assessment) and through collaborations with scientists at RMRS, universities and nonprofit organizations. The Desert LCC and Southern Rockies LCC, with input from FS staff, have identified and supported a number of projects related to climate change science. Many of these are listed above under our response for Goal 1, Objective 1; information on several others that address climate science questions outside of the realm of assessments can be found on the Desert LCC and Southern Rockies LCC websites.

Internally, FS staff take a variety of approaches to learning about climate change adaptation principles and science. This is a priority identified by the FS and each NF reports annually on the degree to which and means by which this is being done. Climate change info from scientific community is regularly shared with employees, such as RMRS "Science You can Use" bulletin, and relevant General Technical Reports and other publications. TACCIMO, a FS web-based portal for access to scientific literature on climate change, includes options to search for articles by topic and/or geography, making it easy to find pertinent information, and staff-generated article summaries that streamline the process of sifting through the literature to identify useful articles. This resource is not yet in wide use, but it does represent an effort on the part of the agency to make climate change information easily accessible. RMRS and both LCCs operating in Arizona hold webinars that provide yet another avenue for improving our understanding of climate change science. At a national level, the FS's Climate Change Office staff based in D.C. distribute climate change information to staff on each National Forest.

ENHANCE PUBLIC BENEFITS

Climate (7)

Goal 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 1 Develop and maintain science based reports and materials specific to Arizona that document the state of knowledge for climate exposure; species, community and watershed vulnerability; forest adaptation strategies and their effectiveness, as well as effectiveness of strategies focused on increasing carbon sequestration.

Planned Action: 7.3.1.01

Develop and maintain materials to address recent climate change and how it affects ecological systems and human infrastructure.

Reported Accomplishments:

USFS Information about climate change and its effects on ecological systems and human infrastructure is being gathered, maintained, and distilled by FS staff working on TACCIMO (see Goal 2, Objective 3) and at the USDA Climate Hubs. The FS Southwest Region is currently supporting a socio-economic climate change vulnerability assessment, with a final report anticipated later this year. This assessment synthesizes predictions from the ecological climate change vulnerability assessment (Triepke et al. 2014) with information on current day disturbance regimes (e.g., wildfire and insect impacts to ecosystems) to infer future threat to human infrastructure and economies for each ranger district in R3.

AZSF Funded Urban/Community Forestry project grant: 2014 - 1 CCG grant

Planned Action: 7.3.1.02

Develop and maintain materials to address the relationship between water and riparian forests, and conifer forest watersheds and water yield to rivers, creeks, and reservoirs.

Reported Accomplishments:

TNC 2014 publication by The Nature Conservancy and NAU: Robles MD, Marshall RM, O'Donnell F, Smith EB, Haney JA, et al. (2014) Effects of Climate Variability and Accelerated Forest Thinning on Watershed-Scale Runoff in Southwestern USA Ponderosa Pine Forests. PLoS ONE 9(10): e111092. doi:10.1371/journal.pone.0111092

USFS To the best of our knowledge, the FS does not have work underway to address these questions directly in Arizona. Lacking other information about the vulnerability of riparian systems, we are assigning ecological vulnerability metrics to these areas by extrapolating from the average vulnerability rating of upland ecosystems in the same HUC-6 watershed.

LCC - USBR Desert Landscape Conservation Cooperative Land Cover Map Pilot Project (DLCC), One of the 22 LCCs created pursuant to Secretarial Order 3289 to address the impacts of climate change on Americas water, land and other natural and cultural resources, is focused on acquiring and sharing information to support the development of landscape level strategies for understanding and responding to climate change impacts and other large scale ecosystem stressors such as land use change, decrease in water availability, invasive species, and wildfire.

AZSF Funded Urban/Community Forestry project grant: 2012 - 1 CCG grant

ENHANCE PUBLIC BENEFITS

Climate (7)

Goal 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 1 Develop and maintain science based reports and materials specific to Arizona that document the state of knowledge for climate exposure; species, community and watershed vulnerability; forest adaptation strategies and their effectiveness, as well as effectiveness of strategies focused on increasing carbon sequestration.

Planned Action: 7.3.1.03

Provide scenario analysis of both plausible climate changes, and potential outcomes for riparian areas, grasslands, and forests. Use scenarios to describe potential management effects, e.g. measurable effects to riparian systems based on increased or decreased water consumption scenarios.

Reported Accomplishments:

USFS

Climate scenario analysis of ecosystem changes due to climate change was conducted for all NF lands in Arizona (ecological ccva; Triepke et al.).

Potential outcomes were studied for the Apache-Sitgreaves NF through work by the Integrated Landscape Assessment Project (Oregon State Univ. and Portland State Univ, in cooperation w/ USFS R3). While predictions were made of future conditions at a watershed scale, no management scenario testing has been done.

ENHANCE PUBLIC BENEFITS

Climate (7)

Goal 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 2 Develop outreach and education programs to disseminate information about climate change science to the public and community leaders.

Planned Action: 7.3.2.01

Identify collaborative partner agencies and organizations.

Reported Accomplishments:

USFS

Partnerships through which climate change issues are explored and/or addressed via management activities by National Forests in Arizona exist with (among other organizations): the Desert LCC, Southern Rockies LCC, Climate Science Center (Tucson) and the USDA Climate Hub (Las Cruces, NM), Tribes, Coconino Resource Advisory Council, Arizona Game and Fish Department, National Park Service, BLM, Rocky Mountain Bird Observatory, Northern Arizona University (Laboratory of Landscape Ecology and Conservation Biology and Ecological Restoration Institute), The Nature Conservancy, Museum of Northern Arizona, the Springs Stewardship Institute at MNA, the Flagstaff Arboretum, the University of Arizona (including the FireScape collaborative), Sky Islands Alliance, Borderlands Restoration, US Fish and Wildlife Service, Pima and other county governments, Hummingbird Network, Monarch Watch, US Geological Survey, Arizona Geological Survey, Natural Resource Conservation Districts and Service, Malpais Borderlands, Wild Turkey Federation, and the Buffelgrass Coalition.

The Four Forest Restoration Initiative (4FRI) has a long and broad list of stakeholders, and all are active voices in guiding the largest forest resiliency focused project in Arizona. See the link at right for a list of stakeholders (click on link for "Organizations Involved").

Collaborations also exist within the agency between National Forest management staff and researchers at the FS Rocky Mountain Research Station.

Many of these collaborators will have a focus on outreach and education, but the FS has not yet focused specifically on public outreach and education programming related to climate change science. This is likely to be a new priority for the agency in upcoming years.

Planned Action: 7.3.2.02

Collaboratively develop a statewide outreach and education plan.

Reported Accomplishments:

USFS

The FS is developing a specific focus on education and outreach related to climate change, but this is a new priority and to date we have not developed focused efforts in this area.

ENHANCE PUBLIC BENEFITS

Climate (7)

Goal 3 Broad public and community understanding of climate change science - Arizona's variable climate and current and future impacts.

Objective: 2 Develop outreach and education programs to disseminate information about climate change science to the public and community leaders.

Planned Action: 7.3.2.03

Identify appropriate resources to implement outreach and education activities.

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grant: 2014 - 2 CCG grants

USFS Multiple activities.

ENHANCE PUBLIC BENEFITS

Culture (8)

Goal 1 Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests,

Objective: 1 Build trust, communication networks, and problem solving strategies between land management agencies, communities, and stakeholders about the diverse cultural perspectives of forest users and Indigenous Tribes,

Planned Action: 8.1.1.01

Develop adequate tribal liaison staffing within the state and federal natural resource agencies to facilitate the ability to address the cultural perspectives associated with the management and protection of forest resources.

Reported Accomplishments:

USFS Forest Service Tribal Relations Program has a manual and handbook on tribal consultation and the Sacred Sites policy report.

USFS Forest Service continues to fund tribal relations positions on each forest and Regional Office, For some forests this is a dedicated position on others the Forest Archaeologist is responsible for tribal contacts.

AZSF - Tribal Outreach Specialist (2011-2013)

Planned Action: 8.1.1.02

Facilitate the development of appropriately structured work groups to share information and develop strategies to identify, protect and address cultural issues associated with forested lands and their management.

Reported Accomplishments:

AZSF AZSF coordinates fire mgmt needs with BIA - fire restrictions, sharing suppression resources and fire training opportunities

USFS Forest Service tribal relations positions for each forest form an information sharing group. The Arizona forest's tribal relations specialists also meet at the annual regional heritage program meeting.

AZSF AZSF is member of LaPaz Co Fire Chief's Assn with other Tribal representation; AZSF participates on the Central West Zone Board with BIA

USFS Arizona forest's tribal relations specialists have tribal consultation meetings, occasional listening sessions. Some of these are attended by the Regional Forester and/or Forest Supervisors.

ENHANCE PUBLIC BENEFITS

Culture (8)

Goal 1 Improved communication between all land management agencies, indigenous tribes, and other cultural groups about varying perspectives and beliefs related to forests,

Objective: 2 Improve broader understanding of various cultural perspectives as they relate to forest resources, fire management, and other natural resource issues.

Planned Action: 8.1.2.01

Encourage and facilitate improved information sharing by indigenous tribes and diverse cultural groups to inform others about varying natural resource perspectives.

Reported Accomplishments:

AZSF AZSF coordinates fire mgmt needs with BIA - fire restrictions, sharing suppression resources and fire training opportunities; Funded Urban/Community Forestry project grants: CCG 12-105 (San Carlos Apache Tribe); CCG 13-1301 (SERI); CCG 13-1307 (Iskashitaa)

USFS Forest Service has Office of Tribal Relations specialists and a tribal consultation process to be followed during undertakings.

Objective: 3 Educate the public, government officials, and community leaders about the role and importance of cultural perspectives in restoration, sustainable forest and wood products businesses, fire management, and community protection needs and responsibilities.

Planned Action: 8.1.3.01

Develop and implement an education program for local, state and federal government decision makers, schools, and others about the importance of culture in the forested environment.

Reported Accomplishments:

AZSF Implementing WCG 14-501 (LEAF Network) project; Funded Urban/Community Forestry project grant: CCG 13-1307 (Iskashitaa)

Planned Action: 8.1.3.02

Identify appropriate human and fiscal resources to effectively accomplish public outreach.

Reported Accomplishments:

USFS Forest Service has tribal relations staff on each forest, regional office and Washington Office. There is also a tribal consultation process. Tribal relations is funded from cost pool. The forests also utilize the NEPA scoping process for initial outreach for efficiency

ENHANCE PUBLIC BENEFITS

Culture (8)

Goal 2 Effective collaboration mechanisms for sharing of information about resources, priorities, policies, and management strategies between Tribes and non-Tribal

Objective: 1 Where appropriate, share data and implementation strategies to leverage successful outcomes on tribal and adjacent lands with similar management objectives.

Planned Action: 8.2.1.03

Promote development of management plans that are sensitive to culturally significant areas, traditional uses and accessibility to diverse groups (public lands, lands with conservation easements, etc)

Reported Accomplishments:

AZSF Funded Urban/Community Forestry project grant: CCG 12-105 - San Carlos Apache Tribe conducted urban tree inventories in Bylas and other tribal communities in order to develop an urban tree management plan

USFS Arizona forests have land management plans that recognize tribal consultation needs and special areas

Objective: 2 Improve information sharing about available resources to address needs of indigenous tribes and other cultural groups in Arizona.

Planned Action: 8.2.2.01

Coordinate collaborative outreach efforts to share information about federal and state resources and programs available to tribes and varying cultural groups.

Reported Accomplishments:

AZSF AZSF - hosted joint riparian restoration workshop with Colorado River Indian Tribes (Jan 2012); UCF program provides Urban Tree Talk newsletters to tribal representatives

USFS Region 3 Tribal Liason has worked with tribes to do collaborative projects on adjacent FS lands the past several years.

Planned Action: 8.2.2.02

Evaluate the need for non-traditional materials and other strategies to improve communication and message delivery.

Reported Accomplishments:

AZSF AZSF - Tribal Liaison identified 7 main outreach needs as part of project Summary Report.

USFS FS continues to have face to face meetings with tribes on a variety of projects.

APPENDIX III

Stakeholder Summary

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APPENDIX III

Stakeholder Summary

Arizona State Forestry

The Arizona State Forestry (AZSF) provides resources for the prevention and suppression of wildland fire on State Trust Land and private property located outside incorporated communities. The agency provides services for fire prevention, urban and community forestry, forest stewardship, forest health, utilization and marketing, and has a wide variety of grants available. AZSF works closely with the US Forest Service and other partners to implement a variety of cooperative forestry and fire management programs authorized under the Cooperative Forestry Assistance Act.

<http://azsf.az.gov>

Arizona Commerce Authority

The Arizona Commerce Authority (ACA) is the leading economic development organization with a streamlined mission to grow and strengthen Arizona's economy. The ACA uses a three-pronged approach to advance the overall economy: recruit, grow, create – recruit out-of-state companies to expand their operations in Arizona; work with existing companies to grow their business in Arizona and beyond; and partner with entrepreneurs and companies large and small to create new jobs and businesses in targeted industries.

<http://azcommerce.com>

Arizona Department of Environmental Quality

ADEQ is a separate, cabinet-level agency that directs all of Arizona's environmental protection programs. ADEQ's mission is to protect and enhance public health and the environment in Arizona. The department does this by overseeing the state's environmental laws and authorized federal programs to prevent pollution of the air, water, and land, and to ensure clean-up of such pollution when it occurs. ADEQ's goal is to lead Arizona and the nation in protecting and enhancing the environment and improving the quality of life for the people of our state. The agency helps Arizonans respect the balance between the natural world and the people who depend on it for sustenance, prosperity and a fulfilling quality of life.

<http://www.azdeq.gov>

Arizona Department of Transportation

The Arizona Department of Transportation (ADOT) is a multimodal transportation agency serving one of the fastest-growing areas of the country. ADOT is responsible for planning, building and operating a complex highway system in addition to building and maintaining bridges and the Grand Canyon Airport. A major component of the organization is the Motor Vehicle Division, which provides title, registration and driver-license services to the general public throughout the state of Arizona. ADOT is funded by the people who purchase fuel, drive or own private and commercial vehicles, or use transportation services. To build and operate the state's transportation systems, individuals and businesses invest money through fuel taxes, motor-carrier fees and vehicle title, registration and license fees.

<http://azdot.gov>

Arizona Game and Fish Department

The mission of the Arizona Game and Fish Department is to conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations. The Arizona Game and Fish Commission establishes policy for the management, preservation, and harvest of wildlife. The Commission makes rules and regulations for managing, conserving, and protecting wildlife and fisheries resources, and safe and regulated watercraft and off-highway vehicle operations for the benefit of the citizens of Arizona.

<http://azgfd.gov>

Arizona Nursery Association

The Arizona Nursery Association (ANA) is a professional trade organization dedicated to the promotion and advancement of the nursery industry for its members and the public they serve in Arizona. ANA works toward the solution of problems common to all in the nursery industry; conducts educational programs for the nursery industry; promotes a better understanding of nursery services, plant material and the use of garden products by the general public; cooperates with state agencies in combating horticultural pests and diseases; and encourage the nursery industry to better serve the retail customer. Annually, ANA holds the Southwest Horticulture Annual Day of Education (SHADE) conference to provide an educational opportunity to partners and professionals in the nursery industry. They also provide grant opportunities for research in Arizona's nursery and horticultural related industries. ANA is a partner of Arizona State Forestry's, and routinely participates in the State's Urban and Community Forestry program.

<http://azna.org/>

Arizona Public Service

APS, Arizona's largest and longest-serving electricity utility, serves nearly 1.2 million customers in 11 of the state's 15 counties. With headquarters in Phoenix, APS is the principal subsidiary of Pinnacle West Capital Corp. (NYSE: PNW). Arizona Public Service Company has been powering Arizona's economic growth since its founding in 1886. Healthy, vital communities are an essential part of its vision of creating a sustainable energy future for Arizona.

<http://www.aps.com>

Arizona State University – Sustainable Cities Network

The Network (SCN) is a vehicle for communities to share knowledge and coordinate efforts to understand and solve sustainability problems. It is designed to foster partnerships, identify best practices, provide training and information, and create a bridge between Arizona State University's research and front-line challenges facing local communities. SCN began in the Julie Ann Wrigley Global Institute of Sustainability. The Network provides practitioners with knowledge, resources, and innovations to accelerate the valley toward national leadership in sustainability.

<https://sustainablecities.asu.edu>

Borderlands Restoration

Borderlands Restoration helps to reconnect wildlife, land, and people in the Arizona/Sonora Borderland region by involving people in restoring the ecosystem on which both humans and wildlife depend. This includes restoring functional physical landscape processes, growing and planting native plants, supporting springs and pollinators, and forging and maintaining bonds between people and the natural world. Habitats of rare plants and wildlife, as well as wildlife corridors, especially between isolated mountain ranges, are of special concern. Many programs that Borderlands Restoration conduct include public education and volunteer support. Borderlands Restoration partners with many conservation groups, and has been a close partner with Arizona State Forestry's cooperative forestry programs in southeastern Arizona.

<http://borderlandsrestoration.org>

Desert Landscape Conservation Cooperative

The Bureau of Reclamation and the U.S. Fish and Wildlife Service have partnered to develop the Desert LCC. The Desert LCC is a bi-national, self-directed, non-regulatory regional partnership formed and directed by resource management entities as well as interested public and private entities in the Mojave, Sonoran, and Chihuahuan Desert regions of the southwestern United States and northern Mexico. Through collaborative partnerships, the Desert LCC seeks to provide scientific and technical support, coordination, and communication to resource managers and the broader Desert LCC community to address climate change and other landscape-scale ecosystem stressors.

<http://www.usbr.gov/dlcc>

Ecological Restoration Institute

The Ecological Restoration Institute (ERI) is nationally recognized for mobilizing the unique assets of a university to help solve the problem of unnaturally severe wildfire and degraded forest health throughout the American West. The ERI, based in the Northern Arizona University School of Forestry in Flagstaff, AZ, works to help land management agencies and communities by providing comprehensive focused studies, monitoring and evaluation research, and technical support. The ERI is funded by a combination of programmatic state and federal funding, such as the Southwest Ecological Restoration Institutes (SWERI), and through competitive grants programs. The goals of ERI go beyond scientific discovery to the meaningful application of scientific knowledge that makes a difference for western forests.

<http://nau.edu/ERI>

Eastern Arizona Counties Organization

A longtime collaboration between Apache, Gila, Graham, Greenlee, and Navajo Counties was formalized in 1993 by an Intergovernmental Agreement between the Counties to create the Eastern Arizona Counties Organization (ECO). The ECO Counties have progressively developed a leading role in natural resources and public lands management issues in Eastern Arizona, and for several years have implemented a comprehensive set of environmental programs including research, demonstration projects, educational forums, and public information dissemination efforts that promoted and demonstrated the stewardship-based utilization of natural resources throughout Arizona.

Flagstaff, City of

The City of Flagstaff is located in northern Arizona, and is home to nearly 65,000 residents. It is recognized by the Arbor Day Foundation as a Tree City USA, and has been for 7 years.. It is a community rich with cultural diversity, beauty, and history; as well as, amazing educational, recreational, and scientific opportunities. Flagstaff is a consistent partner of Arizona State Forestry, participating in wildland fire training, urban and community forestry programs as well as other cooperative forestry programs.

<http://www.flagstaff.az.gov>

Landscape Conservation Cooperatives

With the signing of Secretarial Order No. 3289, the Department of the Interior launched the Landscape Conservation Cooperatives (LCCs) to better integrate science and management to address climate change and other landscape scale issues. By building a network that is holistic, collaborative, adaptive, and grounded in science, LCCs are working to ensure the sustainability of our economy, land, water, wildlife, and cultural resources. Each of the 22 LCCs brings together federal, state, and local governments along with Tribes and First Nations, non-governmental organizations, universities, and interested public and private organizations. Our partners work collaboratively to identify best practices, connect efforts, identify science gaps, and avoid duplication through conservation planning and design.

<http://lccnetwork.org/>

Northern Arizona University

NAU is a state university with nationally ranked programs, a high-research status, and is emerging as a leader in sustainability, science, business, green building, and cultural arts. Empowered by the Arizona Board of Regents to provide educational opportunities statewide, the university serves students at the Flagstaff campus, multiple statewide locations, and online—offering nearly 150 combined undergraduate and graduate degree programs, all distinguished by an ongoing commitment to close student-faculty relationships.

<http://nau.edu>

Phoenix, City of

The City of Phoenix is the largest city in Arizona, being the home of over 1.5 million people. Phoenix is the heart of commerce, and the seat of State Government in Arizona. The City of Phoenix has been recognized by the Arbor Day Foundation as a Tree City USA community for 29 years, and has developed a Tree and Shade Master Plan to create a healthier, more livable and prosperous desert city. The City of Phoenix is a consistent partner of Arizona State Forestry..

<https://www.phoenix.gov>

Salt River Project

The Salt River Project (SRP) is a large public power utility in central Arizona that provides electricity and water to more than 2 million people in its service area. SRP participates in a number of community outreach programs, and is recognized by the Arbor Day Foundation as a Tree Line USA utility. SRP is dedicated to the “Right Tree, Right Place” mentality as well. They also provide funding for forest treatments in northern Arizona to improve watershed health through a program called the Northern Arizona Forest Fund.

<https://www.srpnet.com>

Sky Island Alliance

The Sky Island Alliance (SIA) restores the wild lands, wildlife, and waters that embody the sacred landscape of the Sky Islands. SIA works in southeastern Arizona, southwestern New Mexico, and northwestern Mexico, on lands that share a common legacy, culture and beauty. They work across the landscape, from saguaro-studded valleys to towering oak and pine covered mountains. Additionally, SIA uses science, education and advocacy to connect the binational landscapes, people, and wildlife of the Sky Islands for the benefit of all.

<http://www.skyislandalliance.org/>

The Nature Conservancy

The Nature Conservancy (TNC) conserves the lands and waters on which all life depends, internationally. They work collaboratively with local groups to protect and conserve land, especially in areas that are ecologically sensitive or subject to development. They do this through land acquisition and conservation easements. TNC has helped to conserve 21 million acres in the US, and over 103 million acres, globally. Their management and conservation is based in sound science, and the conservancy employs many land managers, scientists and aspiring natural resource professionals.

<http://www.nature.org>

Tucson, City of

The City of Tucson is one of the largest cities in Arizona with over 525,000 people. The Tucson area has been continuously settled for over 12,000 years, and hosts much cultural diversity. Tucson has been recognized by the Arbor Day Foundation as a Tree City USA community for 23 years. The University of Arizona is an internationally recognized research institution located in Tucson as well. The City of Tucson is a consistent partner of Arizona State Forestry, participating in wildland fire training, urban and community forestry programs as well as other cooperative forestry programs, regularly.

<https://www.tucsonaz.gov>

Tucson Clean and Beautiful – Trees for Tucson

The purpose of Tucson Clean & Beautiful, Inc., a non-profit organization, is to preserve and improve the environment, conserve natural resources, and enhance the quality of life in the City of Tucson, and eastern Pima County. They achieve this through initiating educational and participatory programs implemented with broad citizen, multicultural support. Trees for Tucson provides tree planting instructions, provides low-cost trees, provides volunteer opportunities and promotes the power of shade trees to improve the community and the home environment. Tucson Clean and Beautiful is a partner of Arizona State Forestry's, and routinely participates in the State's Urban and Community Forestry program.

<https://tucsoncleanandbeautiful.org/trees-for-tucson>

Tucson Electric Power

Tucson Electric Power (TEP) is a utility company that provides energy to the Tucson metropolitan area, making power available to over 414,000 customers. TEP offers energy services through traditional resources and a growing renewable power portfolio. TEP also encourages community service and volunteerism among their employees. Some of their efforts in the Tucson Community include working with Tucson Clean and Beautiful to subsidize tree planting. They also promote the "Right Tree in the Right Place" campaign to ensure vegetation is less likely to be removed or pruned by the company, and to reduce potential interference with local power service.

<https://www.tep.com>

University of Arizona

Established in 1885, the University of Arizona, the state's super land-grant university with two medical schools, produces graduates who are real-world ready through its 100% Student Engagement initiative. Recognized as a global leader and ranked 16th for the employability of its graduates, the UA is also a leader in research, bringing more than \$580 million in research investment each year, and ranking 19th among all public universities. The UA is advancing the frontiers of interdisciplinary scholarship and entrepreneurial partnerships, and is a member of the Association of American Universities, the 62 leading public and private research universities. It benefits the state with an estimated economic impact of \$8.3 billion annually.

<http://www.arizona.edu>

Upper Verde River Watershed Protection Coalition

Working together to protect the Upper Verde River, the Coalition is committed to balancing the reasonable water needs of the residents of the Upper Verde River Watershed Area with protection of the base flow of the Upper Verde River to the maximum possible extent, and achieving safe-yield within the Prescott Active Management Area (AMA), by developing BMPs (best management practices) that incorporate science-based planning, utilization and conservation of all water resources within the Upper Verde River Watershed Area, and provide financial and staff resources to support the protection activities of the Coalition.

<http://uvrwpc.org>

US Bureau of Indian Affairs

The United States has a unique legal and political relationship with Indian tribes and Alaska Native entities as provided by the Constitution of the United States, treaties, court decisions and Federal statutes. Within the government-to-government relationship, Indian Affairs provides services directly or through contracts, grants, or compacts to 566 federally recognized tribes with a service population of about 1.9 million American Indian and Alaska Natives. While the role of Indian Affairs has changed significantly in the last three decades in response to a greater emphasis on Indian self-governance and self-determination, Tribes still look to Indian Affairs for a broad spectrum of services.

<http://www.bia.gov>

US Bureau of Land Management

The Bureau of Land Management (BLM) has a mission to sustain the health, diversity, and productivity of America's public lands for the use and enjoyment of present and future generations. It administers more public land – over 245 million surface acres – than any other Federal agency in the United States. Most of this land is located in the 12 Western states, including Alaska.

<http://blm.gov>

US Fish and Wildlife Service

As a bureau within the Department of Interior, the Fish and Wildlife Service objectives are to assist in the development and application of an environmental stewardship ethic for our society, based on ecological principles, scientific knowledge of fish and wildlife, and a sense of moral responsibility. They also guide the conservation, development, and management of the Nation's fish and wildlife resources and administer a national program to provide the public opportunities to understand, appreciate, and wisely use fish and wildlife resources.

<http://www.fws.gov/>

USDA Farm Service Agency

The Farm Service Agency is a federal agency of the U.S. Department of Agriculture. Located in all 50 states, their mission is to help American farmers provide reasonably priced food and fiber to the nation and the world. Farm Service Agency is equitably serving all farmers, ranchers, and agricultural partners through the delivery of effective, efficient agricultural programs for all Americans.

<http://www.fsa.usda.gov>

USDA Forest Service

The USDA Forest Service is a multi-faceted agency that manages and protects 154 national forests and 20 grasslands in 44 states and Puerto Rico. The agency's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations. The Southwestern Region is 20.6 million acres. There are six national forests in Arizona, five national forests and a national grassland in New Mexico, and one national grassland each in Oklahoma and the Texas panhandle. The region ranges in elevation from 1,600 feet above sea level and an annual rain fall of 8 inches in Arizona's lower Sonoran Desert to 13,171-foot high Wheeler Peak and over 35 inches of precipitation a year in northern New Mexico.

<http://www.fs.fed.us>

US Geological Survey

The US Geological Survey (USGS) is a science organization that provides impartial information on the health of our ecosystems and environment, the natural hazards that threaten us, the natural resources we rely on, the impacts of climate and land-use change, and the core science systems that help us provide timely, relevant, and useable information. The USGS collects, monitors, analyzes, and provides scientific understanding about natural resource conditions, issues, and problems. They also provide opportunities for partnership, funding, and international collaboration.

<http://www.usgs.gov/>

Watershed Management Group

Watershed Management Group (WGM) develops community-based solutions to ensure the long-term prosperity of people and health of the environment by providing people with the knowledge, skills, and resources for sustainable livelihoods. Based in Tucson, AZ, WGM has a strong focus on improving desert ecosystems, and also regularly work in the Phoenix Valley, and in other southern Arizona communities including the U.S.-Sonora, Mexico border region. They provide training, consultation, and volunteer opportunities to the public, but also perform work such as stream restoration, developing green stormwater infrastructure and creating stormwater resource plans. WGM is a partner of Arizona State Forestry's, and routinely participates in the State's Urban and Community Forestry program.

<https://watershedmg.org>

Western Forestry Leadership Coalition

The Western Forestry Leadership Coalition represents a unique partnership between the Council of Western State Foresters and federal government forestry leaders. The Coalition is comprised of 34 members from across the federal and state agencies of the west.

<http://wflccenter.org>

APPENDIX IV

Abbreviations and Acronyms

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APPENDIX IV

Abbreviations and Acronyms

4FRI	-	4 Forests Restoration Initiative
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A

ACTC	-	Arizona Community Tree Council
ADEQ	-	Arizona Department of Environmental Quality
ADOT	-	Arizona Department of Transportation
AMP	-	Allotment Management Plan
ANA	-	Arizona Nursery Association
APS	-	Arizona Public Service
ASNF	-	Apache Sitgreaves National Forest
ASU-SCN	-	Arizona State University – Sustainable Cities Network
AWIMA	-	Arizona Wildfire and Incident Management Academy
AZGF/AZGFD	-	Arizona Game and Fish Department
AZPFC	-	Arizona Prescribed Fire Council
AZSF	-	Arizona State Forestry
AZSMD	-	Arizona Smoke Management Database
AZSMP	-	Arizona Smoke Management Program
AZUTM	-	Arizona Urban Tree Monitoring
AzWRAP	-	Arizona Wildfire Risk Assessment Portal

B

BCAP	-	Biomass Crop Assistance Program
BLM	-	Bureau of Land Management
BMP	-	Best Management Practices

C

CAGCS	-	Central Arizona Grassland Conservation Strategy
CCG	-	Community Challenge Grant
CFAA	-	Cooperative Forestry Assistance Act
CNF	-	Coronado National Forest
COF	-	Coconino National Forest
CWPP	-	Community Wildfire Protection Plan

D

DLA	-	Defense Logistics Agency
DLCC	-	Desert Landscape Conservation Cooperative
DUF	-	Diverse Urban Forests

E

E-BAM	-	Environmental Beta Attenuation Monitor
ECO	-	Eastern Arizona Counties Organization
EIS	-	Environmental Impact Statement
ERI	-	Ecological Restoration Institute
ESA	-	Endangered Species Act

F

FAP	-	Forest Action Plan
FEPP	-	Federal Excess Property Program
FIA	-	Forest Inventory Analysis
FWPP	-	Flagstaff Watershed Protection Project

G

GIS	-	Geographic Information System
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H

HOA	-	Home Owners Association
HUCS	-	Hydrological Unit Codes

I

IMT	-	Incident Management Team
IPG	-	Invasive Plants Grants

K

KFHF	-	Kaibab Forest Health Focus
KNF	-	Kaibab National Forest

L

LCC	-	Landscape Conservation Cooperative
LRMP	-	Land Resource Management Plan

M

MOU	-	Memorandum of Understanding
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N

NASF	-	National Association of State Foresters
NAU	-	Northern Arizona University
NEPA	-	National Environmental Policy Act
NFWF	-	National Fish and Wildlife Foundation
NGO	-	Non-Governmental Organization
NRCD	-	Natural Resource Conservation District
NRCS	-	Natural Resources Conservation Service
NWCG	-	National Wildfire Coordination Group

P

PAWUIC	-	Prescott Area Wildland Urban Interface Commission
PNF	-	Prescott National Forest

R

RMRS	-	Rocky Mountain Research Station
RSG	-	Ready, Set, Go!

S

S&PF	-	State and Private Forestry
SAF	-	Society of American Foresters
SCAT	-	San Carlos Apache Tribe
SHADE	-	Southwest Horticulture Annual Day of Education
SIRC	-	Southwest Interdisciplinary Research Center

SRP	-	Salt River Project
SWCC	-	Southwest Coordination Center
SWERI	-	Southwest Ecological Restoration Institutes

T

TACCIMO	-	Template for Assessing Climate Change Impacts and Management Options
TCB	-	Tucson Clean and Beautiful
TEP	-	Tucson Electric Power
TNC	-	The Nature Conservancy
TNF	-	Tonto National Forest
TREE	-	Tree Resource Enhancement and Engagement
TSAP	-	Timber Sale Action Plan

U

UA	-	University of Arizona
UCF	-	Urban and Community Forestry
UFRI	-	Urban Forest Resources Inventory
USBR	-	United States Bureau of Reclamation
USDA	-	United States Department of Agriculture
USDA FSA	-	US Department of Agriculture – Farm Service Agency
USFS	-	United States Forest Service
USFWS	-	United States Fish and Wildlife Service
USGS	-	United States Geological Survey
UTT	-	Urban Tree Talk Newsletter

V

VFD	-	Volunteer Fire Department
VWRC	-	Verde Watershed Restoration Coalition

W

WBBI	-	Western Bark Beetle Initiative
WCG	-	Western Competitive Grant
WFDSS	-	Wildland Fire Decision Support System
WFLC	-	Western Forestry Leadership Coalition
WMG	-	Watershed Management Group
WRAP	-	Watershed Restoration Plan
WUI	-	Wildland Urban Interface

Y

YARDS	-	Youth Achieving Resource Development Skills
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