



# APACHE-SITGREAVES NATIONAL FORESTS

## 2009-2011 Report

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## Forest Supervisor Retires

Apache-Sitgreaves National Forests (ASNFs) Supervisor Chris Knopp retired in November 2011, just after the end of Fiscal Year 2011. He served for three years and spent over 34 years working for the Forest Service across the Nation. “This has been the best job I’ve had in the Forest Service,” Knopp said. “I love the employees, I love Springerville – this is a great forest.”

Knopp left behind a lengthy list of accomplishments including the White Mountain Stewardship Program, an innovative pilot program offering a long-term, small-diameter thinning contract with an annual acreage guarantee. Further complimenting ongoing forest restoration is the Four Forests Restoration Initiative (4-FRI), encompassing the Apache-Sitgreaves, Coconino, Kaibab, and Tonto National Forests.

Two other projects were almost completed at Knopp’s exit; the implementation of the Travel Management Rule and the revision of the forests’ land management plan. Both plans were near completion before the largest wildfire in Arizona’s history, the Wallow Fire, interrupted progress.

Although it was difficult for Knopp to leave the ASNFs, he is confident the forests are in good hands. “It’s a strong national forest, with very capable individuals working for it.”

Jim Zornes has been named as Acting Forest Supervisor. He has been working the forests since May 2010 as the Deputy Forest Supervisor, which will provide for a seamless transition.



**Chris Knopp - retired Forest Supervisor of the Apache-Sitgreaves National Forests**

## Forest Plan Revision

The ASNFs continue to move forward revising the 1987 land management plan. The plan provides direction to forest specialists on managing the natural resources across the forests. The ASNFs were originally scheduled to release the new proposed plan and draft environmental impact statement (DEIS) for public review and comment during the fall of 2011, however the Wallow Fire disrupted the schedule and has delayed the publication of these documents. They are expected to be available fall of 2012.

For additional information on the revision process, please visit the forests’ website at <http://www.fs.usda.gov/asnf> or call the Apache-Sitgreaves National Forests Supervisor’s Office at 928-333-4301.



*Aspen stand in autumn*

# Terrestrial Wildlife

Forest and district biologists work with other resource specialists to evaluate habitat for wildlife and rare plants and to monitor the effects of actions taking place on the ASNFs in those habitats.

There are currently 17 Management Indicator Species (MIS) used to measure the effects of management actions on species and their habitats. From 2009 through 2011, the ASNFs monitored Mexican spotted owl, northern goshawk, pygmy nuthatch, yellow-bellied sapsucker, plain titmouse, and hairy woodpecker for individual projects and through the White Mountain Stewardship Landbird Monitoring program. Four MIS, mule deer, turkey, antelope, and elk, are managed as game species by Arizona Game and Fish Department who monitor them annually. Population and habitat trends are generally stable for all management indicator species, with the exception of mule deer, which are considered to be declining across the forests.



*Rocky Mountain elk bull*

The ASNFs continue to have a large partnership program, working with multiple partners between 2009 and 2011 to complete habitat improvement projects for a variety of species. Partners during this time included Arizona Game and Fish Department, Rocky Mountain Elk Foundation, Arizona Elk Society, Carl-Eric Granfelt, Northern Arizona University, Experience International, General Wildlife Services, Habitat Partnership Program, National Wild Turkey Federation, New Mexico Department of Game and Fish, Bureau of Reclamation, U.S. Fish and Wildlife Service, and the White Mountain Apache Tribe.

Projects included meadow and riparian area restoration, fence removal, willow planting, grassland restoration, winter range restoration for big game species, maintenance and construction of enclosures and water developments, prescribed burning for habitat restoration, creation of openings, maintenance of browse species, snag creation, and forage improvement projects.

*Table 1. Project accomplishments for the Wildlife Program from 2009-2011.*

Project Type	2009-2011
Wildlife	67
NatureWatch	5
Partnership	22
Non-Partnership	48

Partners contributed over \$988,000 in funding to these projects between 2009 and 2011. This resulted in over 88,570 acres of habitat restoration and improvement, as well as construction of 83 structural improvements. Tables 1 through 3 summarize wildlife program accomplishments, species and ecosystems benefitting from these accomplishments, and costs for completing these projects between 2009 and 2011.

*Table 2. Summary of project funding for the Wildlife Program from 2009-2011.*

Type of Funding	2009-2011
Partnership	\$988,292
Non-Partnership (all other funding sources)	\$7,902,692
<b>Total</b>	<b>\$8,890,984</b>



*Mule deer*

*Table 3 Summary of projects by species/ecosystem benefitting from Wildlife Program from 2009 -2011.*

Species/Ecosystem Benefitting	2009-2011	
	# Acres Improved	# Structures
Deer (General)	47,580	13
Wetlands Ecosystem	30	51
Quail (General)	22,655	0
Elk	15,660	21
Grouse	0	1
Wild Turkey	31,809	0
Cavity Dependent Species	2,174	1
Landbirds	12,070	17
Aspen Restoration	0	9
Javelina	22,633	0
Mearn's Quail	22,641	0
Mule Deer	23,854	0
White-tailed Deer	22,633	0
Early Successional Vegetation Stages	637	0
Prairie/Grassland Species	14,405	0
Fire Dependent Ecosystems	47,334	0
Other Ecosystems	2,331	23
American Kestrel	8	0
Black Bear	2,508	0
Coyote	8	0
Golden Eagle	8	0
Neotropical Migratory Birds	8	0
Northern Harrier	8	0
Pronghorn Antelope	2,799	12
Brewer's Sparrow	8	0



*Elk calves*

# Threatened, Endangered, Proposed, and Sensitive Species (TEPS)



*Mexican spotted owl*

The ASNFs includes habitat for one federally listed threatened, one federally listed endangered, and one experimental/non-essential (terrestrial) species: the Mexican spotted owl, the southwestern willow flycatcher, and the Mexican gray wolf, respectively. Aquatic species are addressed in another section of this report. Mexican gray wolves are discussed under the Mexican Wolf Reintroduction Program section of this report.

Critical habitat for the southwestern willow flycatcher and Mexican spotted owl has been designated within the forests. Additionally, a change in designated critical habitat is proposed for southwestern willow flycatchers. There are currently 51 Forest Service sensitive terrestrial species, including rare plants.

Between 2009 and 2011, ASNFs biologists conducted analyses of forest projects that resulted in 113 Biological Assessments and Evaluations for terrestrial and aquatic species. The forests participated in formal consultation with the U.S. Fish and Wildlife Service on nine projects and through informal consultation on 28 projects, the forests requested concurrence with determinations that projects were “not likely to adversely affect” federally listed species.

## Monitoring

Monitoring terrestrial TEPS species was accomplished with the assistance and cooperation of the Arizona Game and Fish Department’s Bald Eagle NestWatch program. This resulted in monitoring for three terrestrial TEPS species from 2009 through 2011.

*Table 4. Summary of TEPS monitoring completed between 2009 and 2011.*

Species/Ecosystem Benefitting	2009-2011	
	# Acres Monitored	# of PACs/PFAs/Nest Sites Monitored
Mexican Spotted Owl	57,878	Total of 96 PACs
Northern Goshawk	65,074	Total of 52 PFAs
Bald Eagle	2,024	3 nest sites annually

## Projects

Specialists completed 60 projects from 2009 through 2011 for TEPS species (table 5). Many of these benefited terrestrial TEPS species. They resulted in 24,830 acres of habitat restoration for terrestrial species, 21 structural improvements, and 125,692 acres of habitat inventoried.

Projects included MCH (pheromone) treatments to deter bark beetles at MSO PACs after the Wallow Fire, habitat restoration and protection, grassland restoration, fence removal, seeding, and mulching to protect and stabilize TEPS habitat after the Wallow Fire, and survey and inventories for Mexican spotted owl and northern goshawks in support of White Mountain Stewardship projects.

*Table 5. Project accomplishments for the terrestrial TEPS Program from 2009-2011.*

Project Type	2009-2011
TEPS	60
Partnership	18
Non-Partnership	42

Arizona Game and Fish Department, the forests’ primary partner in habitat work, survey, and monitoring of TEPS species, contributed \$75,500 in funding for these projects between 2009 and 2011.

**Threatened, Endangered, Proposed, and Sensitive Species (TEPS) continued.**

*Table 6. Summary of project funding for the TEPS Program from 2009-2011.*

Type of Funding	2009-2011
Partnership	\$75,500
Non-Partnership (all other funding sources)	\$4,457,607
<b>Total</b>	<b>\$4,533,107</b>

Species benefitting from these projects included Mexican spotted owls, northern goshawks, southwestern willow flycatchers, and burrowing owls.

*Table 7. Summary of projects by species/ecosystem benefitting from TEPS Program from 2009-2011.*

Species/Ecosystem Benefitting	2009-2011 Acres Improved
Mexican Spotted Owl	25,030
Southwestern Willow Flycatcher	5
Northern Goshawk	11,379
Burrowing Owl	8



*Mexican gray wolf pups*

## Mexican Gray Wolf Reintroduction Program

The ASNFs actively worked with five other state and federal agencies to continue efforts in the reintroduction of the endangered Mexican gray wolf into the Blue Range Wolf Recovery Area (BRWRA) in New Mexico and Arizona. In June 2011, the New Mexico Department of Game and Fish withdrew from the project.

From 2009 through 2011, the Interagency Field Team released a single wolf from captivity into the ASNFs in an effort to increase the number of breeding pairs and the wild population (January 2011). The male was captured a few weeks later and returned to captivity, due to nuisance behavior.

Reports from ranchers and others resulted in confirmation of eight cattle, one horse, and one ram killed or injured by wolves on the ASNFs and private holdings from 2009 through 2011. Additional livestock may have been killed by wolves but were not found or were found too late to confirm the cause of death. In response to these problems, the Interagency Field Team conducts hazing on wolves known to kill livestock and uses pro-active measures to reduce depredations.

The field team located 20 wolves on the Apache portion of the ASNFs in 2009, and 19 wolves in both 2010 and 2011. These wolves made up four packs (a pack is composed of at least one adult pair) that are maintaining territories on the ASNFs.

At the end of each of these years, there were 14 wolves with radio collars on the ASNFs. Additional wolves are on the Gila National Forest in New Mexico and on the Fort Apache Indian Reservation in Arizona for a total of 58 wolves in the BRWRA at the end of 2011.

Twenty-two wolves are known to have died in the wild during 2009, 2010, and 2011 from natural and human-related causes. Seven of these deaths were recorded on the ASNFs.

Please report any encounters with wolves to the Interagency Field Team at 1-888-459-9656.

## Aquatic Species

Aquatic habitats are a key component and important asset in managing National Forest System lands. The ASNFs are home to seven federally listed threatened and endangered aquatic species including the Apache trout, Gila trout, Chiricahua leopard frog, Gila chub, Little Colorado spinedace, and loach minnow; one proposed species, the Three Forks springsnail; and two candidate species. Six species listed as sensitive by the Forest Service Southwestern Region are also present on the forests. Aquatic habitat on the ASNFs exists within the Gila, Salt, and Little Colorado River drainages.



*Narrowheaded gartersnake in Blue River, AZ, Alpine RD*

Between 2009 and 2011, ASNFs biologists conducted analyses of forest projects that resulted in 10 Biological Assessments and Evaluations for aquatic species. The forests participated in formal consultation with the U.S. Fish and Wildlife Service on two of those projects, and during informal consultation on the other eight, the forests requested concurrence with determinations that projects were “not likely to adversely affect” federally listed species.

Forest specialists monitored aquatic species with the assistance and cooperation of fire personnel and partner agencies. Crossing internal and agency boundaries to build understanding and cooperation has been a focal point for the aquatics program, and has enabled the forests to complete multiple monitoring efforts for TES aquatic species and confirm a new Chiricahua leopard frog population on the Clifton Ranger District. In addition, the forests assisted in carrying out recovery actions for four species: stocking Chiricahua leopard frog, removal and captive propagation of Blue River loach minnow, replication of Dix Creek Gila chub in Red Rock, NM, and replication of Black River roundtail chub on the Tonto NF. Specialists removed non-native species from Three Forks, Boneyard Bog, East Fork Black River, Blue River, and Eagle Creek.

The ASNFs completed a total of 29 projects for TES and other aquatic species. Projects resulted in 39 stream miles and 100 acres of habitat restoration, 100 acres of lakes restored, 19 structural improvements, and 94 stream miles and 557 acres of habitat inventoried. Project work included species restoration, habitat restoration and protection, in-stream structure surveys, salt cedar removal, barrier maintenance, and inventories. Species benefiting from these projects include Chiricahua and lowland leopard frog, Little Colorado spinedace, California floater, Three Forks springsnail, Apache trout, and Arizona and Bebb's willows. Other projects benefiting TES aquatic species include the Blue River/KP Creek suitability study and Blue River Barrier and Native Fish Restoration Environmental Assessments. The ASNFs were also successful in applying for and receiving HTAP (highway trust funds for aquatic passage) and U.S. Fish and Wildlife Service Fish Passage funding for the Beaver Creek Aquatic Organism Passage project NEPA and implementation.



*Gila chub in Eagle Creek, AZ, Clifton RD*

Partners and volunteers are vital to accomplishments on the ASNFs. Partners including U.S. Fish and Wildlife Service, Arizona Game and Fish Department, Bureau of Reclamation, and Carl-Eric Granfelt contributed \$78,870 in funding and labor for these projects.

During the Wallow Fire, partners contributed \$9,000 to projects which included assessment, species salvage, and habitat protection and enhancement post-fire. Five species were salvaged during the Wallow Fire in cooperation with Incident Management Teams and state and federal agencies to protect TES populations. Habitat protection and enhancement projects occurred for Three Forks springsnail, Bebb's and Arizona willows, and Apache trout.

# Recreation

Between Fiscal Years 2009 and 2011, several recreation projects were initiated with funding from the American Recovery and Reinvestment Act (ARRA) of 2009.

**Rolfe C. Hoyer Campground** received a major overhaul thanks to a total of \$2.03 million in ARRA funding for the reduction of deferred maintenance. Reconstruction activities associated with the facelift included pulverizing failing asphalt roads, resurfacing roads and parking spurs, enlarging camping spurs to allow for larger recreational vehicles and use by individuals who are mobility impaired, replacing existing walkways, replacing 15 percent of the picnic tables and fire rings (with accessible models), replacing 9 flush toilets with 9 vault toilets, replacing concessionaire-owned shower facilities, installing a new entrance station, reconstructing a 40+year old potable water system, constructing a new recreational vehicle dump station, and connecting the wastewater system for the RV dump station and shower facility to infrastructure associated with the Little Colorado Sanitary District. This project was accomplished in multiple phases over the course of Fiscal Years 2009, 2010, 2011, and 2012.



*Replacement toilets*

**Luna Lake Campground** also received a major overhaul thanks to \$327,228 in ARRA funding. This funding was used to replace the potable water lines, valving, and hydrants (with models accessible for persons with disabilities) throughout the campground. Work associated with this project was completed in Fiscal Year 2010. Additionally work in the Luna Lake Group Site, accomplished with leftover ARRA funding in Fiscal Year 2011, included the replacement of the outdated vault toilet facility, addition of an accessible parking site, removal of declining landscaping, removal of a brick enclosure, and construction of walkways that meet mobility impaired standards.

**Rainbow and Brookchar Campground** restroom facilities and associated walkways were also replaced by ARRA funding in the amount of \$1,172,000. In total, nine flush toilets were

replaced with water conserving units, which are readily accessible for the mobility impaired. Replacement restroom facilities were installed as follows: seven units in Rainbow Campground, one unit in Brookchar Campground, and one unit located in the parking area associated with the Big Lake Store/ Marina. In addition, electrical service associated with newly installed restroom facilities was updated to modern standards. Work associated with this project will be accomplished during Fiscal Years 2011 and 2012.

Also as an ARRA project, the ASNFs was able to reduce deferred maintenance costs by **demolishing eight vault toilet buildings and replacing them in kind with vault-style (prefabricated) accessible toilet facilities**. This work occurred using \$380,000 in ARRA funding. In total, five vault toilets were replaced in Luna Lake Campground, one vault toilet was replaced in Buffalo Crossing Campground, one vault toilet was replaced in Raccoon Campground, and one vault toilet was replaced in Deer Creek Campground. This work was completed primarily in Fiscal Year 2011.

The **Saffel Canyon motorized trail system** received \$416,000 in ARRA funding for erosion control, installation of drainage structures, repair and replacement of cattle guards, installation of signage (regulatory, warning, and informational), and spot surfacing with gravel along 26 miles of routes. This work was completed in cooperation with a local contractor, as well as with volunteers from a local ATV group known as the Apache County Rough Riders. This project was completed in Fiscal Year 2010.



*Crew working on trail maintenance*

## Recreation continued.

**Trail maintenance** across the ASNFs was funded using \$115,500 in ARRA funding. In total, the maintenance was initiated along 318 non-contiguous miles of pedestrian and motorized trails, using crews provided by the Coconino Rural Environmental Crew (CREC). Work associated with this funding is anticipated to occur in Fiscal Year 2010, 2011, and 2012.

**Rim Vista Trail** (non-motorized) also benefited from ARRA funding to the tune of \$150,000. Work associated with this project include widening of three miles of trail tread to meet accessibility standards, installing drainage, and paving of a one mile stretch of the trail. Work associated with this project occurred in Fiscal Year 2010.

**Fiscal Year 2011** was unique in that the majority of the Apache National Forest and portions of the Sitgreaves National Forest were closed to all uses, including recreation, for a measurable portion of the recreation and construction season due to the Wallow Fire. Beginning June 2, 2011 and continuing through the rest of the calendar year, vast tracts of federal land were closed to entry in an effort to abate concerns associated with public safety, loss of property, and protection of forest resources.

As a result of the fire, **West Fork Campground** (dispersed facility) lost a vault style toilet and a historical “Adirondack” Shelter, construction of which dated back to the Civilian Conservation Corps (CCC). In addition, a second vault style toilet was lost at **Buffalo Crossing Campground**. Also in Fiscal Year 2011, with funding associated with scenic byways grant funding, a composting toilet at the **Blue Vista Overlook** was replaced with a more economical and efficient vault-style toilet. Anticipated completion of this project will be in Fiscal Year 2012.

**Following the Wallow Fire**, \$300,000 in year-end funding was committed to the evaluation and abatement of hazard trees along roads and within identified dispersed camping areas along roads affected by the fire. The work associated with the evaluation and abatement will be completed in cooperation with the White Mountain Apache Tribe using local contractors and tribal members to complete the work. It is anticipated that this work will be completed by the summer of 2012. An additional \$250,000 in year-end funding was committed for assessing and maintaining trails affected by the fire, using crews provided by the Coconino Rural Environmental Crew (CREC). Work associated with this funding is anticipated to occur in Fiscal Year 2011, 2012, and 2013.

## Administrative Facilities

The ASNFs completed several major projects between 2009 and 2011, improving administrative facilities and reducing the deferred maintenance.

### Fiscal Year 2009

- Alpine Ranger Station - Asbestos flooring was removed and replaced with ceramic tile; floor tiles were damaged due to age and flooding.
- Black Mesa Ranger Station - Replaced water storage tank; the exterior coating on the existing tank was lead paint, the interior coating was completely gone, and much of the tank was badly pitted.

### Fiscal Year 2010

- Black Mesa Ranger Station - Entrance was reconstructed to provide a barrier-free access.
- Black Mesa Ranger Station - Administrative site water distribution system was replaced. Most of the existing system was over 40 years old and well beyond its life expectancy.
- Clifton Ranger Station - Electrical system was improved to mitigate critical health and safety issues and bring the system up to current code requirements.
- Lookout towers - Roofs were repaired at the Lake Mountain and Springer Mountain lookout towers.
- Lakeside Ranger Station conveyance project - Awarded NEPA contract to begin evaluation.

### Fiscal Year 2011

- Strayhorse Administrative Site - The site is used to house fire crews and trail crews on the Clifton Ranger District to minimize travel time to their work areas. The saw shop and the main building, which houses the cooking and dining facilities as well as the planning room, are historic structures. The roofing, flooring, and propane heaters were replaced and the interior of the main building was painted. All materials used maintained the historic integrity of the buildings.



*Wildflower meadow*

# Transportation

One of the goals of the current ASNFs' land management plan is to "provide and manage a serviceable road transportation system that meets the need for public access, land management resource protection, and user safety."

The ASNFs transportation system includes over 700 miles of roads designed for passenger vehicles and over 2,000 miles designed for high clearance vehicles. The forests also contain more than 3,000 miles of roads (i.e., old logging roads) closed to public motorized use that are still available for administrative and emergency use.

Between 2009 and 2011, the ASNFs conducted routine road maintenance on an average of 1,100 miles annually and improved over 145 miles of roads (see table below). The forests also decommissioned 2.5 miles of unauthorized, user-created roads. The ASNFs continue to accomplish road maintenance by using Forest Service staff and numerous local contractors.

**Table 8. Miles of road maintenance and road improvements.**

Fiscal Year	Miles of Routine Road Maintenance		Miles of Road Improvements	
	Level 2 Roads (High Clearance)	Level 3-5 Roads (Passenger Cars)	Level 2 Roads (High Clearance)	Level 3-5 Roads (Passenger Cars)
2009	744.3	327.5	7	20.2
2010	435.3	650	8	75.8
2011	540	586	15.6	20

In 2009 the ASNFs were successful in obtaining over \$3 million in American Recovery and Reinvestment Act (ARRA) funds that supplemented annual road maintenance work and reduced long-term deferred maintenance items. Projects included:

- **NFSR (National Forest System Roads) 249, 249E, and 24.** These roads are heavily traveled, providing access to the Big Lake and East Fork of the Black River Recreation Areas. This project included placement of road aggregate and a soil stabilizer to maintain the integrity of the surfacing. This helps to reduce the sediment flowing from the roadway into the watershed.
- **Big Lake Recreation Area.** This project included asphalt patching, sealing, striping, aggregate placement and chip seals, and improvement of drainage features at the area's campgrounds, boat launches, picnic areas, and trailheads.
- **NFSR 405, 688, 275, 26, and 8007.** This project included aggregate surfacing and drainage improvements to these main access routes for developed recreation sites, hunting, and sightseeing. The work included replacement of culverts, hardening of crossings, and obliteration of a user-created route that crossed through a perennial stream, resulting in the reduction of sedimentation into watersheds.
- **Hoyer Campground Reconstruction of Roads.** This project included pulverization of existing failing asphalt, resurfacing with aggregate, stabilization of aggregate, reconstruction of campground spurs to accommodate current recreational vehicles and provide accessible RV sites. Hoyer Campground is a popular recreation site near the town of Greer.

The ASNFs were also successful in obtaining over \$2 million in legacy funds (money appropriated for critical maintenance and restoration work that benefits fisheries and watershed) for road work between 2009 and 2011. These projects included:

In Fiscal Year 2009, \$567,000 in legacy funds was matched with \$73,000 in other funds to accomplish work on NFSR 9562P, 124, 130A, 249, and 570. Work included construction of low water crossings to allow water to maintain natural flow through a meadow, drainage structure work to minimize loss of native soils and improve riparian revegetation, and aggregate resurfacing and aggregate stabilization to reduce sedimentation from runoff.

In Fiscal Year 2010, \$945,600 in legacy funds was matched with \$40,000 in other funds to accomplish work on NFSR 249, 276, 688, 504, and 139. Work included reconstruction of section of road eroded away from flooding and protecting by armoring the bank from future floods, construction of grade dips and minor realignment to improve drainage, rehabilitation of user-created roads by obliteration of roadway and seeding, and aggregate resurfacing and stabilization.

## Transportation continued.

In Fiscal Year 2011, \$600,000 in legacy funds was matched with \$120,000 other funds to accomplish work on NFSR 86, 249, 8731, and 276. Work included drainage structure improvements, additional drainage structures, relocation of road out of a meadow, aggregate resurfacing, and stabilization.



*View of NFSR 249 during aggregate placement*

## Insects and Disease

The Southwestern white pine blister rust (*Cronartium ribicola*) is a disease which is slowly moving across the southwestern region from east to west. Blister rust was first detected in 2009 on the Apache portion of the ASNFs. In 2010, surveys indicated that although infection is concentrated in high hazard sites like moist canyon bottoms, upslope infections do exist in a few locations. Damage to white pines is expected to become increasingly evident in the coming years.

Another concern is the impact of herbivores on aspen reforestation. Widespread mortality of aspen has occurred across Arizona over the past decade, largely to long-term drought and the advanced age of aspen stands. Although regeneration through root sprouting has occurred, browse damage from herbivores has greatly contributed to aspen mortality. The forests have partnered with academics and federal and state resource managers to assess the long term viability of aspen.

In areas burned by the Wallow Fire, Douglas fir beetle (*Dendroctonus pseudotsugae*) pheromone caps have been positioned in strategic areas to protect living Douglas fir trees from beetle attack due to the fire.

## Veterans Fire Corps



*Members of the Veterans Fire Corps*

In 2011, the ASNFs benefitted from a new Student Conservation Corps program funded by the Forest Service, the Veterans Fire Corps. The corps is designed to provide younger generation veterans with the training, credentials, and experience needed to competitively pursue wildland fire and/or forestry careers.

The Apache Fire Crew consisted of young men from across the country representing the Air Force, Army, Army National Guard, Navy, and the Marine Corps. Many of the members had completed multiple deployments in direct support of Operations Iraqi/Enduring Freedom.

Crew members received required training in firefighting, first aid, CPR, and chainsaw use. The crew, working under the guidance of the Springerville Ranger District, helped remove hazard trees from the Wallow Fire burn area so that roads and access points could be re-opened to the public. The crew completed a 75-acre prescribed burn and restored a 50-acre meadow by removing encroaching juniper trees.



*Aspens in their fall colors*

# Fire and Fuels Management

Between 108 and 178 wildfires occurred each year on the ASNFs in 2009, 2010, and 2011. (see table below). Approximately 62 percent of those fires were caused by lightning; the others were human caused.

**Table 9. Number and cause of wildfires between 2009 and 2011.**

Cause	2009	2010	2011
Lightning	113	71	73
Campfire	29	24	14
Children	2	2	2
Debris Burning	2	3	1
Equipment	8	5	0
Smoking	2	2	0
Miscellaneous	22	20	07
Arson	0	0	1
Total Fires	178	127	108

Although a greater number of wildfires occurred in 2009, the total acreage burned was only 23,324 compared to over 500,000 acres burned in 2011 (see table below).

**Table 10. Total acres burned by wildfire by fiscal year.**

2009	2010	2011
23,324 acres	21,666 acres	541,078 acres

The largest recorded wildfire in Arizona history occurred in 2011. The Wallow Fire started May 29, grew to 538,049 acres, and was managed by eight separate Incident Management Teams (IMT) and two Area Command Teams (AC) over the course of its existence.

Managers also used fire as a tool to reduce fuel loads and restore fire-adapted ecosystems. Over 63,000 acres of planned ignitions (prescribed fires) were accomplished between 2009 and 2011, including pile and broadcast burning (see table below). The ASNFs managed 18 lightning-caused fires for multiple objectives. In addition, local fire agencies and State Forestry have continued to reduce fuel loading on lands adjacent to the ASNFs.

**Table 11. Acres treated with planned ignitions and number of managed lightning fires between 2009 and 2011.**

Fiscal Year	Pile Burning (acres)	Broadcast Burning (acres)	Managed Lightning Fires (number)
2009	6,610	23,846	9
2010	3,489	16,496	6
2011	5,050	8,100	3

# The Wallow Fire

The 538,000 acre Wallow Fire burned on the ASNFs at the height of the 2011 summer fire season and became the largest fire on record in the Southwestern Region. The fire was determined to be human caused and occurred in Apache, Navajo, Graham, and Greenlee Counties in Arizona, and Catron County in New Mexico. It also spread to the Gila National Forest and the Fort Apache and San Carlos Indian Reservations.

The forests assembled a Burned Area Emergency Response (BAER) team to assess and treat the watershed emergency generated by the fire. The team, consisting of fifty hydrology, soil, wildlife, fishery, engineering, heritage, recreation, forestry, and range specialists, provided the plan to treat the emergency. A second team from the Department of Interior assisted within the Black River watershed.

BAER treatments were implemented to protect soil and water quality and to reduce the flooding hazard. The burned area was treated with about 34,000 acres of straw mulch, and about 84,000 acres of grass seeding at the cost of over \$26 million. In addition, numerous other actions were taken to mitigate immediate hazards following the fire, including:

- Removal of floatable debris to protect bridges and culverts;.
- Felling of hazard trees along roads (287 mi, maintenance level 3-5), powerlines (37mi), and private in-holdings (154 acres);
- Purchase and installation of regulatory, hazard, and warning signs;
- Installation of gates to close roads with unsafe driving conditions;
- Area closures put into place until deemed safe to re-open burned areas to the public;
- Repair and maintenance of roads and drainage structures from washouts to control erosion and mitigate infrastructure damage;
- Placement of pheromone capsules in key areas of live trees (recreation and Mexican spotted owl nesting locations) in order to prevent Douglas fir beetle attack.

Additional restoration and recovery efforts continued throughout fiscal year 2011. These included:

- Award of 14 roadside salvage sales for a total of 15,886 CF (100 cubic feet) or 12,411 cords.
- Coordination with grazing permittees on strategies to re-stock the 45 damaged allotments with livestock as soil and vegetation recover. Range infrastructure was assessed and the forests began replacement of damaged fences (72 miles of reconstruction contracted and 140 miles of fence materials purchased). Invasive weed monitoring and

treatment occurred on 300 acres.

- Completion of surveys and specific treatments to provide for wildlife and aquatic species. Treatments included placement of straw wattles to prevent debris flow into aquatic habitats, and salvage of six federally listed aquatic species
- Protection of 18 cultural sites over 43,000 acres of cultural surveys were contracted to identify the locations of other sites so that they can be properly managed.
- Damage assessment of recreation sites and trails and prevention measures were implemented to protect infrastructure and developed sites.

There is still a need to analyze the recovery and restoration needs for the other areas burned in the Wallow Fire.

Impacts in the burned area range from low to severe, and little to total tree mortality. The fire resulted in approximately 86,000 acres of high and 74,000 acres of moderate soil burn severity lands. As a consequence of the fire, fuel conditions in areas of low fire intensity have generally been improved through removal of surface and vertical fuel loads. In areas of total mortality, the fuel loads are now mostly standing dead trees that may be vulnerable to fire over time. The standing dead trees (snags) are also vulnerable to bark beetles, which could spread to live trees.

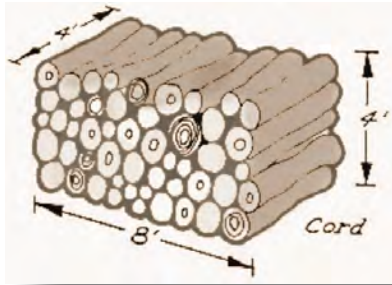
Changes in available habitat have occurred for both terrestrial and aquatic wildlife species. Habitat alternatives include a loss of hiding cover, reduction in streamside shade, and impacts to species reliant on mixed conifer habitats. However, the fire resulted in renewed habitats including extensive regeneration of the biologically diverse aspen type and browse shrubs that are important to wildlife.

The extent and severity of the fire affected not only forest ecosystems and resources but impacted the lives of residents both locally and across the region. The effects of the Wallow Fire will present forest managers with complex challenges for years to come.



*Smoke plumes from the Wallow Fire*

## Forest Products



The ASNFs continue to supply wood products to individuals as well as local and regional markets. The total merchantable tree products sold on an annual basis ranged from 71,128 CCF (100 cubic feet) in 2009 to 100,882 CCF in 2011. These totals include commercial timber and personal use and commercial permits (see table below). An additional 19,292 tons (5,512 CCF) of pre-existing slash piles were removed and used for electrical generation in 2011.

*Table 12. Amount of wood products sold between 2009 and 2011.*

Fiscal Year	Commercial Timber Sold	Personal Use and Commercial Permits Sold
2009	58,864 CCF (45,986 cords)	12,264 CCF (9,581 cords)
2010	80,448 CCF (62,848 cords)	13,338 CCF (10,420 cords)
2011	87,394 CCF (68,275 cords)	13,488 CCF (10,538 cords)



*Black River*

## White Mountain Stewardship Project

In 2004, the ASNFs in collaboration with the White Mountains Natural Resource Working Group developed the first ten-year stewardship contract in the Nation. The primary goal of the White Mountain Stewardship Project (WMSP) is to reduce the risk of wildfire in the wildland-urban interface surrounding communities of the White Mountains of Arizona.

In 2011, the Wallow Fire tested the WMSP interface treatments. While the treatments displayed great success in protecting communities such as Alpine and Eagar, Arizona, it also demonstrated the further need for treatments beyond the community interfaces.



*Pole Knoll*

The WMSP contract is also designed to restore forest health, enhance current and foster new forest products industries, support local economies, and reduce the cost of forest thinning. Despite a recession, the forest products industry have expanded as has the acres treated. Table 13 displays the acres treated and the amount of fiber removed each year. The reduction in acres treated in conjunction with the increase in tons removed points to a change in the market where nearly 100% of the woody biomass is utilized. This is a great savings to the ASNFs and reduces the amount of burning needed following treatments.

*Table 13. Acres treated and tons of fiber removed annually under the White Mountain Stewardship Project.*

Fiscal Year	Acres Treated	Tons of Fiber Removed
2009	6,215	169,782
2010	9,163	252,467
2011	8,136	266,916

In addition to the acres treated in the WMSP, 2011 saw the addition of the Four Forest Restoration Initiative and Wallow Fire Salvage projects.

# Soil, Water, and Air

Implementing Best Management Practices (BMPs) for all land-disturbing projects has resulted in protection of water quality and soil productivity. The following are summaries of events, projects, and programs that have affected soil, water, and air quality. Monitoring provides feedback for the continual improvement of BMPs for various kinds of land-disturbing activities.

Watershed conditions improved in 2009-2011 mainly from completion of over 23,000 acres of White Mountain Stewardship Contract projects, and over 48,000 acres of broadcast burning. Overstory removal projects in woodlands have resulted in increased ground cover from both mechanical and fire-treated areas.

In Fiscal Year 2011, the forests completed an assessment for National Forest System and adjoining lands as part of the Watershed Condition Framework, a national effort to assess, treat to improve, and monitor the condition of our Nation's watersheds. Twelve indicators were assessed characterizing the condition of water, riparian, and soil qualities as affected by forest management and outside influences. Of the 170 6th order watersheds analyzed (average size of about 20-40,000 acres), about 1/4 were characterized as properly functioning, while 3/4 were either impaired or unsatisfactory. Unfortunately, fifty watersheds were affected by the Wallow Fire, and re-assessment will occur in Fiscal Year 2012. Selection of priority watersheds, developing watershed action plans, implementation, and monitoring will also occur in Fiscal Year 2012.



*Aerial view of high, moderate, and low soil burn severity areas within the Black River watersheds*



*Straw mulch applied by helicopter on a high soil burn severity slope*

*Table 14. Watershed condition by watershed basin*

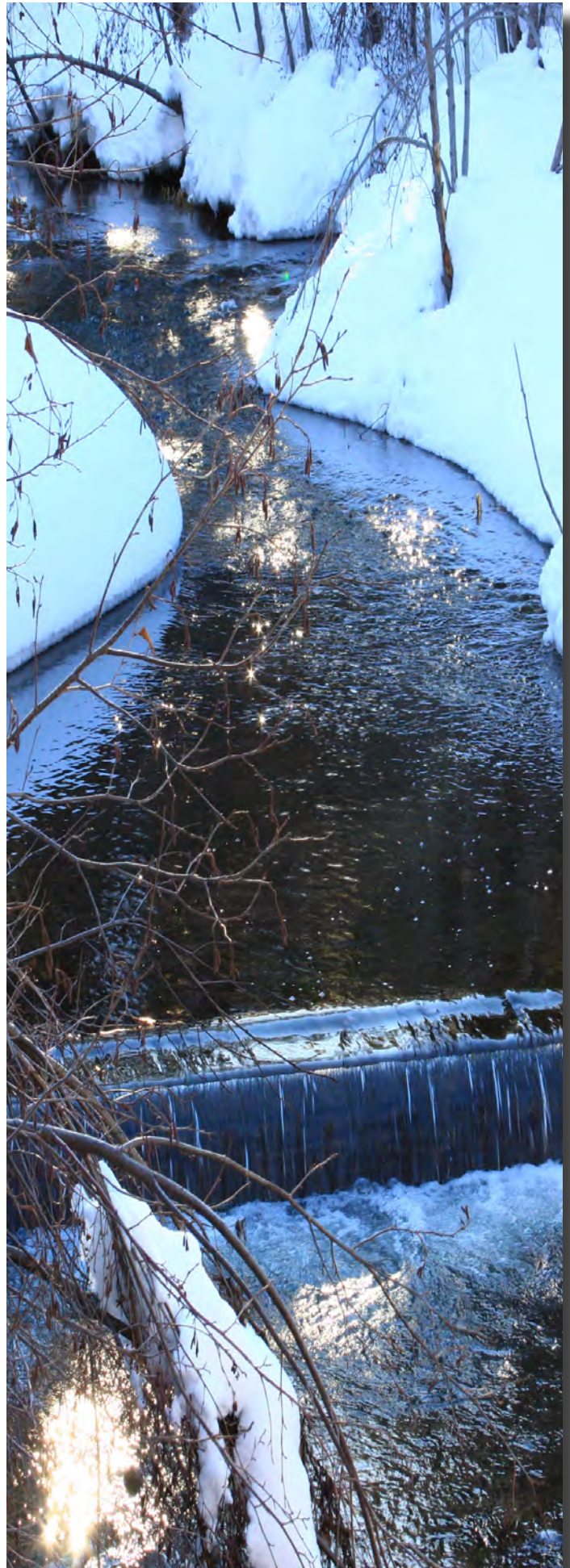
Watershed Basin	Watersheds Functioning Properly	Watersheds Functioning At-Risk	Total Number of 6th Level Watersheds
Little Colorado River	16	76	92
Upper Gila River	17	38	45
Upper Salt River	9	14	23
Totals	42	128	170

### Soil, Water & Air continued.

In Fiscal Year 2010, watershed staff compiled a set of BMPs for road maintenance. This provides guidance for mitigating road related sediment. Legacy road projects totaling over \$2 million over the last 3 years have directly improved high value aquatic resources through sediment reducing projects including surfacing, improved drainage structures, closure of unneeded roads, and road relocation from sensitive areas. ARRA and projects have also improved road conditions resulting in lower watershed impacts.

Within the past 3 years significant progress was made in securing water in selected streams as part of the forests' instream flow program. Assessments were made and data collected for reaches on federal land for the Black, Blue, and San Francisco Rivers, as well as smaller reaches within the Little Colorado Basin. These claims are junior in priority to any existing rights, however, they will protect stream flows from further diminishment where they are needed for aquatic habitat and water-based recreation.

Weekly air quality monitoring at the Mt. Baldy IMPROVE (Interagency Monitoring of Protected Visual Environments) site continued in 2009-11. Baseline levels of pollutants are still being characterized at this site. Smoke from prescribed fire projects forestwide is regulated daily with the Arizona Department of Environmental Quality to reduce impacts within local and larger scale airsheds.



*Little Colorado River*



*Big Lake*

# Rangeland Management

The ASNFs administered nearly two million National Forest System acres in 96 active livestock grazing allotments between 2009 and 2011. The forests' rangeland management emphasis has been on maintaining satisfactory wildlife habitat, watershed, riparian, and forage vegetation. Between 2009 and 2011, the ASNFs authorized an average of approximately 120,000 head months of livestock annually (see table below)

*Table 15. Authorized head months of occupancy between 2009 and 2011.*

Fiscal Year	Authorized Head Months Cattle	Authorized Head Months Sheep	Authorized Head Months Horses	Authorized Head Months Burros
2009	65,033	53,949	1842	149
2010	70,451	38,435	1875	90
2011	87,904	44,563	2117	102

Many allotments were not grazed at all by livestock, and some allotments were authorized less livestock than full permitted numbers (33 allotments in 2009, 26 in 2010, and 62 in 2011). This total or partial non-use happened because of resource protection needs, wildfire, or personal convenience of the ranchers. In 2011, the Wallow Fire affected 45 of these allotments.

Range specialists conducted condition and trend studies on portions of 26 allotments between 2009 and 2011.

The forests continue to work on reducing excess canopy in piñon and juniper woodlands. Over 46,000 acres were treated between 2009 and 2011 using mechanical treatments, prescribed burning, and managed wildfires. In addition, the forests treated over 2,900 acres to fight noxious and undesired exotic weeds.

*Table 16. Canopy reduction treatments by fiscal year.*

Fiscal Year	Acres Treated
2009	18,070
2010	17,152
2011	11,238

*Table 17. Noxious and exotic weed treatments by fiscal year.*

Fiscal Year	Acres Treated
2009	782
2010	1,166
2011	991



*Cattle on the ASNFs*



Caring for the Land  
and Serving People.

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