United State Departmetn of the Interior
Bureau of Indian Affairs
Western Region
Salt River Agency

WILDLAND FIRE MANAGEMENT PLAN

BUREAU OF INDIAN AFFAIRS, SALT RIVER AGENCY

SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY
FORT MCDOWELL YAVAPAI NATION
PASCUA YAQUI TRIBE

Sept. 2012
Prepared by Wildland Fire Associates

United States Department of the Interior
Bureau of Indian Affairs
Salt River Agency

Wildland Fire Management Plan

Executive Summary

This wildland fire management plan was prepared for the Bureau of Indian Affairs Salt River Agency by Wildland Fire Associates, in 2012. An environmental assessment (EA) was prepared/approved for this WFMP in 2011. A fuels management plan was also prepared as an addition to this WFMP.

The three Tribes that are included in this plan are listed below. For the purposes of this Wildland Fire Management Plan (WFMP) an acronym has been assigned to the three individual tribes and BIA Salt River Agency (see below). These acronyms are used throughout the WFMP.

Tribe or Agency Name	Acronym
Bureau of Indian Affairs, Salt River Agency	AZSRA
Salt River Pima-Maricopa Indian Community	SRPMIC
Fort McDowell Yavapai Nation	FMYN
Pascua Yaqui Tribe	PYT

National fire policy requires that all federally managed lands with burnable vegetation have an approved wildland Fire Management Plan (FMP). The term Wildland Fire Management Plan (WFMP) is used in this document, which is the same as an FMP. While the BIA Salt River Agency (AZSRA) currently has an approved WFMP, it has been revised to:

- Follow the Interagency Fire Management Plan Template dated April 9, 2009
- Follow the BIA Western Region Fire Management Plan Checklist
- Include direction set forth in the "Guidance for Implementation of Federal Wildland Fire Management Policy", dated February 13, 2009

Direction for the wildland fire management plan is derived from several sources including:

- Fire Management Plan, BIA Salt River Agency, July 2009
- Fire Management Plan, BIA Salt River, 2004
- Environmental Assessment for the BIA Salt River Agency Wildland Fire Management Plan, May 2011.
- Salt River Pima-Maricopa Indian Community General Land Use Plan, 2006
- Maricopa County, Community Wildfire Protection Plan, 2010 (Includes SRPMIC and FMYN)
- Pima County Community Wildfire Protection Plan (currently under development)
- Various meetings and correspondence with the BIA,PYT, FMYN and SRPMIC..

These documents set resource management guidelines for this WFMP. The intent of the WFMP is to define and document procedures regarding wildland fire management; and to consolidate all wildland fire management guidance, direction, and activities required to implement national fire policy and direction and to meet tribal goals and objectives.

Fire management units (FMUs) have been designated as follows:

Salt River Pima-Maricopa Indian Community (SRPMIC)

- FMU 1, Riparian Unit
- FMU 2, Dry River Bed
- FMU 3, Desert Shrub Biotic
- FMU 4, Wildland Urban Interface

Pascua Yaqui Tribe (PYT)

- FMU 5, Wildland Urban Interface
- FMU 6, Grass/Shrub

Fort McDowell Yavapai Nation (FMYN)

- FMU 7, Wildland Urban Interface
- FMU 8, Riparian and Grass/Shrub

Major Changes to the Plan

Changes to Federal Wildland Fire Policy have been incorporated into the WFMP and include:

- Wildland fires are categorized into two distinct types; planned and unplanned ignitions.
- A wildland fire can be concurrently managed for one or more objectives and objectives can change as the fire spreads across the landscape
- Initial action on human-caused fires will be to suppress the fire at the lowest cost with the fewest negative consequences with respect to firefighter and public safety
- The term Appropriate Management Response (AMR) is removed from implementation guidance with "Response to Wildland Fire" as the policy area defining the actions for managing a wildland fire
- Managers will use a decision support system process to guide and document wildfire management decisions. That system has been identified in the WFMP as the Wildland Fire Decision Support System (WFDSS)

Considering the Federal Policy changes, wording was changed throughout the document to reflect the new guidance. References were updated regarding Burned Area Rehabilitation, Prescribed Fire and Fuels guidebooks, and other miscellaneous handbooks.

In summary, the Salt River Agency's Wildland Fire Management Plan has been rewritten to incorporate recent changes to National Fire Policy, Tribal goals and objectives and to reflect current research.

WILDLAND FIRE MANAGEMENT PLAN
& FUELS MANAGEMENT PLAN

BUREAU OF INDIAN AFFAIRS, SALT RIVER AGENCY

SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY
FORT MCDOWELL YAVAPAI NATION
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Chapter 1. INTRODUCTION

1.1 Purpose for Developing the Wildland Fire Management Plan

The purpose of the Bureau of Indian Affairs (BIA) Salt River Agency Wildland Fire Management Plan (WFMP) is to identify and integrate all wildland fire management guidance, direction, and activities required to implement national fire policy and fire management direction. Overall direction from the WFMP allows fire to be restored as an integral part of ecosystems to meet resource management objectives and to improve protection of human life, property, and resources through the reduction of hazardous fuels. The WFMP highlights strategies, objectives, and direction to facilitate development and implementation of the fire management program.

The WFMP is a strategic document identifying approved fire management direction and policies. This WFMP was developed with input from and consultation with representatives from the BIA Salt River Agency (AZSRA), and tribal representatives from the Salt River Pima-Maricopa Indian Community (SRPMIC), Fort McDowell Yavapai Nation (FMYN) and the Pascua Yaqui Tribe (PYT). This Plan, and the activities that it covers, is compliant with the National Environmental Policy Act (NEPA) and the BIA Salt River Agency Environmental Assessment for this WFMP, approved in 2011.

Annual operating plans, fuels management plans, preparedness plans, fire prevention plans, as well as other plans may be developed to supplement the WFMP. Operational plans such as project-specific prescribed burns and mechanical treatment projects will be required for each project and may require separate environmental analyses.

1.2 General Description of the Reservations

AZSRA and the three associated tribes are located in southern and central Arizona. This is typical basin and range country, with wide valleys and scattered mountain ranges.

Salt River Pima-Maricopa Indian Community (SRPMIC)

SRPMIC reservation lands are located in south central Arizona, directly adjacent to city of Mesa and Scottsdale. The topography is flat to rolling. The Salt River forms part of the southern boundary and the Verde River flows through the east side of the reservation. The Verde River is a tributary of the Salt River and joins it near the southeast corner of SRPMIC. Trust acres are referenced in table 1. The elevations in the valley are around 1,400 feet, with the highest point being 2,830 on Mount McDowell. Fort McDowell Yavapai Nation borders the reservation on the northeast and the Tonto National Forest on the east side .

Fort McDowell Yavapai Nation

FMYN reservation lands are located in south central Arizona. The topography is flat to rolling with small mountain peaks. The Verde River bisects the reservation from north to south Elevations range from around 1,400 feet to 1,700 feet. SRMPIC lands border the southwest side, private lands to the west, and the Tonto National Forest borders much of the east and south sides of the reservation.

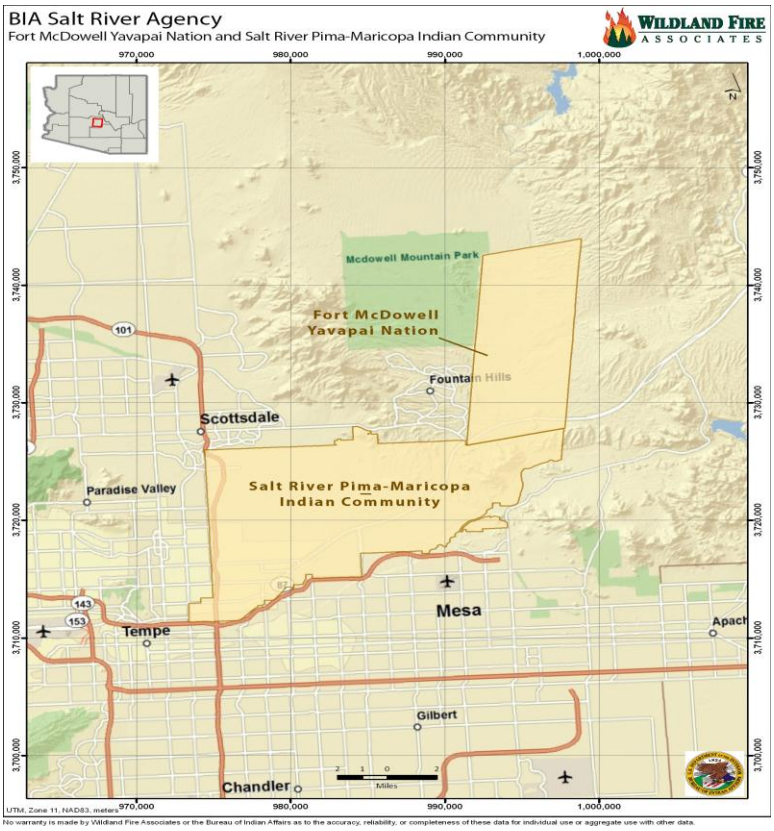


Figure 1. Vicinity Map of FMYN and SRPMIC

Pascua Yaqui Tribe

PYT reservation lands are located in southern Arizona. PYT lands, in Pima County, directly adjacent to the city of Tucson. Pima County borders the north, east and west sides of PYT. The topography is flat to rolling with the average elevation around 2,500 feet. The Tohono O'odham Reservation border PYT on the south side, and private lands border all other sides.

Figure 2. Vicinity Map for Pascua Yaqui Tribe

1.3 General Description of the Fire Management Program

AZSRA manages its wildland fire program in cooperation with the Salt River Pima-Maricopa Indian Community (SRPMIC), Fort McDowell Yavapai Nation (FMYN) and the Pascua Yaqui Tribe (PYT). The BIA has established a fire management officer position that oversees the wildland fire programs for Salt River Agency and associated tribes. The tribal fire departments provide a full range of fire management activities from fire suppression, fuels management, and fire prevention. The three Tribal programs each maintain a fire department, and manage all aspects of the wildland fire program

- **Bureau of Indian Affairs, Salt River Agency**

AZSRA facilities are based in at 10000 E. McDowell Road, Scottsdale, Arizona.

- **Salt River Pima-Maricopa Indian Community Fire Department (SRPMIC)**

SRPMIC maintains three fire stations, which respond to all emergencies including wildland fires, structure fires, and emergency medical responses. There are normally about 19 firefighters on shift at any given time. The department utilizes their larger (structure) engines for initial attack on easily assessable (i.e. roadside) wildland fires. For other fires, the larger engines can be used as water tenders to supply the wildland (type 6) engine. There are three Type 1 and one Type 4/5 engines available for initial attack response. In addition there are two Type 1 engines that can be placed in service from Reserve, one of which could be deployed outside the Community. Equipment is housed at three different fire stations in the community.

- **Pascua Yaqui Fire Department**

PYT maintains one fire station with three engines for response to wildland fires.

- **Fort McDowell Yavapai Nation Fire Department**

FMYN maintains one fire station with two engines for response to wildland fires and responds to all emergencies including structural fire, wildland fires, and emergency medical response, including emergency medical transport to definitive care facilities. The minimum staffing level is four firefighters on duty at any given time. FMYN-FD operates a Type 1 engine with one reserve, and a Type 6 brush engine, and one Paramedic ambulance, with one reserve ambulance. The Department utilizes one of the Type 1 engines along with the Type 6 brush engine to respond to initial attack wildland fires. with two engines for response to wildland fires

The Fort McDowell Yavapai Nation has also began training and equipping a Community Wildland Team with Tribal members and other personnel for deployment outside the Nation as Firefighter 2 personnel to form a Type 2 Hand Crew, as well as augment Type 2 and IA crews form other agencies, primarily the BIA Pima Agency crews.

1.4 Land Management Considerations

Management objectives and strategies are developed and defined by tribal governments and organizations. Cultural and natural resources, as well as the protection of structures and other developments from the impact of fires, are of major importance to the Indian Tribes.

1.5 Organization and Staffing

AZSRA is an agency within the Bureau of Indian Affairs, U.S. Department of Interior. The Agency is headed by a Superintendent with several different branches. The Salt River Agency fire management program is under the Deputy Superintendent, and supervised by a fire management officer.

1.6 Planning and Budget

Budgets and funding for various fire program components are generally determined through a defined workload analysis. Currently there are several categories of funding in the BIA.

- Fuels management funding for staffing and projects
- Fire preparedness
- Subsidiary funding for equipment and special projects
- Facilities
- Severity
- Fire suppression
- Emergency Stabilization (ES)
- Burned Area Rehabilitation (BAR)

One of the primary budget analysis systems is the Fire Program Analysis (FPA). The purpose of the FPA system is to provide managers with a common interagency process for fire management planning and budgeting to evaluate the effectiveness of alternative fire management strategies through time to meet land management goals and objectives. FPA will reflect fire objectives and performance measures for the full scope of fire management activities.

Budgeting and funding guidance, procedures, and policy and other operational planning requirements are provided by the BIA Western Region Office and the BIA National Interagency Fire Center. The Wildland Fire and Aviation Program Management and Operations Guide, hereafter known as the "Blue Book", is the primary reference manual and is updated annually.

Actual dollars received on any given year can vary widely. The planned budget and funding varies from year to year, and staffing is adjusted accordingly.

1.7 Annual Operating Plan

An annual operating plan (AOP) is usually prepared for each calendar year. The AOP contains detailed, specific procedures that provide guidelines and policy for safe, efficient, and effective operations. AOP requirements may be found in the Bureau of Indian Affairs "Wildland Fire and Aviation Program Management and Operations Guide" (Blue Book).

1.8 Dispatch and Coordination

The Southwest Coordination Center (SWCC) provides for regional level mobilization of resources. SWCC is based in Albuquerque, New Mexico and covers the states of Arizona, New Mexico, and portions of west Texas and western Oklahoma. The state of Arizona is further divided into zones. FMYN and SRMPIC fall within the Central Arizona Zone. That zone is split into dispatch centers and AZSRA coordinates activities with the Phoenix Dispatch Center (PHC). PYT falls within the Southeast Zone.

1.9 Fire Statistics and Fire Season

Table 1 lists statistics for the fire management program which includes SRPMIC, FMYN and PYT. These statistics were obtained from the Wildland Fire Management Information system (WFMI), for the years 2000 to 2009. WFMI is the official system of record. Total fire numbers and acres burned per year can vary widely depending upon available fuels. During years of high precipitation, which occur every several years, there is an influx of annual grasses, which provides for a continuous fuel bed in many areas and a higher tonnage of fuel per acre.

Table 1. 10-YEAR FIRE WORKLOAD FOR SALT RIVER AGENCY

Salt River Agency Fire Statistics: 2002 – 2011	Average number or percent per year	Average acres/year
Number of fires/year ,suppressed fires type 11-16	1	1
Number of fires/year, support actions, type 37	0	NA
Largest suppressed fire,	NA	2.5
Number of false alarms, type 53	1	NA
Number of multiple start days	0	0
Percent of lightning-caused fires	1	< 1
Percent of human-caused fires	99	1
Percent of fires < 0.25 acres (Class A)	31	< 1
Percent of fires 0.25 – 9.9 acres (Class B)	69	< 1
Percent of fires > 10 acres (Class C – G)	0	0
Prescribed fires, type 48	0	NA

Fire Season: The FPA-identified fire season is determined using the most recent 10 years of wildfire occurrence. FPA analyzes the fire occurrence statistics and identifies the shortest time slice whereby 90% of the fire occurrence is encompassed. BIA and tribal fire occurrence information used in the FPA analysis must be derived from the Wildland Fire Management Information (WFMI) System. The main fire season generally starts in March with a lull during July into August during the monsoon season then picks up again in the fall.

1.10 Trust Acres

Table 2 below represents the total trust acres for the three tribes.

Table 2. TRUST ACRES-BIA SALT RIVER AGENCY

Unit	Allotted	Tribal	Government	Fee Lands	Total
SRPMIC	24,405	30,079	0	0	54,484
FMYN	0	22,586	0	0	22,586
PYT	0	1,828	0	0	1,828
Total for Salt River Agency	24,405	54,060	0	0	78,898

Chapter 2. Policy & Land Management Planning

2.1 Fire Policy

A. National Fire Policy

Interagency federal fire policy provides for an overall framework (e.g., guidelines, procedures, principles) for the management of wildland fire. National fire policy is further supplemented by policy documents developed by the Department of Interior and the Bureau of Indian Affairs. These guides and policies are referenced throughout this document.

Federal fire policy for wildland fire is currently provided in the following documents:

- Guidance for Implementation of Federal Wildland Fire Management Policy (February 13, 2009). Note: This document replaces the Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy (June 20, 2003)
- Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001)

This updated guidance consolidates and clarifies changes that have occurred since the 2003 strategy document was issued, and provides revised direction for consistent implementation.

The following guiding principles and policy statements are excerpted from the Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001). These remain the foundational principles for Federal Wildland Fire Management Policy.

Guiding Principles

1. Firefighter and public safety is the first priority in every fire management activity.
2. The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process. Federal agency land and resource management plans set the objectives for the use and desired future condition of the various public lands.
3. Fire Management Plans, programs, and activities support land and resource management plans and their implementation.
4. Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. Net gains to the public benefit will be an important component of decisions.
5. Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives. Federal agency administrators are adjusting and reorganizing programs to reduce costs and increase efficiencies. As part of this process, investments in fire management activities must be evaluated against other agency programs in order to effectively accomplish the overall mission, set short- and long-term priorities, and clarify management accountability.

6. Fire Management Plans and activities are based upon the best available science. Knowledge and experience are developed among all federal wildland fire management agencies. An active fire research program combined with interagency collaboration provides the means to make these tools available to all fire managers.
7. Fire Management Plans and activities incorporate public health and environmental quality considerations.
8. Federal, state, tribal, local, interagency, and international coordination and cooperation are essential. Increasing costs and smaller work forces require that public agencies pool their human resources to successfully deal with the ever-increasing and more complex fire management tasks. Full collaboration among federal wildland fire management agencies and between the federal wildland fire management agencies and international, state, tribal, and local governments and private entities result in a mobile fire management work force available for the full range of public needs.
9. Standardization of policies and procedures among federal wildland fire management agencies is an ongoing objective. Consistency of plans and operations provides the fundamental platform upon which federal wildland fire management agencies can cooperate, integrate fire activities across agency boundaries, and provide leadership for cooperation with state, tribal, and local fire management organizations.

Guidance for Implementation

The following guidelines should be used to provide consistent implementation of federal wildland fire policy:

1. Wildland fire management agencies will use common standards for all aspects of their fire management programs to facilitate effective collaboration among cooperating agencies.
2. Agencies and bureaus will review, update, and develop agreements that clarify the jurisdictional inter-relationships and define the roles and responsibilities among local, state, tribal, and federal fire protection entities.
3. Responses to wildland fire will be coordinated across levels of government regardless of the jurisdiction at the ignition source.
4. Fire management planning will be intergovernmental in scope and developed on a landscape scale.
5. Wildland fire is a general term describing any non-structure fire that occurs in the wildland. Wildland fires are categorized into two distinct types:
   - Wildfires - unplanned ignitions or prescribed fires that are declared wildfires
   - Prescribed Fires - planned ignitions
6. A wildland fire may be concurrently managed for one or more objectives and objectives can change as the fire spreads across the landscape. Objectives are affected by changes in fuels, weather, topography; varying social understanding and tolerance; and involvement of other governmental jurisdictions having different missions and objectives.
7. Management response to a wildland fire on federal land is based on objectives established in the applicable Land/Resource Management Plan and/or the Fire Management Plan.
8. Initial action on human-caused wildfire will be to suppress the fire at the lowest cost with the fewest negative consequences with respect to firefighter and public safety.

9. Managers will use a decision support process to guide and document wildfire management decisions. The process will provide situational assessment, analyze hazards and risk, define implementation actions, and document decisions and rationale for those decisions.

B. Departmental Policy

Department of Interior Policy is listed in the Departmental Manual Part 620 Chapter 1, entitled Wildland Fire Management. Departmental policy is as follows:

1. Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment.
2. Every area with burnable vegetation must have an approved Fire Management Plan. Fire management plans must be consistent with firefighter and public safety, values to be protected, and land, natural, and cultural resource management plans and must address public health issues. Fire management plans must also address all potential wildland fire occurrences and include the full range of wildland fire management actions. Bureau fire management plans must be coordinated, reviewed, and approved by responsible agency administrators, to insure consistency with approved land management plans.
3. Fire, as a critical natural process, will be integrated into land, natural, and cultural management plans and activities on a landscape scale, across bureau boundaries, and will be based upon best available science. All use of fire for natural and cultural resource management requires an approved plan, which contains a formal prescription.
4. Wildland fire will be used to protect, maintain, and enhance natural and cultural resources and, as nearly as possible, be allowed to function in its natural ecological role.
5. Bureaus will ensure their capability to provide safe, cost-effective fire management programs in support of land, natural, and cultural resource management plans through appropriate planning, staffing, training, and equipment.
6. Management actions taken on wildland fires must be cost effective, consider firefighter and public safety, benefits, and values to be protected, and be consistent with natural and cultural resource objectives.
7. Bureaus will work together and with other affected groups and individuals to prevent unauthorized ignition of wildland fires.
8. Protection priorities are (1) human life and (2) property and natural/cultural resources. If it becomes necessary to prioritize between property and natural/cultural resources, this is done based on relative values to be protected, commensurate with fire management costs. Once people have been committed to an incident, these human resources become the highest value to be protected.
9. Fire management planning, preparedness, wildland fire and prescribed fire operations, monitoring, and research will be conducted on an interagency basis with the involvement of all partners.
10. Bureaus will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.
11. Fire management programs and activities will be based on economic analyses that incorporate

commodity, non-commodity, and social values.

12. The operational role of the bureaus as a partner in the wildland/urban interface is wildland firefighting, hazard fuels reduction, cooperative prevention and education, and technical assistance. Structural fire protection is the responsibility of tribal, state, and local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding. (Some Federal agencies have full structural protection authority for their facilities on lands they administer and may also enter into formal agreements to assist tribes, state, and local governments with full structural protection.
13. Employees who are trained and certified will participate in the wildland fire program as the situation demands; noncertified employees with operational, administrative, or other skills will support the wildland fire program as needed. Agency Administrators will be responsible, and will be held accountable, to make employees available to participate in the wildland fire program.

C. BIA Fire Policy, Indian Affairs Manual (IAM), Part 90, Chapter 1

Basic Fire Policy: Indian Affairs will adhere to the following wildland fire policies:

1. Safety: Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment.
2. Fire Management and Ecosystem Sustainability: The full range of fire management activities will be used to achieve ecosystem sustainability including its interrelated ecological, economic, and social components.
3. Response to Wildland Fire: Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fires is based on ecological, social and legal consequences of the fire. The circumstances under which a fire occurs, and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected, dictate the appropriate response to the fire.
4. Use of Wildland Fire: Wildland fire will be used to protect, maintain and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans and will follow specific prescriptions contained in operational plans.
5. Rehabilitation and Restoration: Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, safety, and to help communities protect infrastructure.
6. Protection Priorities: The protection of human life is the single, overriding suppression priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be done based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.
7. Wildland Urban Interface: The operational roles of the Bureau as a partner in the Wildland Urban Interface are wildland firefighting, hazard reduction, cooperative prevention and

education, and technical assistance. Structural fire suppression is the responsibility of tribal, state or local governments. The Bureau may assist with exterior structural fire protection activities under formal fire protection agreements that specify the mutual responsibilities of the partners, including funding.

8. Planning: Every area of burnable vegetation must have an approved Fire Management Plan. Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must provide for firefighter and public safety, include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.
9. Science: Fire management plans and programs will be based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, fire management plans, and implementation plans.
10. Preparedness: The Bureau will ensure the capability to provide safe, cost effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.
11. Suppression: Fires are suppressed at minimum cost, considering firefighter and public safety, and all values to be protected, consistent with resource objectives.
12. Prevention: The Bureau will work with the other federal wildland agencies and with their partners and other affected groups and individuals to prevent authorized ignition of wildland fires.
13. Standardization: The Bureau and its federal wildland partners will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.
14. Interagency Cooperation: Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.
15. Communication and Education: The Bureau will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.
16. Agency Administrator and Employee Roles: Agency administrators will ensure that their employees are trained, certified and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program as necessary. Agency administrators are responsible and will be held accountable for making employees available.
17. Evaluation: The Bureau and the other federal wildland agencies will develop a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Wildland Fire Management Policy. The evaluation will assure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.
18. Incident Business Management: The Bureau will work with other federal wildland fire agencies

to provide uniform application of interagency policies and guidelines. Agencies shall follow the direction in the Interagency Incident Business Management Handbook in all functions except where specific agency legal mandates, polices, or regulations apply.

D. Authorities

Authorities for the development of the AZSRA WFMP are listed in the Department of Interior (DOI) Departmental Manual Part 620: Wildland Fire Management. Additional guidance, authorities, policies, and responsibilities are found in the following documents:

- The BIA Wildland Fire and Aviation Program Management and Operations Guide (Blue Book)
- National, regional and local mobilization guides
- Salt River Agency Annual Operating Plan

2.2 Land/Resource Management Planning

A. Tribal Natural Resource Plans

Salt River Pima-Maricopa Indian Community (SRPMIC) Natural Resource Goals and Objectives:

SRPMIC currently has an approved land use plan titled "SRPMIC" General Plan, Sustainable SRMPIC, Planning for Generations".

The Salt River Pima-Maricopa Indian Community (SRPMIC) General Plan presents the desired future Community development, enhancement, and revitalization direction. The General Plan is the Community's "blue print" for land use and development, as well as conservation and preservation; it serves as the basis for rational decisions regarding the Community's long-term physical development and the protection of the Community's natural and cultural resources. The General Plan expresses the Community's development goals and embodies public policy relative to the distribution of future land uses, both public and private. The goals, policies, and programs of the General Plan are intended to underlie most land use decisions.

The primary natural resource goals and objectives, set forth in this document that effect the WFMP include the following:

Natural resources and their preservation: are given high priority in the Community. This includes management, restoration, enhancement (where necessary), maintenance and operations. The Red Mountain area, for example, will provide a full range of visitor amenities, management activity, and preservation projects. Exemplary programs of habitat preservation are expected. The Following natural resource goals were copied directly from the SRPMIC General Plan.

Goal 4.1 To balance land uses and recreation activities with the continued integrity of ecological processes.

- Protect scenic and recreation areas within the Community.
- Enforce appropriate levels of access to the Community's environmentally and culturally sensitive areas.
- Maintain an open space network to preserve native vegetation and provide contiguous wildlife corridors.
- Revegetate disturbed areas with indigenous plant species.
- Integrate developed area landscaping with open space areas.

Goal 4.3 To protect the Community's water resources.

- Protect surface water, groundwater, and wellheads.
- Require strict compliance with pesticide use applications procedures and ordinances.

- Improve storm water management.
- Maintain natural drainage ways for potential water, recharge areas, whenever feasible.
- Preserve the biological integrity and prevent any further degradation of the Verde River ecosystem

Goal 4.4 To provide sustainable range management.

- Sustain the viability of the Community's range areas for wild horses, cattle, and sheep.
- Protect forage and native plants in range areas through noxious weed management.

Goal 4.5 To protect and preserve the Community's wildlife habitat areas.

- Where feasible, restore wildlife communities to their historical levels.
- Encourage the use of native plants in landscaping.
- Ensure continued protection of the Community's wildlife.
- Incorporate indigenous plant lists into the Community's Development and Design Guidelines.

Goal 4.7 To protect air quality through control of industrial emissions, improved land use management, energy conservation, and transportation planning.

- Promote walking, bicycling, car-pooling, and public transit as alternatives to the use of the single-occupant automobile.
- Increase the use of vehicles using alternative fuels and energy for the provision of Community services.
- Participate in regional transportation planning forums.
- Regulate the burning of refuse within the Community to limit the emission of harmful pollutants.
- Ensure that industrial operations and other potential stationary sources of air pollutants in the Community adhere to best practices for control of emissions.
- Develop an ambient air quality regulatory program.
- Develop and impose restrictions on burning refuse.

HISTORIC AND ARCHAEOLOGICAL RESOURCES
Goal 5.1 To balance land development with protection of historic properties and archaeological sites.

- Identify, evaluate, preserve, and protect significant historic properties and archaeological sites within the Community.
- Ensure all construction projects are in compliance with federal and tribal preservation law and policy.
- Require environmental, archaeological, and cultural review and clearance for all development projects.

- Avoid or mitigate impacts to historic properties or archaeological sites when development occurs.
- Preserve and promote the historic character and archaeological significance of the Community.
- Require anyone involved in ground-disturbing activities within the Community to be trained in the cultural values of the Community.

CULTURAL USE
Goal 5.2 To preserve unique cultural areas for continued and future use by cultural and traditional practitioners.

- Promote the identification of areas that are suitable venues for traditional and cultural events and activities.
- Establish a multi-disciplinary approach to protecting sites by coordinating preservation efforts within Community and Economic Development Department, or other departments as appropriate.

Pascua Yaqui Tribe (PYT) Natural Resource Goals and Objectives

- Protect natural and cultural resources
- Maintain and enhance wildlife habitat to ensure viable populations and natural habitat
- Preserve and enhance threatened and endangered species and their habitats
- Rehabilitate all surface disturbances to the extent practical to protect soil, vegetation, water and other environmental values
- Conserve air quality, water resources and protect riparian areas
- Preserve, restore, and enhance the ecological and scenic qualities of the natural landscape
- Revegetate disturbed areas with indigenous plant species
- Identify, evaluate, preserve, and protect significant historic properties and archaeological sites within the Community
- Preserve and maintain environmentally sensitive areas

Fort McDowell Yavapai Nation (FMYN) Natural Resource Goals and Objectives

- Protect natural and cultural resources
- Maintain and enhance wildlife habitat to ensure viable populations and natural habitat
- Preserve and enhance threatened and endangered species and their habitats
- Rehabilitate all surface disturbances to the extent practical to protect soil, vegetation, water and other environmental values
- Conserve air quality, water resources and protect riparian areas
- Preserve, restore, and enhance the ecological and scenic qualities of the natural landscape
- Revegetate disturbed areas with indigenous plant species
- Identify, evaluate, preserve, and protect significant historic properties and archaeological sites within the Community
- Preserve and maintain environmentally sensitive areas

B. BIA (Agency or Regional) Natural Resource Plans

There are currently no natural resource plans that have been completed by the BIA.

2.3 Partnerships

A. Interagency Agreements

The AZSRA and Tribal fire program operate under several Federal, state, and local/tribal cooperative agreements for fire suppression and other management activities.

Federal Agreements - The Interagency Agreement between the U.S. Department of Interior Agencies (USDI)—BLM, BIA, NPS, FWS, and the USFS (drafted in 1997 and amended in 1999 and 2000) offers the framework for the development of state and local agreements and operating plans.

In addition to the national, regional, and state agreements in place and referenced in the BIA Wildland Fire Operations Guide (Blue Book). Specific agreements pertinent to Salt River Agency are:

1. Cooperative Agreement (No. A12AV01018) between the BIA Western Regional Office and Fort McDowell Yavapai Nation. The purpose of this agreement is to provide a basis for cooperation between the Tribe and the BIA to facilitate the cooperative use of qualified Tribal employees in wildland fire preparedness, suppression, and rehabilitation activities and/or other emergency incidents subject to response under the National Incident Management System/Incident Command System (NIMS/ICS).
2. The Fort McDowell Yavapai Nation has entered into Mutual Aid agreements between the Nation and the following; Goldfield Ranch Fire District, Fountain Hills Fire District, Rio Verde Fire District, Rural Metro Fire Department.
3. Cooperative Agreement with Phoenix Interagency Dispatch Center
4. Joint Powers Agreement with the State of Arizona & Federal Agencies
5. Southwest Area Fire Weather Operating Plan, National Weather Service & Cooperators, 2010
6. Southwest Area Interagency Fire Management Agreement (Reference Southwest Area Mobilization Guide Chapter 40)
7. Mutual Aid Agreement within the Central West Zone. (Reference Southwest Area Mobilization Guide Chapter 40)
8. Initial Attack, Mobilization and Demobilization (Reference Southwest Area Mobilization Guide chapter 40)

Salt River Salt River-Maricopa Indian Community has entered into the following agreements with other agencies and fire organizations.

1. Cooperative Agreement (No. AG7H00700S) between the Bureau of Indian Affairs Salt River Agency and Salt River Salt River-Maricopa Indian Community. The purpose of this agreement is provide a basis for cooperation between the Tribe and BIA to facilitate the cooperative use of qualified Community employees in wildfire pre-suppression, wild fire suppression, wild fire rehabilitation activities, and other emergency incidents subject to response under the National Interagency Management System/Incident Command System.

2. Mutual Aid Agreements between the following Valley Fire Departments, Fire Districts and Agencies; Apache Junction Fire District, Arizona State Fire Marshal's Office, Arizona State Land Department, Avondale Fire Department, Buckeye Fire Department, Buckeye Valley Rural Volunteer Fire District, Chandler Fire Department, Daisy Mountain Fire District, EI Mirage Fire Department, Gila Bend Fire Department, Gilbert Fire Department, Glendale Fire Department, Goodyear Fire Department, Guadalupe Fire Department, Laveen Fire District, Luke Air Force Base Fire Department, Mesa Fire Department, Peoria Fire Department, Phoenix Fire Department, Salt River Salt River-Maricopa Indian Community Fire Department, Sun City Fire District, Sun Lakes Fire District, Sunrise Fire Department, Tempe Fire Department, Tolleson Fire Department, Youngtown Fire District, Rural/Metro Fire Department, Fort McDowell Yavapai Nation, and the City of Scottsdale.
3. Salt River Salt River-Maricopa Indian Community is an active participant in the Interagency Arizona Central West Zone, with the dispatch center located at Williams Gateway Airport in Mesa, Arizona.
4. Through the State Fire Chiefs association, of which the Salt River Salt River-Maricopa Fire Department is an active participant, there are uncommitted resources available if requested. For wildland fires on trust lands, this aid may include engines, hand crews, and aircraft from nearby municipal fire departments and land management agencies.

Pascua Yaqui Tribe has entered into the following agreements:

1. Bureau of Indian Affairs (BIA) Cooperative Agreement (No. GTH55T66540)
2. Local Mutual Aid Agreement with the Tohono O' Odham Nation Fire Department and Drexel Heights Fire District
3. Multi Agency Master Mutual Aid Intergovernmental Agreement. This consist of a multi-agency agreement with various municipal fire departments, fire districts and Indian tribal fire departments within Pima County
4. Arizona Mutual Aid Compact, (AZMAC). This consists of jurisdictions within the State of Arizona and The Department of Emergency and Military Affairs

B. Community Wildfire Protection Plans (CWPP)

The Community Wildfire Protection Plans (CWPP) were developed in response to the Healthy Forests Restoration Act of 2003 (HFRA) for at-risk communities and unincorporated areas located in and around public lands administered by the U.S. Department of the Interior and the U.S. Department of Agriculture, Forest Service. HFRA established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation gives direction to BLM and the U.S. Forest Service to address local community priorities in fuel reduction treatments, even on nonfederal lands.

For a community to take full advantage of the opportunities provided in HFRA, it must first prepare a CWPP. A CWPP developed in accordance with HFRA is the most effective way to acquire federal funding for fire preparedness and planning. The CWPP provides a mechanism for communities to address and mitigate wildfire risk and to prioritize treatment.

Pascua Yaqui Tribe is located in Pima County which is in the process of formulating a CWPP.

Salt River Pima-Maricopa Indian Community and Fort McDowell Yavapai Nation are members of an interagency group that completed the Maricopa County Community Wildfire Protection Plan (2010). Other partners included:

- Arizona State Forestry Division
- Maricopa County Department of Emergency Management
- U.S. Department of the Interior, Bureau of Land Management
- Tonto National Forest
- Tohono O'odham Indian Nation, San Lucy District

Chapter 3. Fire Management Unit Characteristics

A fire management unit (FMU) is defined by the National Wildfire Coordination Group (NWCG), as a land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major fire regime groups, etc. that set it apart from the characteristics of an adjacent FMU. The FMU may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

This chapter is split into two sections. The first section (section 3.1) deals with information common to the entire planning area. The second section (section 3.2) contains information unique to individual Indian Fire Management Units (FMUs). Together, the sections represent a complete picture of FMU characteristics.

It is important to understand what goals and objectives represent. A goal in a management plan is a general intention or a "big picture" aim. Objectives tier off of goals. Objectives are outcomes that represent the achievement of a goal. Objectives need to be measurable and observable. Strategies are the action plans executed to reach the objective, such as developing and implementing prescribed fire plans. Tactics are the pieces and parts of the strategy.

The term "Fire Management Plan (FMP)" is used on an interagency basis. The BIA Salt River Agency planning documents, including associated environmental assessments, will all refer to a Wildland Fire Management Plan (WFMP), which is the same as an FMP.

3.1 Area-Wide Fire Management Considerations

A. Salt River Pima Maricopa Indian Community Fire Management Program Goals(SRPMIC) Objectives and Strategies

1. Reduction of hazardous fuels throughout SRPMIC, concentrating attention on the wildland urban interface
2. Planned, appropriate fire suppression response to wildland fires
3. Reducing all forms of human caused wildland fires
4. Reduction of hazardous fuels
   - Locations for fuel breaks, in wildland urban interface areas, and in areas of significant resource areas (cultural, sacred, or other) will be designated and constructed.
   - Hazardous fuels will be inventoried, prioritized, and reduced through the use of chemical, biological, or mechanical treatment
   - Defensible space around SRPMIC developments, transportation corridors, and reservation boundaries that are adjacent to subdivisions of Scottsdale and Mesa will be created and maintained within and around these wildland urban interface areas
5. Hazard reduction operations may employ mechanical and/or herbicide, and chemical treatments, as appropriate for specific projects.
6. Planned; appropriate fire suppression response to wildland fire.
   - All wildland fires will be suppressed.
   - Safety of firefighters, public, communities, and structures is the number one priority in all fire suppression operations
   - Utilize minimum impact suppression techniques (MIST) that meet suppression objectives but minimize environmental, cultural, and social impacts
   - Ensure all fire personnel are informed and aware of current fire danger levels, initial attack tactics, and procedures
   - Effectively utilize and deploy current fire management technologies to improve the effectiveness and implementation of suppression actions
7. Improved fire prevention.
   - An outreach program will be implemented for SRPMIC residents with the goal of reducing accidental and intentional human caused ignitions
   - Initiate a signing program to keep residents and visitors current on current fire danger levels
8. Ensure that firefighter and public safety IS the first priority in every fire management activity
9. Minimize danger to people and damage to structures and other property in the wildland/urban interface
10. Ensure that all wildland fire management personnel strictly adhere to national standards as specified by National Wildfire Coordinating Group (NWCG) for qualifications, physical fitness, and personal protective equipment (PPE)

11. Prioritize, develop, and implement fire management plans, programs, and activities in support of BIA trust responsibilities and the tribes' resource management initiatives
12. Conduct a prevention program to reduce human-caused wildland fires
13. Adhere to fire control objectives that are established for fire management Units
14. Provide a safe and highly trained organization to staff and manage wildland fires
15. Continue active participation with interagency fire cooperation on a local, regional and national level
16. To extent possible control smoke emissions from wildland fire to minimize impact on air quality
17. Wildland fires that threaten life, human made structures, or are determined to be a threat to the natural resources of the reservation will be considered emergencies and their suppression given priority over normal programs
18. Wildland fires that threaten sacred culturally sensitive areas (human made or natural vegetation) will be considered emergencies and their suppression given priority
19. Have cultural leaders assess and develop solutions to restore sacred cultural resources damaged by wildfire
20. High priority will be given to preventing a disastrous fire where damage is of such magnitude that management objectives and/or socio-economic conditions of the reservation are severely impacted
21. Wildfire damage will be held to the minimum possible through:
    - Use of suppression methods least damaging to resources and the environment
    - Maintenance of immediate and aggressive suppression action consistent with burning conditions and approved management objectives
    - Maintenance of control forces thereon until extinguished
    - Maintenance of an adequate state of preparedness
    - Integration of cooperative suppression activities with other qualified suppression organizations

22. Accomplishment of the goals will contribute to local, regional and national strategies through development of fire suppression resources that are prepared, trained, and capable of suppressing incidents not only on the reservation but available for mutual aid on adjoining lands

B. Pascua Yaqui Fire Management Program Goals, Objectives and Strategies

- Protect homes, business and other structures from wildland fire
- Protect and enhance natural resources by suppressing and managing wildfires
- Use prescribed fire to improve wildlife habitat
- Use mechanical and prescribed fire to manage fuels

- Maintain fuels in WUI areas at non-hazardous levels to provide for public and fire fighter safety

C. Fort McDowell Yavapai Nation Program Goals, Objectives and Strategies

- Protect homes, business and other structures from wildland fire
- Protect and enhance public land resources by suppressing and managing wildfires
- Use prescribed fire to improve wildlife habitat
- Use mechanical and prescribed fire to manage fuels
- Maintain fuels in WUI areas at non-hazardous levels to provide for public and fire fighter safety

D. Characteristics and constraints common to all FMUs

There are 8 FMUs that create the entire BIA Salt River Agency fire management program (see table 3). Figures 3, 4, and 5 show the FMU maps for SRPMIC, PYT and FMYN.

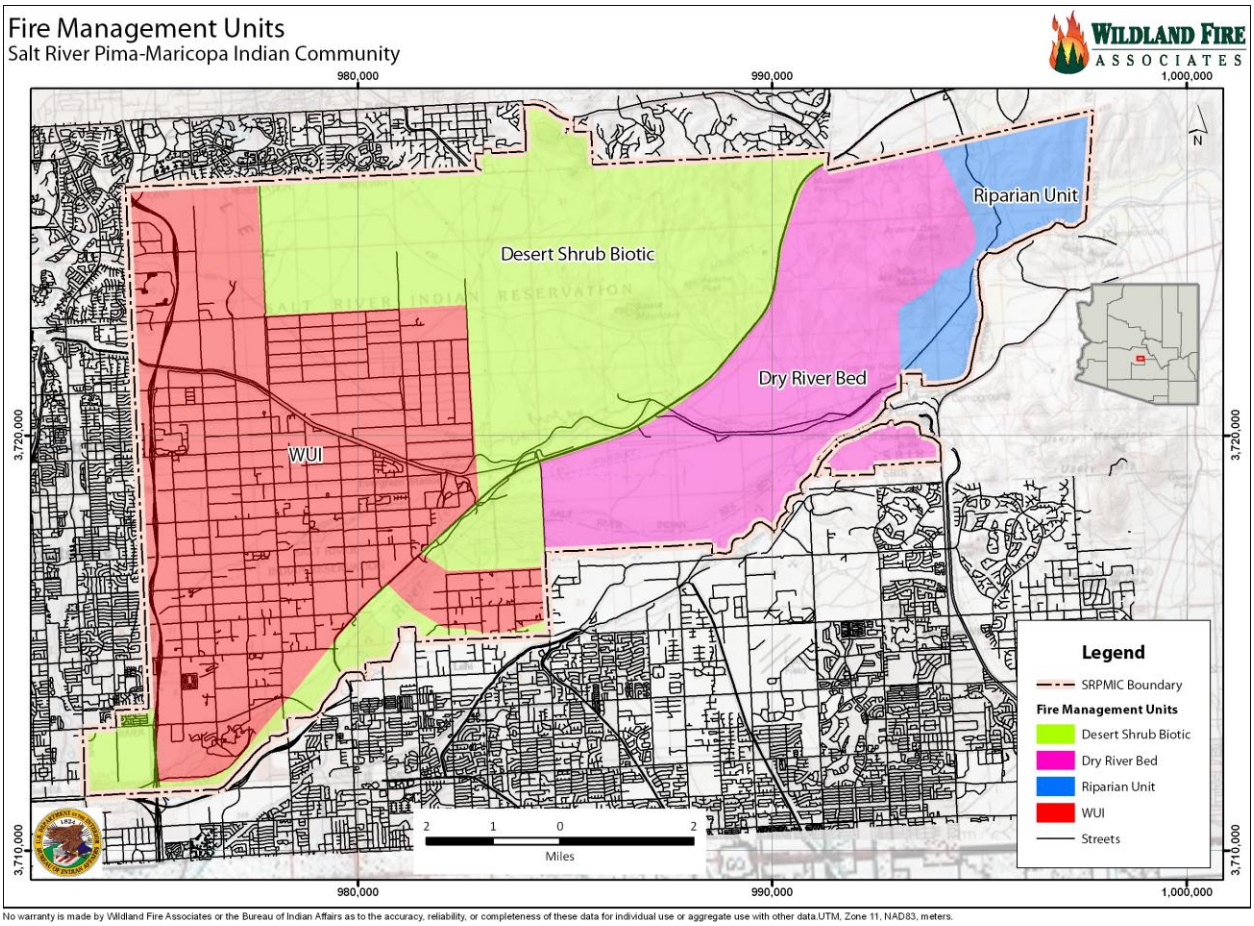
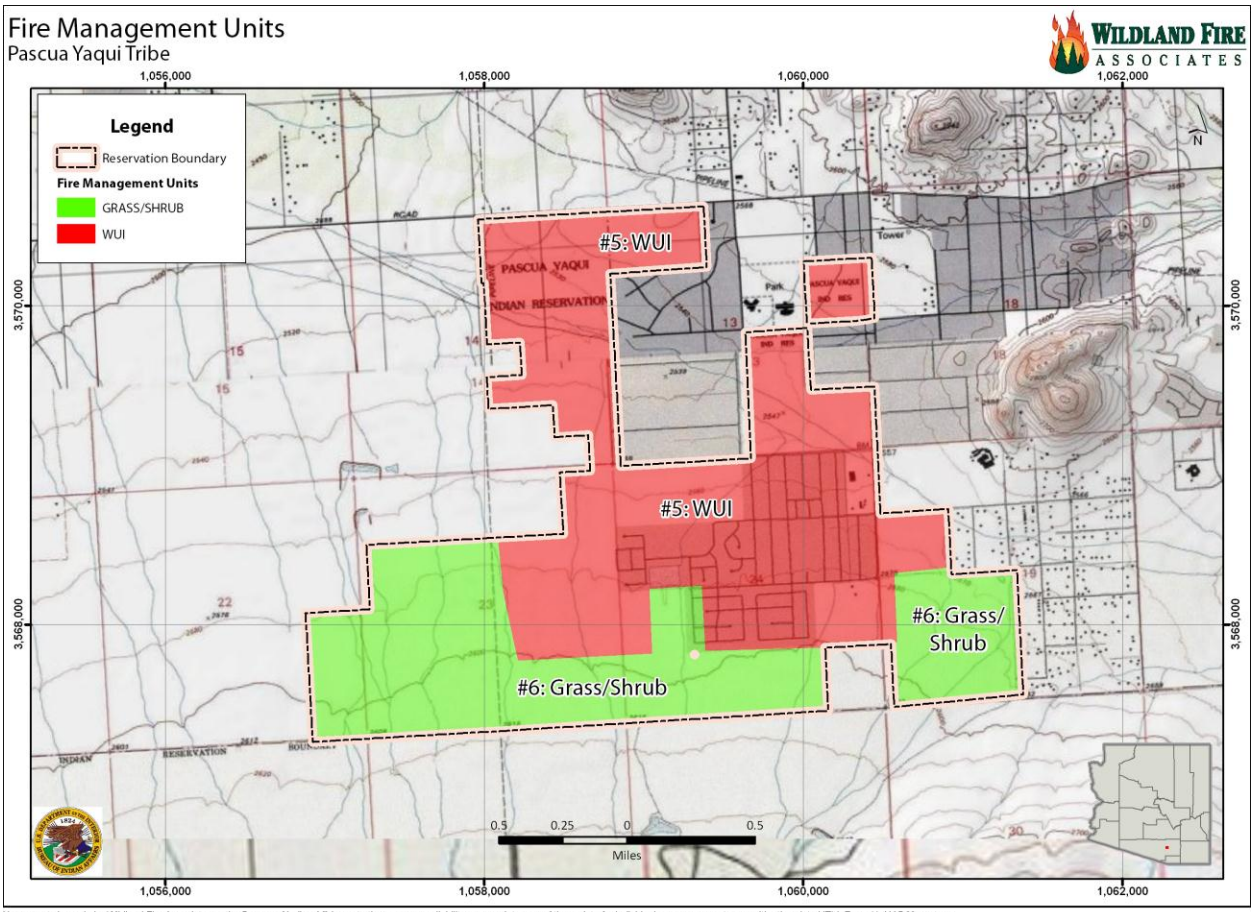


Figure 3. FMU Map for SRPMIC



No warranty is made by Wildland Fire Associates or the Bureau of Indian Affairs as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.UTM, Zone 11, NAD83, meters.

Figure 4. FMU Map for PYT

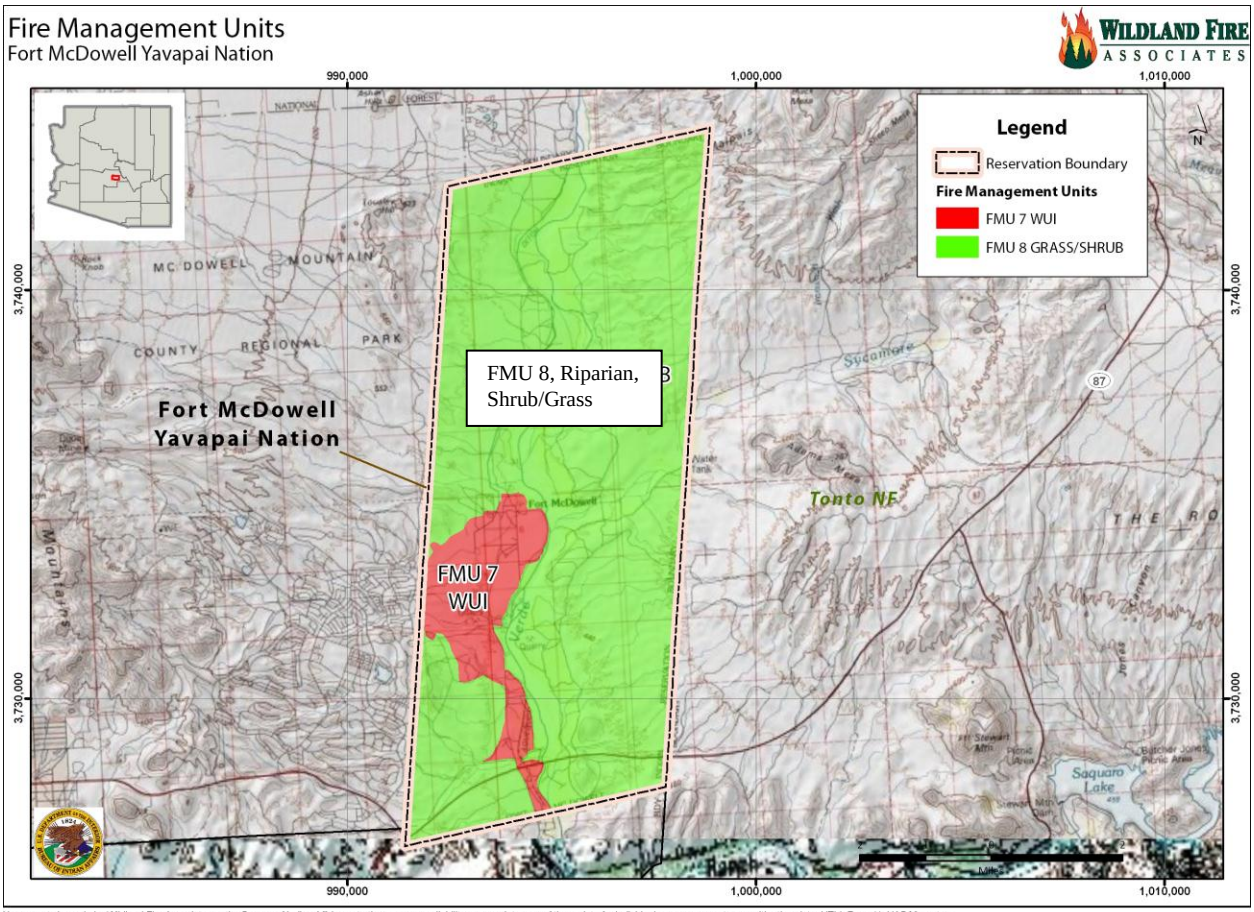


Figure 5. FMU Map for FMYN

Table 3. BIA SALT RIVER AGENCY FIRE MANAGEMENT UNITS (FMU)

Reservation	FMU Number	FMU Name	Primary Fuel Type
SRPMIC	FMU 1	Riparian Unit	Grass/brush
SRPMIC	FMU 2	Dry River Bed	Grass/Shrub
SRPMIC	FMU 3	Desert Shrub Biotic	Grass/Shrub
SRPMIC	FMU 4	Wildland Urban Interface	Grass
PYT	FMU 5	Wildland Urban Interface	Grass/Shrub
PYT	FMU 6	Grass/Shrub	Grass/Shrub
FMYN	FMU 7	Wildland Urban Interface	Grass/Shrub
FMYN	FMY 8	Riparian & Grass/Shrub	Grass/Shrub

1. Fire Ecology, Fuels, and Vegetation

AZSRA is located in the Sonoran desert ecosystem, which spans across parts of southern California and southern Arizona, ranging south into Mexico. The Sonoran Desert includes a wide variety of plants adapted to hot and dry conditions including the agave family, palm family, cactus family, legume family, and many others. Vegetation types fall into two distinctive types in this region; grass and brush. There are also significant acreages of farmland along the valley bottoms.

The pre-historic role of fire Sonoran desert is characterized by long fire return intervals, estimated in cases to be 250 years or longer. Consequently, adaptations of desert plant species to fire are minimal. Many important species of plants indigenous to the Sonoran Desert are severely damaged or killed by a single wildfire. The continued existence of the Sonoran Desert is a testament to the fact that wildland fire has not had a significant evolutionary role in ecosystem processes.

The Sonoran desert is the only place in the world where the majestic saguaro cactus grows. Other species of cactus that grow here include cholla, beavertail, hedgehog, fishhook, prickly pear, night blooming cereus, and organ pipe. Cacti provide a food source and homes to many desert mammals and birds.

Along stream courses and riparian areas the dominant species are salt cedar (*Tamarix* spp.), Fremont cottonwood (*Populus fremontii*), desert willow (*Salix linearis*), black willow (*Salix gooddingii*), screwbean mesquite (*Prosopis pubescens*), and honey mesquite (*Prosopis glandulosa*). Other species found in this group, but in lesser numbers, include palo verde (*Cercidium microphyllum* and *C. floridum*), saguaro cactus (*Carnegiea gigantea*), and ironwood (*Olneya tesota*).

In the more shrub and grassland communities the dominant species are creosote bush (*Larrea tridentata*) screwbean mesquite, honey mesquite, triangle leaf bursage (*Ambrosia dumosa*), palo verde, saguaro cactus, ironwood, saltbush (*Atriplex* spp.), six-weeks grama (*Bouteloua barbata*), canary grass (*Phalaris arondinacea*), barrel cactus (*Lophocereus* spp.), prickly pear cactus (*Opuntia arborescens*), hedgehog cactus (*Echinocereus* spp.), ocotillo (*Foqueria splendens*), and cholla cactus (*Opuntia* spp.).

In disturbed areas, there are many invasive species including annual weeds including tumbleweeds, mustards, various grass species (e.g., red brome, Johnson grass, and cheatgrass).

Understanding of fire ecology of the Sonoran Desert is still developing. Early theories proposed a natural fire interval of 250 years or longer. This is supported by longevity of many desert plants; a 3-foot saguaro may be 100 years old, and saguaros are easily damaged by fire. However, it has also been theorized that fires were rather common in the Sonoran Desert under appropriate conditions, especially during summer, and may have had a return interval of less than 250 years. Further, few Sonoran Desert species have adapted mechanisms to ensure survival after burning. Succulents and thin barked trees, such as palo verde, are particularly susceptible to

the heat and direct flame contact generated by even low intensity fires. In addition, many of the brush species have highly flammable foliage with concentrations of aromatic terpenes in the foliage and waxy leaf coatings to reduce transpiration and discourage browsing.

The absence of fine fuels in the Sonoran desert greatly limits the spread of fire except in years of above normal precipitation. During seasons of above normal rainfall (> 7 inches per year in lower elevations), there can be enough growth of annual herbaceous vegetation to carry fire. When this unusual condition occurs, fire can destroy native vegetation and promote the spread of exotic annuals.

Sonoran Desert Shrub is not fire dependent, nor did it evolve through natural fire. Desert shrubs are neither fire-tolerant nor fire-dependent and are adapted to survive long drought periods; thus many are very slow growing. Historically, the Sonoran Desert did not typically produce enough ground vegetation to carry a fire more than a few yards. Ground cover is generally less than 2 feet in height. With seasonal rainfall, ground cover becomes populated with a wide range of ephemeral annuals.

Changes in landscapes have occurred in the desert grassland community. There has been an increase of invasive annual grasses and other species. Historically, perennial grasses made up the major component of the understory. Now, invasive annual grasses and other annuals are the major component when moisture is optimal. As these annuals dry, they tend to blow and accumulate at the base of creosote bush and other species found in the desert grassland. This accumulation of fuel creates a hazard, that when ignited, carries fire and provides a source of spotting when wind driven and under extreme weather conditions. This contributes to the risk of losing key ecosystem components that has increased from low probability to moderate probability. Vegetation attributes within the desert shrub component have been moderately altered from their historical range.

Fire regimes: Fire regimes in the desert grasslands have been moderately altered by more than one return interval and now average 120 + years. While they remain mostly understory fires, they can also become stand replacement fires. The fire regime is now classified as lethal/non-lethal, moderate to high severity, and can cause selective mortality in the dominant vegetation.

Fire Behavior and Fire Return Intervals: Historically, fire return intervals in the desert grassland and shrub land averaged between 50 to 100 years (Humphery 1974). Fire regime was non-lethal and moderately severe. It did not change the structure of the dominant vegetation and was usually a low intensity surface fire.

2. Geography, Geology, and Soils

The geography of all the FMUs is quite similar with wide valleys and scattered mountain ranges. Much of south and eastern Arizona falls within the geologic area called the Basin and Range Province. This is a land of broad valleys (basins) and separate and parallel mountain ranges that are generally oriented in a northwest to southeast direction. Geologic faulting lifted these mountains, or blocks, while at the same time the basins between them sank. The blocks that are

visible today have significantly eroded over millions of years. The basins have since filled with gravels, silt, and sand sediments from this erosion, and some of these layers are thousands of feet deep. Each valley is bounded on at least one side by one or more normal faults that are oriented along or sub-parallel to the range front.

In many areas in the desert, a cobble of gravel and small stones forms. Winds over the decades have stripped sand, clay, and silt particles from the surface, leaving a hard layer of "desert pavement". The desert pavement protects the soil under it from further wind erosion.

Soil surveys are available through the Natural Resource Conservation Service. The National Cooperative Soil Survey (NCSS) program is a joint effort between cooperating Federal agencies, land-grant universities, and other state and local agencies to map soils, collect soil data, interpret maps and data, and promote use of surveys. Generally, paper copies of soils surveys are not available and data must be obtained through the "Web Soil Survey" internet site, http://soils.usda.gov/survey/online_surveys/Arizona (May 2011).

The topography on FMYN is mostly rolling with some flat areas along the Verde River, which flows across the reservation, from north to south. The lowest point is around 1300 feet and the highest is about 1800 feet.

The SRPMIC topography is flat to rolling with small hills and peaks, mostly on the east side. The lowest point is around 1100 feet and the highest is Mt. McDowell at 2,830 feet. Other prominent peaks include Red Mountain and Arizona Dam Butte. The Salt River is located on the south edge of the reservation. The Verde River flows through the far east side of the reservation.

PYT lands are mostly flat to rolling with elevations averaging about 2,500 feet. The Santa Cruz River system is the predominate drainage and forms few washes in the area.

3. Climate

The climate of the Sonoran Desert is characterized by hot summers and mild winters. Snowfall is uncommon and precipitation varies greatly by month (see table 4).

Table 4. CLIMATOLOGICAL SUMMARY FOR PHOENIX, AZ
PHOENIX WSFO, STATION # 026481, PERIOD OF RECORD: 6/1/1933 TO 7/31/2010

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (°F)	66.1	70.0	75.9	84.4	93.7	103.0	105.7	103.4	99.0	88.2	75.3	66.5	85.9
Average Min. Temperature (°F)	41.6	44.5	49.1	55.8	64.2	72.8	80.5	79.1	72.8	60.8	48.4	41.7	59.3
Average Total Precipitation (in.)	0.80	0.77	0.86	0.29	0.13	0.09	0.85	1.03	0.70	0.57	0.56	0.90	7.55
Average Total Snowfall (in.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Approximate Hours of daylight	10.3	11.0	12.0	13.0	13.9	14.3	14.1	13.4	12.6	11.4	10.5	10.5	10.0

Precipitation

There are two separate rainfall seasons (see figure 4). The first occurs during the winter months (November through March) when the area is subjected to occasional storms from the Pacific Ocean. While this is classified as a rainfall season, there can be periods of a month or more in this or any other season when practically no precipitation occurs. In the mountains, snowfall sometimes occurs, but it rarely blankets the lower elevations. The second rainfall period occurs during July and August when Arizona is subjected to widespread thunderstorm activity whose moisture supply originates in the Gulf of Mexico, in the Pacific Ocean off the west coast of Mexico, and in the Gulf of California. The spring and fall months are generally dry, although precipitation in substantial amounts has fallen occasionally during every month of the year (National Weather Service, Phoenix, AZ).

4. Air Quality

Air quality concerns involve both visibility and respiratory health issues. SRMPIC, and FMYN are concerned with visibility and air quality standards in Maricopa County. Maricopa County is the most heavily populated location in Arizona. Currently, the Phoenix Metro area is unable to meet some clean air standards. The Class 1 airshed located in and around the Phoenix and Maricopa County is of particular concern.

PYT lands are located in Pima County, directly adjacent to the city of Tucson. PYT and AZSRA are concerned with visibility and air quality standards in Pima County.

In addition to the aesthetic impact, smoke emissions can impair visibility, which can become particularly hazardous to vehicle travel. In sufficient high concentrations, particulate matter from smoke can threaten human health, especially for individuals with respiratory ailments. Excessive

smoke production is most likely to occur when heavy concentrations of fuels burn. In addition, persistent atmospheric inversions and low wind conditions can result in poor smoke dispersal.

While there is little that can be done to reduce smoke generated from wildfires, there are measures that can help manage its effects. Traffic control measures may have to be taken whenever visibility is significantly impaired in travel corridors. Similarly, public health advisories may be issued when smoke concentrations pose a serious hazard to respiratory health.

5. Wildland Urban Interface (WUI)

Wildland-urban interface is an issue on SRPMIC, FMYN and PYT lands. Wildland urban interface and intermix exist in many areas. In addition there are communities directly adjacent to reservation boundaries that can be impacted by wildland fires. Increased home building has heightened awareness of the wildland urban interface issues and its challenges.

6. Safety

Unusual hazards firefighters encounter during or traveling to incidents include:

- Fine fuels, arid climate (e.g., high temperatures and low relative humidity), and extremely variable winds favor high rates of spread and frequent erratic fire behavior
- Industrial parks that have hazardous materials on-site
- Roads and highways carry tremendous traffic volume and as such, present a problem to firefighters traveling to incidents.
- Power lines, pipelines, and transmission towers pose both ground and aerial hazards.

7. Values to Protect

- Tribal cultural areas and sacred sites
- Tribal traditional plant gathering and use
- Ancestral dwellings and gathering sites
- Historic structures
- Plant communities
- Wildlife
- Structures, power lines, transmission towers and pipe lines
- Agricultural values (orchards, fields, livestock)
- Soils
- Water quality
- Air quality

8. Fire Behavior

Table 5 below depicts the fuel model and associated fire behavior.

Table 5. FUEL MODELS; DESCRIPTION AND ASSOCIATED FIRE BEHAVIOR

Fuel Model	Description	Associated Fire Behavior
FM 1, GR1 (Grass)	The primary carrier of fire is sparse grass, though small amounts of fine dead fuel may be present. The grass is short, either naturally or by grazing, and may be sparser or discontinuous.	Predicted spread rate and flame length are low compared to other GR/GS models. Spread rates 0-20 chains per hour.
FM 2, GS1 (Grass-Shrub)	Mixture of grass and shrub, up to about 50 percent shrub coverage. Shrubs are about 1 foot high, low grass load.	Spread rate moderate, flame length low.
FM 4, SH5 (Heavy Shrub)	The primary carrier of fire is woody shrubs and shrub litter. Heavy shrub load, depth 4-6 feet. Fire behavior can vary widely depending upon the age of the brush.	Spread rate very high; flame length very high. Spread rates 0-250 chains per hour.

3.2 Fire Management Unit's – Specific Descriptions

This section provides specific information and guidance and for each of the Fire Management Units (FMU) on BIA Salt River Agency.

A. FIRE MANAGEMENT UNIT # 1; SRPMIC, Riparian

1. **General Description:** This FMU is located along the Salt River corridor. There are a total of 3,223 Trust acres in this FMU. Acres in the tables below may vary slightly due to analysis techniques.

2. **Vegetation Types/Fuel Models/Fire Regimes and Burnable Acres:**

Vegetation Type: Riparian/Wetland (Fremont cottonwood, Goodding willow, and Salt Cedar). Table 6 depicts vegetation and fuel model information as derived from the LandFire system

Table 6. VEGETATION TYPES/FUEL MODELS, SRPMIC, RIPARIAN FMU # 1

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short and patchy	0
Mixed Desert Brush and Grass	GS (Grass/Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	2,454
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4/5	SH5 (145). Heavy shrub load, depth 4 to 6 feet	739
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			10
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			0
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior			20
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior			0
Total Acres FMU # 1					3,223
Total Burnable					3,193
Total Non-Burnable					30

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Table 7 below, depicts the fire regime/condition class.

Table 7. FIRE REGIME CONDITION CLASS, SRPMIC, RIPARIAN FMU # 1

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	1 or 2	1 or 2
Mixed Desert Brush and Grass	III	1 or 2	1 or 2
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	III	3	2
Riparian Systems	III	1 or 2	1 or 2

Historic Fire Regime III: Fire frequency; 35-200 years, severity; mixed to low

A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Existing Vegetation Types (EVT):

Table 8 depicts existing vegetation types are derived from the LandFire system.

Table 8. LANDFIRE EXISTING VEG., SRPMIC, RIPARIAN FMU # 1

DESCRIPTION	ACRES
Developed or No Data	10
Open Water	20
Sonora-Mojave Creosotebush-Whole Bursage Desert Scrub	98
Sonora-Mojave Mixed Salt Desert Scrub	1
Sonoran Granite Outcrop Desert Scrub	5
Apacherian-Chihuahuan Mesquite Upland Scrub	15
Mogollon Chaparral	2
Sonoran Paloverde-Mixed Cacti Desert Scrub	2,334
North American Warm Desert Riparian Systems	739
Totals	3,224

5. Ten-year Average Number of Wildfires and Acres Burned:

Table 9 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record.

Table 9. FIRE STATISTICS, SRPMIC, RIPARIAN FMU # 1

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	0	0	0	0	0	0	0

6. Topography, Soils, Access, and Other Physical Characteristics, FMU # 1:

- **Geography and Topography**: The FMU has a flat to rolling topography, consisting of farmlands, desert shrub, grasslands, and riparian ecosystems. The Salt River forms the southern edge of this FMU area. The Verde River flows through the center of the FMU from north to south
- **Access**: There is limited access in steep draws along the drainages and on some of the small hills. Access to incidents in the FMU includes unnamed roads that service the canals. While these access roads provide initial access to incidents, access off of them is limited, and nearly impossible. The use of aircraft (helicopters) to provide access to interior incidents in the FMU is also limited because of the dense vegetation and lack of landing zones.

7. **Ten-year (or Five-year) Average Fuel Treatment Acres by WUI and Non-WUI Fuels and by Treatment Type – Prescribed Fire and Non-fire, FMU # 1 :** No treatments have been conducted up to 2011.

8. **Burned Area Rehabilitation projects:** No treatments have been conducted up to 2011.

9. Values to Protect/Uses that Affect Fire Management Decisions, FMU # 1:

- Water Treatment Plant
- Group camp grounds
- Native riparian vegetation
- Adjacent values; Tonto National Forest, including several National Forest Campgrounds. These campgrounds share a common hazard in the salt cedar community with SRPMIC. Due to the extreme fire behavior that can develop in salt cedar, safety for firefighters and public will be stressed as the first priority when suppressing fires in the FMU
- WUI areas; communities and scattered homes
- Tribal cultural areas

10. FMU # 1-specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:

- Protect native riparian/wetland habitat from the effects of wildland fire, and encroachment of non-native species
- Protect the historical natural riparian/wetland habitat from the effects of wildland fire and encroachment of non-native species. The desired future condition is to return the riparian/wetland habitat in as much as possible to a historical, native community through reduction of salt cedar infestation.
- Accomplishment of the objective will also allow fire regimes to be only moderately altered from their historical range, with a fire return interval of 100 + years
- To obtain the desired future condition mechanical removal of salt cedar is recommended, followed by treatment with chemical or other approved method to prevent re-sprouting

11. Safety Considerations Specific to FMU # 1 (power lines, gas/oil fields, major transportation corridors, air quality etc.):

- Transportation and utility corridors
- Highways
- Radio towers

12. Description of Fire Management Strategies, FMU # 1:

- Protect cultural, historic, and religious sites from fire
- Protect soils by minimizing fire line construction and off road vehicle use
- Suppress all fires in the FMU with the goal of minimizing acres burned

B. FIRE MANAGEMENT UNIT # 2, SRPMIC, Dry River Bed

1. **General Description:** This FMU consists rolling terrain near the Salt River. There are 11,330 acres of Trust lands within this FMU.

2. Vegetation Types/Fuel Models/Fire Regimes/Burnable Acres

The predominate vegetation is desert Shrub and annual grasses and weeds, with creosote bush found in many areas. Table 10 depicts vegetation types and fuel models as derived from the LandFire system.

Table 10. VEGETATION TYPES/FUEL MODELS, SRPMIC, DRY RIVER BED FMU # 2

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short & patchy	1
Mixed Desert Brush and Grass	GS (Grass/Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	10,597
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4,	SH5 (145), Heavy shrub load, depth 4 to 6 feet	672
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			13
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			0
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior.			47
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior.			0
Total Acres FMU # 2					11,330
Total Burnable					11,270
Total Non- Burnable					60

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Current Fire Regime: Lethal/non-lethal, moderate to high severity with stand replacement probable

Current Condition Class: Class 2 in the desert shrub. Moderate departure from natural vegetation and fire frequency. Risk of losing key ecosystem components has increased to moderate. Class 3 in the dry riverbed. High departure from natural vegetation and fire

frequency - risk to key ecosystem components is high.

Historically fire return intervals in the desert shrub portion of this FMU averaged between 50 to 100 years (Humphery 1974), and Condition Class was a Class 1. Fire regime was non-lethal, moderately severe. It did not change the structure of the dominant vegetation and was usually a low intensity surface fire.

Condition Class in the desert shrub community is now a Class 2. Fire return intervals in the dry riverbed portion of the FMU was similar to FMU I (Riparian/Wetland) of 150 years + and was a Condition Class 1. Fire regime in the historic, native riparian habitat was non-lethal and of low severity. The landscape in the dry riverbed portion of the FMU has been significantly altered. The landscape has changed from a riparian community to an annual grass and forb community. Key ecosystem components have been lost and vegetation attributes have been significantly altered from their historical range. Table 11 depicts current and desired fire regime/condition class.

Table 11. FIRE REGIME/COND. CLASS, SRPMIC, DRY RIVER BED FMU # 2

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	1 or 2	1 or 2
Mixed Desert Brush and Grass	II	1 or 2	1 or 2
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	III	3	2

A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Exiting Vegetation Types (EVT):

Table 12 depicts existing vegetation types as obtained through the LandFire system.

Table 12. LANDFIRE EXISTING VEG., SRPMIC, DRY RIVER BED FMU # 2

DESCRIPTION	ACRES
Developed or no Data	13
Open Water	47
Sonora-Mojave Creosotebush-Whole Bursage Desert Scrub	2,386
Sonoran Granite Outcrop Desert Scrub	22
Apacherian-Chihuahuan Mesquite Upland Scrub	62
Mogollon Chaparral	6
Sonoran Paloverde-Mixed Cacti Desert Scrub	8,120
North American Warm Desert Riparian Systems	672
Introduced Upland Vegetation-Annual and Biennial Forbland	1
Total	11,329

5. Ten-year Average Fire Statistics:

Table 13 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record

Table 13. FIRE STATISTICS, SRPMIC, DRY RIVER BED FMU # 2

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	0	0	0	0	0	0	0

6. Topography, Soils, Access, and Other Physical Characteristics, FMU # 2:

- **Geography and Topography**: FMU # 2 consists of farmlands, desert shrub, grasslands and riparian ecosystems. The topography is flat to rolling.
- **Access:** The major access route to incidents is limited to the reservation road #87 and the Beeline Highway, which is also the boundary between (his FMU and FMU II. Off road travel from the Beeline Highway (Highway 87) would be limited, to wheel drive units which provide a way to transport hand crew personnel to incidents. Four-wheel units would be needed to transport personnel to incidents, unless they travel by foot. The use of aircraft (helicopters) would speed up transportation of hand crew personnel to incidents occurring in the FMU.

7. **Ten-year (or Five-year) Average Fuel Treatment Acres, FMU # 2:** There have been no fuels treatments to date (2011)

8. **Burned Area Rehabilitation (BAER) projects, FMU # 2:** There have been no BAER projects to date (2011)

9. Values to Protect/Uses that Affect (or Are Affected by) Fire Management Decisions:

- Management constraints include access and urban developments along the northern boundary of SRPMIC, which include Fountain Hills and Scottsdale
- Sacred cultural resources (i.e. Red Mountain)
- Firefighter and public safety
- Drainages in the desert shrub fuel group are an area of concern as these are areas where mesquite, ironwood, Palo Verde, and other native vegetation of consequence occur Mesquites have a cultural significance to members of the Salt River Tribe in use as a crematory wood
- Also of concern are areas where saguaro is found

10. FMU # 2-specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:

- Protect the natural resources within the desert shrub community from the effects of wildland fire. Primary objective in the dry riverbed portion is to keep fires to as small as possible
- Protect the natural resources within the desert shrub community from the effects of wildland fire
- Keep fires to as small as possible
- Reestablish riparian habitat
- The desired future condition of the desert shrub community is to maintain integrity of this habitat over 90 to 95 percent of existing range from effects of wildland fire. Infestations of invasive species are to be contained. Maintain the current Condition Class with efforts directed towards achieving a Condition Class I, with fire regimes within or near historical range
- Treatments; contain invasive species with mechanical treatment followed by seeding and land treatments measures, such as terracing, to prevent runoff and erosion.

11. Safety Considerations Specific to FMU # 2 (power lines, gas/oil fields, major transportation corridors, air quality etc.):

- There are no special concerns

C. FIRE MANAGEMENT UNIT # 3, SRPMIC, Desert Shrub Biotic

1. **General Description**: This FMU consists of rolling terrain covered mostly by shrubs and cacti. There are a total of 19,558 acres of Trust lands in this FMU.

2. **Vegetation Types/Fuel Models/Fire Regimes/Burnable Acres**

The predominant plant in this FMU is creosote bush. Other vegetation endemic to this arid environment includes succulents (cacti and other fleshy plants) and thorny tree and shrub species. A scattered saguaro - Palo Verde association is found on suitable sites (rolling hills, ridges and drainages). Various species of cactus dispersed at low densities over barren desert soils, create a distinctive vegetation complex. Additional species that can be found in this FMU include Mormon tea (Ephedra .spp). Table 14 depicts vegetation types and fuel models as derived from the Landfire system.

Table 14. VEGETATION TYPES, SRPMIC, DESERT SHRUB BIOTIC FMY # 3

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short & patchy	3
Mixed Desert Brush and Grass	GS (Grass-Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	17,448
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4,	SH5 (145). Heavy shrub load, depth 4 to 6 feet	979
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			181
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			934
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior			13
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior			0
Total Acres FMU # 3					19,558
Total Burnable					18,430
Total Non- Burnable					1,128

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Table 15 depicts existing and desired fire regime/condition class.

Table 15. FIRE REGIME/COND. CLASS, SRPMIC, DESERT SHRUB BIOTIC FMU # 3

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	1 or 2	1 or 2
Mixed Desert Brush and Grass	II	1 or 2	1 or 2
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	III	2-3	1

Current Fire Regime: Lethal/non-lethal, moderate to high severity on an interval that is more frequent than historical, that can cause selective mortality in the dominant vegetation.

Current Condition Class: Class 2. Moderate departure from natural vegetation and fire frequency. Risk of losing key ecosystem components has increased to moderate.
Objective: Protect the natural resources within the desert shrub community from effects of wildland fire.
A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Exiting Vegetation Types (EVT):

Table 16 depicts existing vegetation types as derived from the Landfire system.

Table 16. LANDFIRE EXISTING VEG., SRPMIC, DESERT SHRUB BIOTIC FMU # 3

DESCRIPTION	ACRES
Developed Are or no Data	21
Open Water	13
Developed - Open Space	160
Agriculture-Pasture and Hay	934
Sonora-Mojave Creosotebush-White Bursage Desert	750
Sonoran Granite Outcrop Desert Scrub	83
Apacherian-Chihuahuan Mesquite Upland Scrub	20
Sonoran Paloverde-Mixed Cacti Desert Scrub	16,595
North American Warm Desert Riparian Systems	979
Introduced Upland Vegetation-Annual and Biennial Forbland	3
Total	19,558

5. **Ten-year Average Fire Statistics, FMU # 3**:

Table 17 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record

Table 17. FIRE STATISTICS, SRPMIC, DESERT SHRUB BIOTIC FMU # 3

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	0	0	0	0	0	0	0

6. **Topography, Soils, Access, and Other Physical Characteristics, FMU # 3:**

- **Geography and Topography:** The FMU consists of farmlands, areas of desert shrub, grasslands, and riparian ecosystems
- **Access:** The major access route to incidents is limited to the Beeline Highway that is also the boundary between this FMU and FMU II. There is also some limited access along the north boundary of SRPMIC near Sawik Mountain. Access to the northwest corner of the unit exists, but this area is a small portion of the FMU. Off road travel from the Beeline Highway would be limited to 4 wheel drive units that provide a way to transport hand crew personnel to incidents. The limited access to the north boundary of the FMU does not provide a good alternative for transporting hand crew personnel to incidents, unless they are close to the boundary. Transporting hand crew personnel to incidents in the northwest portion of the unit presents a similar situation. Four-wheel units would be needed to transport personnel to incidents away from the boundaries, unless they travel by foot. The use of aircraft (helicopters) would speed up transportation of hand crew personnel to incidents.

7. **Ten-year (or Five-year) Average Fuel Treatment Acres, FMU # 3**: There are no fuels treatments that occurred.

8. **Burned Area Rehabilitation (BAER) projects, FMU # 3**: There are no BAER treatments that have occurred.

9. **Values to Protect/Uses that Affect Fire Management Decisions:**

- Natural Resources
- Cultural Resources

10. **FMU # 3-specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:**

- Protect the natural resources within the desert shrub community from the effects of wildland fire. Primary objective in the dry riverbed portion is to keep fires to

as small as possible

- Protect the natural resources within the desert shrub community from the effects of wildland fire
- Keep fires to as small as possible
- Reestablish riparian habitat
- The desired future condition of the desert shrub community is to maintain integrity of this habitat over 90 to 95 percent of existing range from effects of wildland fire. Infestations of invasive species are to be contained. Maintain the current Condition Class with efforts directed towards achieving a Condition Class I, with fire regimes within or near historical range
- Treatments; contain invasive species with mechanical treatment followed by seeding and land treatments measures, such as terracing, to prevent runoff and erosion

11. Safety Considerations Specific to FMU # 3 (power lines, gas/oil fields, major transportation corridors, air quality etc.): None

No special concerns

D. FIRE MANAGEMENT UNIT # 4, SRPMIC, Wildland Urban Interface (WUI)

1. **General Description**: This FMU consists farm lands, desert shrub and WUI areas. There are a total of 20,516 acres in this FMU.

2. **Vegetation Types/Fuel Models/Fire Regimes/Burnable Acres**.

Vegetation Type: Cultivated fields, Desert Shrub, Annual & Perennial Grasses. Table 18 depicts vegetation types and fuel models as derived from the Landfire system.

Table 18. VEGETATION TYPES/FUEL MODELS, SRPMIC, WUI FMU # 4

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short & patchy	32
Mixed Desert Brush and Grass	GS (Grass-Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	9,749
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4,	SH5 (145). Heavy shrub load, depth 4 to 6 feet	0
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			1,065
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			9,666
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior			4
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior			0
Total Acres FMU # 3					20,516
Total Burnable					10,735
Total Non- Burnable					9,781

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Table 19 depicts existing vegetation types as derived from the Landfire system.

- **Current Fire Regime**: lethal/non-lethal, moderate to high severity on an interval that is more frequent than historical, that can cause selective mortality in the dominant vegetation.

- **Current Condition Class: Class 3**. The risk of losing key ecosystem components has increased to high. Fire return intervals have departed from historical by multiple return intervals. Vegetation attributes have been significantly altered from their historical range. With changes in the landscape that have occurred, and increase of invasive annual grass and other species, Condition Class has become a Class 3. Table 19 depicts current and desired fire regime/condition class.

Table 19. FIRE REGIME/COND. CLASS, SRPMIC, WUI FMU # 4

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	3	1 or 2
Mixed Desert Brush and Grass	III	3	1 or 2

A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Exiting Vegetation Types (EVT):

Table 20 depicts existing vegetation types as derived from the Landfire system.

Table 20. LANDFIRE EXISTING VEG., SRPMIC, WUI FMU # 4

DESCRIPTION	ACRES
Open Water	4
Developed - Open Space	1,065
Agriculture-Pasture and Hay	9,666
Sonora-Mojave Creosotebush-Whole Bursage Desert Scrub	3,661
Sonora-Mojave Mixed Salt Desert Scrub	15
Sonoran Granite Outcrop Desert Scrub	277
Apacherian-Chihuahuan Mesquite Upland Scrub	386
Mogollon Chaparral	0.44
Sonoran Paloverde-Mixed Cacti Desert Scrub	4,971
North American Warm Desert Riparian Systems	438
Introduced Upland Vegetation-Annual and Biennial Forbland	32
Total	20,516

5. Ten-year Average Fire Statistics, FMU # 4:

Table 21 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record

Table 21. TEN-YEAR AVERAGE FIRE STATISTICS, FMU # 4

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	5	1	4	0	1.5	3.5	7.6

6. Topography, Soils, Access, and Other Physical Characteristics, FMU # 4:

- **Geography and Topography:** The FMU consists of farmlands, areas of desert shrub, grasslands, and riparian ecosystems
- **Access:** Road access is very good throughout the FMU. SRPMIC Fire Department Apparatuses can be used for wildland fires that threaten developments, and for structural protection on interface fires

7. Ten-year (or Five-year) Average Fuel Treatment Acres, FMU # 4: There are no fuels treatments that occurred.

8. **Burned Area Rehabilitation (BAER) projects, FMU # 4:** There are no BAER treatments that have occurred.

9. Values to Protect/Uses that Affect Fire Management Decisions:

- Individual dwellings
- Business and infrastructure development
- Livestock, pets, cultural and historical resources constitute

10. FMU #4-specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:

- Firefighter and public safety
- Ensure protection of all dwellings, businesses, and infrastructure
- Protect the public on travel corridors and surrounding communities outside of SRPMlC from fire originating on SRPMIC
- Develop hazard fuel reduction and prevention /education plans and programs
- The desired future condition is to achieve 100 percent compliance from all homeowners on defensible space around dwellings. Defensible space should be an area of 30 to 100 feet cleared of combustible material around each dwelling. Defensible space should also be developed around businesses. Reduce hazard in travel corridors
- Return WUI to a Class 2 with fire regimes that have only been moderately altered. Treatment measures will include mechanical hazard fuel reduction around dwellings, using hand tools, mowing of weeds and grasses, and plowing control lines around dwellings and businesses

- Treatment measures in travel corridors will include mowing, plowing control lines and/or use of chemicals
- The SRPMIC trust lands are immediately adjacent to the sprawling suburbs of Scottsdale, Mesa, and other growing communities in the immediate vicinity. Communities on the reservation are growing as well as industrial areas and businesses immediately adjacent to the reservation boundary. Scattered home sites are perhaps at great risk since many adjoin large tracts of wildland and their landscaping offers little defensible space.
- The reservation has major transportation corridors running through or near trust lands. State Highway 87 (Beeline Highway) runs through the reservation, and State Highway 101 (Salt River Freeway) runs along the west edge of the reservation. Major streets on the reservation include Thomas Road, McDowell Road, McKellips Road, Salt River Road, Dodson Road, Alma Road, Country Club drive, and Gilbert Road.
- The Salt River Salt River-Maricopa Indian Community operates 2 casinos on trust land
- Utility lines are scattered throughout the reservation. These not only pose a hazard to firefighters and low flying aircraft, but also can cause fires
- A large percentage of human caused fires occur in this area
- The extent of invasive grass species creates hazardous fuel conditions in the area, especially along the travel corridors
- Strategic suppression options for wildland fires include use of natural barriers, burning out or backfiring additional acres of land. Falling back to the next ridge to implement a suppression strategy. These may not be viable options for suppression of a wildland fire in the wildland urban interface
- Management constraints consist of major highways and access routes crossing SRPMIC in the unit

11. Factors to consider with respect to fires in the WUI:

- Humans cause most fires
- Structure fires create risks to adjacent wildland fuels
- Wildland fires create risks to adjacent dwellings and structures
- The presence of structures does not mean adequate fire protection exists
- Structure fires create safety risks to wildland firefighters
- Wildland fires create safety risks to structural firefighters
- Wildland fire suppression costs are not fairly borne by those who create the risk in the interface
- Threatened structures change wildland fire suppression priorities
- Structure and wildland fire protection agencies must be closely coordinated
- Individuals have a greater risk of losing their homes and family possessions from encroaching wildland fire
- There are confusing laws and a mixture of fire jurisdictions that add another dimension to the interface

- Individuals have a greater risk of losing their homes and family possessions from encroaching wildland fire
- There are confusing laws and a mixture of fire jurisdictions that add another dimension to the interface
- The SRPMIC Fire Department is responsible for fires within the reservation
- With the variety of jurisdictions and responsibilities that surround the Salt River Salt River Maricopa Indian Community, there is a possibility of a duplicate response to the same fire, all at public expense. It may also result in no response when each expects the other to respond. Proper communication is extremely important through the mutual aid agreements to prevent this from occurring.

The WUI represents a primary focus for SRPMIC Fire Management Programs in terms of fire prevention, fire suppression and hazard fuel reduction. By focusing efforts on the WUI areas in SRPMIC, fire program benefits will be derived in other aspects of resource management.

- Focusing on hazard reduction of fuel will help reduce threat to dwellings and businesses, as well as to aid in preventing fires from spreading from areas of high fire occurrence to adjacent natural vegetation
- Reducing fire impacts in natural vegetation will help in limiting the spread of invasive grasses
- Fire prevention efforts in WUI areas can significant reduce fire occurrence through education and banning open burning during periods of high fire danger
- Because of the complexity of the interface problem, no single agency or level of government can provide all the solutions or funding. All levels of government and the private sector must be involved and work together to mitigate the problem.

12. Suppression Objective in FMU # 4

- Respond to and keep fire incidents under 1 acre 90% of the time
- Keep fire incidents under 5 acres of the time
- Respond to and protect all residential and commercial structures from wildland fire incidents 100% of the time.

13. Safety Considerations Specific to FMU # 4 (power lines, gas/oil fields, major transportation corridors, air quality etc.):

- Transportation corridors
- Pipelines:

14. Mitigation Measures

There are mitigation measures that need to be implemented to reduce the situation.
Mitigation is defined as an action taken to eliminate or reduce the long-term risk. The most appropriate measure that can be taken is to create and maintain defensible space around all dwellings or structures within or near the wildland urban interface. The first step is to initiate a comprehensive review of all WUI areas on SRPMIC. This review would also identify access hazards and mitigation treatments.

Other mitigation measures include implementing fire prevention measures to reduce the hazard or risk of ignition. Measures to reduce risk might include fliers, brochures, videos, and proactive prevention efforts presented in schools and tribal meetings, and signing on major and secondary roads. Additional measures to reduce hazards include workshops with tribal leaders and homeowners to explain the reasons for removal of hazards around dwellings. Workshops can help homeowners and tribal leaders understand the importance of reducing risks in the interface.

Vegetation management measures include construction of fuel breaks in areas such as the powwow grounds. Fire safety provisions could be incorporated into building codes or development regulations to assist in fire proofing dwellings. Green belt areas or open space projects could be developed in order to create beneficial land use while restricting development of wildland fire-prone areas.

Although not a mitigation measure, one step that reduces risk is effective fire control actions to reduce the threat of fire disaster by redirecting the hazard. Fire management actions should be implemented to keep encroaching wildland fire away from improvements, more vulnerable areas, or high value areas.

15. Fire Behavior

The distribution of invasive grass and other species within the WUI is variable. Some areas have higher concentrations of fine fuels than others. The onset of purple coloring on cheat grass should be taken as a warning that hazardous fire conditions will develop within about two weeks. Cheatgrass fires spread very rapidly and may extend into nearby stands of native vegetation and reduce the cover of valuable perennial species. Frequent fires actually favor cheat grass by eliminating competing perennial vegetation. Besides increasing fire frequency, the length of time cheatgrass remains a hazard is longer than for perennial grasses. characteristics of cheatgrass make it a fire hazard.

Heat generated by flames fueled by red brome is sufficient to ignite and consume dead stems of small shrubs. Areas dominated by red brome are more susceptible to fire than areas dominated by native forbs. Russian thistle aids in spreading fire. It bums easily because the stems are spaced in an arraignment that allows for maximum air circulation.

E. FIRE MANAGEMENT UNIT # 5, PYT, WUI

1. General Description:

This FMU consists of lands in the wildland urban interface. There are 1,138 acres of Trust lands in this FMU.

2. Vegetation Types/Fuel Models/Fire Regimes/Burnable Acres, FMU 5

The predominant ecological type in this FMU is the Sonoran Paloverde-Mixed Cacti Desert Shrub system. Other ecological types that are present include riparian vegetation and desert shrub. Primary plant species include Paloverde, saguaro cactus, cresote bush, acacia, prosopis, ironwood, ocotillo and a variety of other cactus species. The sparse herbaceous layer is composed of perennial grasses and forbs with annuals seasonally present and occasionally abundant. Table 22 depicts vegetation types and fuel models as derived from the Landfire system.

Table 22. VEGETATION TYPES/FUELS, PYT, WUI FMU # 5

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short & patchy	8
Mixed Desert Brush and Grass	GS (Grass-Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	706
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4,	SH5 (145). Heavy shrub load, depth 4 to 6 feet	154
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			270
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			0
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior			0
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior			0
Total Acres FMU # 5					1,138
Total Burnable					868
Total Non-Burnable					270

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Table 23 depicts current and desired fire regime/condition class.

Table 23. FIRE REGIME/COND. CLASS, PYT, WUI FMU # 5

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	1 or 2	1 or 2
Mixed Desert Brush and Grass	III	1 or 2	1 or 2
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	III	3	2

Current Fire Regime: Lethal/non-lethal, moderate to high severity on an interval that is more frequent than historical, that can cause selective mortality in the dominant vegetation.

Current Condition Class: Class 2. Moderate departure from natural vegetation and fire frequency. Risk of losing key ecosystem components has increased to moderate.

A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Exiting Vegetation Types (EVT)

Table 24 depicts existing vegetation types as derived from the Landfire system.

Table 24. LANDFIRE EXISTING VEG., PYT, WUI FMU # 5

DESCRIPTION	ACRES
Open Water	0
Developed - Open Space	270
Agriculture-Pasture/Hay	0
Sonora-Mojave Creosotebush-Whole Bursage Desert Scrub	1
Sonoran Mid-Elevation Desert Scrub	21
Apacherian-Chihuahuan Mesquite Upland Scrub	40
Sonoran Paloverde-Mixed Cacti Desert Scrub	644
Inter-Mountain Basins Semi-Desert Grassland	1
North American Warm Desert Riparian Systems	154
Introduced Upland Vegetation-Annual and Biennial Forbland	7
Total	1,138

5. **Ten-year Average Fire Statistics, FMU # 5**: There are no fire statistics for this period of time.

Table 25 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record.

Table 25. TEN-YEAR AVERAGE FIRE STATISTICS, WUI FMU # 5

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	0	0	0	0	0	0	

6. **Topography, Soils, Access, and Other Physical Characteristics, FMU # 5:**

- **Geography and Topography:** The FMU is flat to rolling with areas of desert shrub, grasslands, and riparian ecosystems
- **Access:** Most of the FMU is readily accessible. There is limited access along a riparian area on the north side of the reservation

7. **Ten-year (or Five-year) Average Fuel Treatment Acres, FMU # 5**: There are no fuels treatments that occurred

8. **Burned Area Rehabilitation (BAER) projects, FMU # 5**: There are no BAER treatments that have occurred

9. **Values to Protect/Uses that Affect Fire Management Decisions:**

- Housing areas and developments
- Cultural sites
- Natural resources

10. **FMU # 5-Specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:**

- Protect homes and other developments from wildland Fire

11. **Safety Considerations Specific to FMU # 5 (power lines, gas/oil fields, major transportation corridors, air quality etc.):** No major safety concerns.

F. FIRE MANAGEMENT UNIT # 6, PYT, Grass/Shrub

1. **General Description**: This area consists of lands that are primarily desert shrub with some grassland. There are a total of 730 acres of Trust lands in this FMU.

2. **Vegetation Types/Fuel Models/Fire Regimes/Burnable Acres, FMU 6**

The predominant ecological type in this FMU is the Sonoran Paloverde-Mixed Cacti Desert Shrub system. Other ecological types that are present include riparian vegetation and desert shrub. Primary plant species include Paloverde, saguaro cactus, cresote bush, acacia, prosopis, ironwood, ocotillo and a variety of other cactus species. The sparse herbaceous layer is composed of perennial grasses and forbs with annuals seasonally present and occasionally abundant. Table 26 depicts vegetation types and fuel models as derived from the Landfire system.

Table 26. VEGETATION TYPES/FUELS, PYT, GRASS/SHRUB FMU # 6

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short & patchy	0
Mixed Desert Brush and Grass	GS (Grass-Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	689
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4,	SH5 (145). Heavy shrub load, depth 4 to 6 feet	32
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			9
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			0
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior			0
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior			0
Total Acres FMU # 3					730
Total Burnable					721
Total Non- Burnable					9

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Table 27 depicts current and desired fire regime/condition class.

Table 27. FIRE REGIME/COND. CLASS, PYT, GRASS/SHRUB FMU # 6

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	1 or 2	1 or 2
Mixed Desert Brush and Grass	III	1 or 2	1 or 2
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	III	3	2

Current Fire Regime: Lethal/non-lethal, moderate to high severity on an interval that is more frequent than historical, that can cause selective mortality in the dominant vegetation.

Current Condition Class: Class 2. Moderate departure from natural vegetation and fire frequency. Risk of losing key ecosystem components has increased to moderate.

A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Exiting Vegetation Types (EVT):

Table 28 depicts existing vegetation types as derived from the Landfire system.

Table 28. LANDFIRE EXISTING VEG., GRASS/SHRUB FMU # 6

DESCRIPTION	ACRES
Open Water	0
Developed - Open Space	9
Agriculture-Pasture/Hay	0
Sonoran Mid-Elevation Desert Scrub	10
Apacherian-Chihuahuan Mesquite Upland Scrub	14
Sonoran Paloverde-Mixed Cacti Desert Scrub	665
North American Warm Desert Riparian Systems	32
Introduced Upland Vegetation-Annual and Biennial Forbland	0
Total	730

5. **Ten-year Average Fire Statistics, FMU # 6**: There are no fire statistics for this period of time.

Table 29 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record.

Table 29. TEN-YEAR AVERAGE FIRE STATISTICS, GRASS/SHRUB FMU # 6

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	0	0	0	0	0	0	0

6. **Topography, Soils, Access, and Other Physical Characteristics, FMU # 6:**

- **Geography and Topography:** The topography is flat to rolling
- **Access:** Access is generally very good

7. **Ten-year (or Five-year) Average Fuel Treatment Acres, FMU # 6**: There are no fuels treatments that occurred.

8. **Burned Area Rehabilitation (BAER) projects, FMU # 6**: There are no BAER treatments that have occurred

9. **Values to Protect/Uses that Affect Fire Management Decisions:**

- Natural and cultural resources

10. **FMU # 6-specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:**

- Protect cultural and natural resources
- Protect structures and homes

11. **Safety Considerations Specific to FMU # 5 (power lines, gas/oil fields, major transportation corridors, air quality etc.):**

- No special safety consideration

G. FIRE MANAGEMENT UNIT # 7, FMYN, WUI

1. **General Description**: This FMU consists of wildland urban interface and grass/shrub fuels. The topography is flat to rolling. There are 2,539 trust acres in this FMU.

2. **Vegetation Types/Fuel Models/Fire Regimes/Burnable Acres, FMU # 7**

The predominant ecological type in this FMU is the Sonoran Paloverde-Mixed Cacti Desert Shrub system. Other ecological types that are present include riparian vegetation and desert shrub. Primary plant species include Paloverde, saguaro cactus, cresote bush, acacia, prosopis, ironwood, ocotillo and a variety of other cactus species. The sparse herbaceous layer is composed of perennial grasses and forbs with annuals seasonally present and occasionally abundant. Table 30 depicts vegetation types and fuel models as derived from the Landfire system.

Table 30. VEGETATION TYPES/MODELS, FMYN, WUI FMU #7

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short & patchy	1
Mixed Desert Brush and Grass	GS (Grass-Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	1,685
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4,	SH5 (145). Heavy shrub load, depth 4 to 6 feet	376
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			2
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			475
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior			0
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior			0
Total Acres FMU # 3					2,539
Total Burnable					2,062
Total Non-Burnable					477

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Table 31 depicts current and desired fire regime/condition class.

Table 31. FIRE REGIME & COND. CLASS, FMYN, WUI FMU # 7

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	1 or 2	1 or 2
Mixed Desert Brush and Grass	III	1 or 2	1 or 2
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	III	3	2

Current Fire Regime: Lethal/non-lethal, moderate to high severity on an interval that is more frequent than historical, that can cause selective mortality in the dominant vegetation.

Current Condition Class: Class 2. Moderate departure from natural vegetation and fire frequency. Risk of losing key ecosystem components has increased to moderate. Objective: Protect the natural resources within the desert shrub community from effects of wildland fire.

A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Exiting Vegetation Types (EVT):

Table 32 depicts existing vegetation types as derived from the Landfire system.

Table 32. LANDFIRE EXISTING VEG., FMYN, WUI FMU # 7

DESCRIPTION	ACRES
NO DATA	1
Developed - Open Space	2
Agriculture-Pasture and Hay	475
Sonora-Mojave Creosotebush-White Bursage Desert	3
Sonoran Granite Outcrop Desert Scrub	20
Apacherian-Chihuahuan Mesquite Upland Scrub	17
Mogollon Chaparral	1
Sonoran Paloverde-Mixed Cacti Desert Scrub	1,645
North American Warm Desert Riparian Systems	376
Introduced Upland Vegetation-Annual and Biennial Forbland	1
Total	2,541

5. **Ten-year Average Fire Statistics, FMU # 7**:

Table 33 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record.

Table 33. TEN-YEAR AVERAGE FIRE STATISTICS, FMYN, WUI FMU #7

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	8	0	8	0	.2	.4	1.7

6. **Topography, Soils, Access, and Other Physical Characteristics, FMU # 7:**

- **Geography and Topography:** The FMU consists of urban areas, farmlands, areas of desert shrub, grasslands, and riparian ecosystems
- **Access:** The major access route to most incidents is via Fort McDowell Road. Access is generally very good

7. **Ten-year (or Five-year) Average Fuel Treatment Acres, FMU # 7**: There are no fuels treatments that occurred

8. **Burned Area Rehabilitation (BAER) projects, FMU # 7**: There are no BAER treatments that have occurred

9. **Values to Protect/Uses that Affect Fire Management Decisions:**

- Homes and other developed areas
- Natural resources

10. **FMU # 7-specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:**

- Protect the natural resources within the desert shrub community from the effects of wildland fire.
- Protect the natural resources within the desert shrub community from the effects of wildland fire
- Protect homes and other structures

11. Safety Considerations Specific to FMU # 7 (power lines, gas/oil fields, major transportation corridors, air quality etc.):

There are no specific safety considerations

H. FIRE MANAGEMENT UNIT # 8, FMYN, Riparian & Grass/Shrub

1. **General Description**: This FMU consists of riparian wetlands and desert grass and shrubs. There are 22,454 acres of Trust Lands in this FMU.

2. **Vegetation Types/Fuel Models/Fire Regimes/Burnable Acres, FMU # 8**

The predominant ecological type in this FMU is the Sonoran Paloverde-Mixed Cacti Desert Shrub system. Other ecological types that are present include riparian vegetation and desert shrub. Primary plant species include Paloverde, saguaro cactus, cresote bush, acacia, prosopis, ironwood, ocotillo and a variety of other cactus species. The sparse herbaceous layer is composed of perennial grasses and forbs with annuals seasonally present and occasionally abundant. Table 34 depicts vegetation types and fuel models as derived from the Landfire system.

Table 34. VEG. TYPES/MODELS, FMYN, RIPARIAN & GRASS/SHRUB FMU # 8

Vegetation Type	Associated Fuel Type	NFDRS Fuel Model	Fire Behavior Fuel Model (13 Basic models)	40 Fire Behavior Fuel Model (Scott and Burgen)	Acres
Desert Grass	GR (Grass)	A or L; Western Annuals or Perennial grass	NFFL Fuel Model 1	GR1 (101), Grass is short & patchy	5
Mixed Desert Brush and Grass	GS (Grass-Shrub)	A or L; Western Annuals or Perennials grass	NFFL Fuel Model 2	GS1 (121), Shrubs are about 1 foot high with low grass load	18,272
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	SH (Shrub)	B; Brush up to 6 feet	NFFL Fuel Model 4,	SH5 (145). Heavy shrub load, depth 4 to 6 feet	3,590
Urban, Group NB1 (91)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			23
Agricultural, Group NB3 (93)	NB (non-burnable)	NOTE: No fire behavior expected in most cases. Otherwise treat as GR1 (desert grass).			458
Open Water, Group NB8 (98)	NB (non-burnable)	No fire behavior			106
Bare Ground, Group NB9 (99)	NB (non-burnable)	No fire behavior			0
Total Acres FMU # 3					22,454
Total Burnable					21,867
Total Non-Burnable					587

NFDRS: National Fire Danger Rating System
Northern Forest Fire Laboratory (NFFL) Fuel Models (13 total)
40 Fire Behavior Fuel Models, Scott and Burgan

3. Fire Regime/Condition Class

Table 35 depicts current and desired fire regime/condition class.

Table 35. FIRE REGIME/COND. CLASS, FMYN, RIPARIAN/GRASS/SHRUB FMU # 8

Vegetation Type	Historical Fire Regime	Current Condition Class	Desired Condition Class
Desert Grass	III	1 or 2	1 or 2
Mixed Desert Brush and Grass	III	1 or 2	1 or 2
Dense Brush (Riparian Areas w/salt cedar and mesquite, cottonwood)	III	3	2

Current Fire Regime: Lethal/non-lethal, moderate to high severity on an interval that is more frequent than historical, that can cause selective mortality in the dominant vegetation.

Current Condition Class: Class 2. Moderate departure from natural vegetation and fire frequency. Risk of losing key ecosystem components has increased to moderate.
Objective: Protect the natural resources within the desert shrub community from effects of wildland fire.

A complete listing of the Fire Regime and Condition Classes with definitions can be found in the Interagency Fire Regime Condition Class Guidebook.

4. LANDFIRE Exiting Vegetation Types (EVT):

Table 36 depicts existing vegetation types as derived from the Landfire system.

Table 36. LANDFIRE EXISTING VEG., FMYN, RIPARIAN/GRASS/SHRUB FMU # 8

DESCRIPTION	ACRES
NO DATA	23
Open Water	106
Developed - Open Space	1
Agriculture-Pasture and Hay	458
Southern Rocky Mountain Ponderosa Pine Woodland	1
Sonora-Mojave Creosotebush-Whole Bursage Desert Scrub	1,453
Sonora-Mojave Mixed Salt Desert Scrub	16
Sonoran Granite Outcrop Desert Scrub	35
Apacherian-Chihuahuan Mesquite Upland Scrub	206
Mogollon Chaparral	3
Sonoran Paloverde-Mixed Cacti Desert Scrub	16,559
North American Warm Desert Riparian Systems	3,590
Introduced Upland Vegetation-Annual and Biennial Forbland	5
Total	22,456

5. Ten-year Average Fire Statistics, FMU # 8

There are no fire statistics for this period of time. Table 37 depicts the 10 year of data from the wildland fire management information system (WFMI), which is the official system of record.

Table 37. TEN-YEAR AVE. FIRE STATS., FMYN, RIPARIAN/GRASS/SHRUB FMU # 8

Year	Total Number Fires	Number of Fires (natural)	Number of Fires (human)	Number of Fires Over 100ac	Average Fire Size (ac)	Largest Fire (by acres)	Total Acres
2002-2011	0	0	0	0	0	0	0

6. Topography, Soils, Access, and Other Physical Characteristics, FMU # 8:

- **Geography and Topography:** This FMU consists of farmlands, areas of desert shrub, grasslands, and riparian ecosystems.
- **Access:** The major access route to most incidents is State Route 87, and BIA Road 51. Access to areas above the Verde River is somewhat limiting.

7. **Ten-year (or Five-year) Average Fuel Treatment Acres, FMU # 8**: There are no fuels treatments that occurred.

8. **Burned Area Rehabilitation (BAER) projects, FMU # 8**: There are no BAER treatments that have occurred.

9. Values to Protect/Uses that Affect Fire Management Decisions:

- Natural and cultural resources

10. FMU # 8-specific Goals, Objectives, Standards, Guidelines, Desired Future Conditions, and Constraints:

- Protect the natural resources within the desert shrub community from the effects of wildland fire
- Protect homes and other developments

11. Safety Considerations Specific to FMU # 8 (power lines, gas/oil fields, major transportation corridors, air quality etc.):

- Transportation corridors
- Pipelines

Chapter 4. Wildland Fire Operational Guidance

4.1 Management of Unplanned Ignitions

All wildland fires on the Salt River Indian Community (SRPMIC), Fort McDowell Yavapai Nation (FMYN) and Pascua Yaqui Tribal lands will be subject to initial attack response. This includes natural ignitions and human caused ignitions. This response will include size up of the current fire situation, determination of probable cause, and estimate of the potential fire behavior.

A fire management response will be initiated and the desired tactics and strategies will be employed that meet management direction. The size-up of each fire will include a determination if the fire, or different sectors of the fire, can be managed for resource benefit. The main goal will be to suppress wildland fires with the fewest negative consequences with respect to firefighter and public safety, to minimize impacts on developments on tribal lands, and to protect and enhance cultural and natural resources.

As with most other land management agencies in the West, wildland fires have grown in size, intensity, and frequency over the last 20 to 30 years on SRPMIC, FMYN and PYT lands. Fire exclusion has led to uncharacteristically high fuel loadings which has increased fire size, intensity, and frequency and has resulted in greater threats to human life, property, and cultural and natural resources. In some cases, this change in fire behavior and fire severity can have negative impacts on natural resources.

More people are building homes adjacent to tribal lands, and increasing development is occurring on tribal lands with increased exposure for those homes and developments as well as an increased risk of human caused ignitions.

While the suppression of unwanted wildland fires will continue, with the goal to minimize acres burned, additional options are now available to address ways to meet natural resource objectives. The responsible and appropriate use of fire, including prescribed fire, managing fire for resource benefit, and non-fire fuel treatments, landscape-scale management may be incorporated to help reduce hazardous fuels and sustain wildland ecosystems.

This Wildland Fire Management Plan (WFMP) provides a guide to implement the fire management program. Specific operational guidance includes the AZSRA Annual Operating Plan (AOP), which is expected to change annually.

A. General Management Philosophy

Fires will be suppressed while considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives, and at minimum cost.

B. Response to Wildland Fire

All fires will be managed in accordance with management objectives based on current conditions and fire location. A response can vary from an aggressive initial suppression action to monitoring of fires when there are safety concerns or fires that are not readily accessible. Strategies can be tailored to address significant constraints including critical habitat for threatened and endangered species, cultural resource areas, areas of soil instability, and areas with other critical resource constraints. It is important to note that strategies can change during the life of the fire to meet management direction and comply with fire policies and direction.

C. Suppression Plan

This plan is usually addressed in an annual operating plan (APO) or dispatch plan. It addresses suppression actions that are consistent with firefighter and public safety and the values to be protected. The plan includes initial attack priorities and criteria, determining complexity level, transitioning to extended attack, establishing the Incident Commander, and other operational guidelines. A full range of responses from aggressive initial attack to a combination of strategies to achieve confinement will be analyzed for each fire on a case-by-case basis.

D. Initial Attack and Size Up

Initial attack is handled by the appropriate Tribal Fire Department with assistance by cooperators as needed. Unified Command will be established as needed and the IC will develop and manage an Incident Action Plan (IAP) as required.

Generally, all emergency operations, including wildfire management, will utilize the National Interagency Management System (NIMS) as the incident management system. NIMS provides a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents regardless of cause, size, location, or complexity in order to reduce the loss of life and property and harm to the environment. The Incident Command System (ICS) will be used for managing incidents. ICS is a systematic tool used for the command, control, and coordination of emergency response.

Initial attack staffing and resources decision criteria are detailed in the AOP or dispatch plan. In addition, the Superintendent or FMO may adjust the staffing level one value higher than otherwise indicated by NFDRS as predictions indicate worsening conditions or if there are other risks. Risks can include a high number of visitors attending tribal ceremonies. The staffing level is reviewed on a daily basis, particularly with regard to needs for the following day. This allows sufficient lead time for work scheduling and operational planning.

It is critical that each fire receive a size up from the Incident Commander, upon their arrival at the fire. The size up will be recorded by the IC and then sent via radio or cell phone at the first

opportune time to the appropriate dispatch center. Size up should include, as a minimum, the estimated acres of the fire, fire location, observed fire behavior, resources on site, and needs for further assistance.

- **Initial Attack on SRPMIC Lands**

Initial Attack is coordinated and managed by the Salt River Fire Department, within their area of responsibility. The fire departments basic policy is to suppress all wildland fires within the community, or attempt to suppress a fire up to a point in time when such effort is determined by the Incident Commander to be ineffective and the fire is declared an escaped fire. An escaped fire is defined as a wildfire that has exceeded or is expected to exceed the suppression capabilities of the initial attack effort by the start of the next burning period.

Salt River Fire Department has developed Standard Operating Guidelines (SOGs) that prescribe the proper and safe methods for activities on wildland fire incidents. The BIA Salt River Agency has transferred the authority to suppress all wildland fires within the reservation to the SRPMIC Fire Department. Mutual Aid agreements have been entered into with neighboring jurisdictions that have been approved to assist in initial attack operations. A MOU has been developed between the BIA and the USDA Forest Service for those wildland areas (specifically along the river and Red Mountain area where there are contiguous borders. This MOU states that both agencies can take initial attack actions of fires within one mile of their border if they have been notified of a fire. The responding agency must notify the other that they are responding into their jurisdiction. Once the host agency has resources on the fire, they must either release the mutual aid responders or request extended attack resources.

Fire Managers on SRPMIC implement their suppression strategy and specific tactics based on an assessment of the following factors when a fire is reported:

- Location of the fire: by Fire Management Unit
- Fire Danger Levels: as determined by National Fire Danger Rating System indices (NFDRS) and daily Fire Weather Forecasts.

SRPMIC: For wildland fire response outside the Red Mountain Area but within the WUI, operating guidelines are:

1. Purpose: To provide immediate and adequate resource response to the report of brush fires within the Community. To have an expandable organizational system that allows for the request for mutual aid from surrounding jurisdictions and the Central Arizona Zone.
2. Procedures: Brush fire with no exposures to structures - closest engine and attack 292 (Brush 292 should be staffed by the crew from Rescue 292). In the event Rescue is committed to an EMS, the third person on the engine will response the Attack)
3. Brush fire with exposure to structures - Residential response and Brush 292 (The response should be consistent with procedure #1 as to the staffing of Brush 292)

4. Reported large brush fire on the Community with strong winds - Commercial response with Brush 292, E-292, E-294 and Tender 294 (Consideration should be given to activate the small water tender from Public Works)
5. On arrival of a large brush fire which is wind driven and in an area that is not accessible to vehicles. (Consideration should be given to requests for Mutual Aid) Brush Trucks from Fort McDowell, Fountain Hills and Scottsdale
6. On the scene of a large brush fire that appears to be in an extended attack mode: (Consideration should be given to activate the Zone resources to include helicopter and/or fixed wing air support). Approval from the Chief of the department' is necessary to activate the Zone Resources

SRPMIC: For wildland fire response in the Red Mountain Area (all FMUs) operating guidelines are:

1. Purpose: To provide immediate and adequate resource response to the report of brush fires within the Community. To have an expandable organizational system that allows for the request for mutual aid from surrounding jurisdictions and the Central Arizona Zone.
2. Procedures:

- Report of a brush fire - Engine 292, Attack 292, Fort McDowell Brush Truck, and Officer notification.
- Report of a large brush fire - Engine 292, 291, Attack 292, Fort McDowell Brush Truck
- Officer notification and notification to the Forest Service as to working a fire. (Consider requesting resources from the Mesa Ranger District U. S. F. S and/or Mutual Aid from Rural Metro for Type 6 engines)
- On the scene of a large brush fire that appears to be in an extended attack mode: (Consideration should be given to activate the Zone resources to include helicopter and/or fixed wing air support). Approval from the Chief of the department is necessary to activate the Zone Resources.

SRPMIC Communications Plan:

1. Fires within the Community being handled by SRFD resources only: tactical north or south UHF.
2. Fires within the Community requiring Mutual Aid resources from Rural/Metro or Fort McDowell: Mutual Aid VHF or assigned Rural/Metro channel
3. Fires within the Community requiring resources from the Forest Service or the Central Arizona Zone: Must use unified command or Mutual Aid VHF

Some special hazards that may be encountered when suppressing fires on the Salt River Reservation include:

1. Heavy air traffic around nearby municipal airports can pose a hazard to related fire operations.
2. Utility lines which are scattered throughout the reservation

3. Poisonous creatures, including rattlesnakes and scorpions, occur throughout the reservation. Africanized honeybees arc a new threat to firefighters.
4. Extreme heat endemic to the region presents unusual hazards for firefighters.
5. Limited access areas, some areas are not accessible except by aircraft such as the east side of the Verde River. Mountain and north areas have limited access.
6. Methane gas recycling plant located at a landfill near the Salt River

SRMPIC Property and improvements:

- Any fire or portion of a fire endangering Property will receive immediate and sustained attack, consistent with public and firefighter safety
- Political consideration - Identify concerns other public agencies may have in regard to one of the strategies, tactics, or specific areas of concern
- Other; Add any additional factors which may be unique to the area or situation, such as rare and endangered plants or animals

- **Initial Attack on PYT Lands**

Initial Attack is coordinated and managed by the Pascua Pueblo Fire Department, within their area of responsibility. The fire departments basic policy is to suppress all wildland fires within the community, or attempt to suppress a fire up to a point in time when such effort is determined by the Incident Commander to be ineffective and the fire is declared an escaped fire.

- **Initial Attack on FMYN Lands**

Initial Attack is coordinated and managed by the Fort McDowell Yavapai Nation Fire Department, within their area of responsibility. The fire departments basic policy is to suppress all wildland fires within the community, or attempt to suppress a fire up to a point in time when such effort is determined by the Incident Commander to be ineffective and the fire is declared an escaped fire.

E. Extended Attack and Incident Management and Coordination

- **Incident Organization, Management and Coordination**

  Guidelines for managing incidents from initial attack to extended attack and beyond are contained in the BIA Blue Book and/or in the each fire departments operating guidelines.

- **Extended Attack**: Extended attack is defined as a situation where fire exceeds the initial attack capabilities or extends beyond the initial burning period. When this occurs and complexity levels exceed initial attack capabilities, the appropriate Incident Command

System (lCS) positions should be added to the command staff, commensurate with complexity of the incident.

- **Transfer of authority**

  A transfer of authority for fire teams taking command of a wildland fire is usually prepared. This is done through the execution of a written delegation of authority from the Tribal President/Chairman to the Incident Commander (lC). This procedure facilitates the transition between incident management levels, whether it is a Type 3, Type 2, or Type 1 Incident Management Team. The delegation of authority is part of a briefing package provided to the incoming Management Team. It should contain both the delegation of authority and specific limitations to the authority. The incoming Incident Management Team works for the Tribe in support of Tribal goals and objectives. It is desirable to also have the Bureau of Indian Affairs involved in this process, especially on larger more complex fires.

  When a transition to an incident management team occurs, there are certain guidelines that should be followed. There should be two transition briefings for the incoming team. A Tribal designee should give a first briefing. The existing Incident Commander at the incident or incident command post should give a second briefing. Time needed for transition from one management team to the next will depend on the complexity of the incident, the expertise of the existing personnel on the fire, and/or other problems.

F. Wildland Fire Decision Support System

Managers will use the Wildland Fire Decision Support System (WFDSS), a decision-support process, to guide and document wildfire management decisions. The process will provide situational assessment, analyze hazards and risk, define implementation actions, and document decisions and rationale for those decisions.

As of October 1, 2009, all agencies and tribes shall enter all unplanned wildfires into the WFDSS system. There are three response levels to consider in the WFDSS process. They are not to be confused with complexity analysis for the decision on the type of team that should manage the incident.

- Response Level 1 is for a small IA fire that is responded to and suppressed based on the FMU's suppression strategy. No other decision is required in the WFDSS program.
- Response Level 2 is when the wildfire has not been successfully controlled and enters into Extended Attack. A Data Manager will need to work in WFDSS to help develop a Decision Document for the Line Officer to approve through the WFDSS program.
- Response Level 3 is for wildfires that are larger than local resource capabilities and need outside support, or for fires being managed long term for resource benefit and requires a Line Officer approval through the WFDSS program.

WFDSS replaces the Wildland Fire Situation Analysis (WFSA), the Wildland Fire

Implementation Plan (WFIP), the Long-Term Implementation Plan (LTIP), and the Strategic Implementation Plan (SIP).

G. Fire Behavior Interpretations and Predictions

A response to any wildfire needs to include an analysis of fire behavior. Observed and predicted fire behavior should be evaluated to help determine fire suppression tactics and safety needs of fire crews. On most fires, the Incident Commander can make an quick assessment of observed and potential fire behavior, which is usually adequate.

The NWCG Fireline Handbook, Appendix B Fire Behavior (NFES 2165) is a handy guide for making fire behavior interpretations. The purpose of this appendix is to provide some basic fire behavior information that will enable a person with a moderate level of fire behavior training (Introduction to Wildland Fire Behavior Calculations, S-390) to predict and calculate some basic elements of fire behavior and fire size.

H. Safety

Safety is the number one priority for all personnel engaged in or supporting fire management activities. The primary means by which accidents in wildland fire operations are prevented is through aggressive risk management. The Bureau of Indian Affairs (BIA) safety philosophy acknowledges that while the ideal level of risk may be zero, a hazard free work environment is not a reasonable or an achievable goal in fire operations. Through organized, comprehensive, and systematic risk management, the acceptable level of risk will be determined that allows provision for safety, yet still achieve fire operations objectives. Risk management is intended to minimize the number of injuries or fatalities experienced by wildland firefighters.

The commitment to and accountability for safety is a joint responsibility of all firefighters, managers, and administrators. All Land Management Plans (LMP), Fire Management Plans (FMP), and all suppression plans and actions must reflect this commitment. Individuals must be personally committed and responsible for their own performance, accountability, and safety.

There are several references available to aid in safety management including the following:

- BIA Salt River Agency Annual Operating Plan
- BIA Blue Book
- Fireline Handbook, PMS 410-1, NFES 0065
- Incident Response Pocket Guide (IRPG), PMS 461, NFES 1077

I. Air Quality

Air quality concerns involve both visibility and respiratory health issues. SRPMIC, FMYN and PYT are concerned with visibility and air quality standards.

In addition to the aesthetic impact, smoke emissions can impair visibility, which can become particularly hazardous to vehicle travel. In sufficient high concentrations, particulate matter from smoke can threaten human health, especially for individuals with respiratory ailments. Excessive smoke production is most likely to occur when heavy concentrations of fuels burn. In addition, persistent atmospheric inversions and low wind conditions can result in poor smoke dispersal.

While there is little that can be done to reduce smoke generated from wildfires, there are measures that can sometimes be taken to manage its effects. Traffic control measures should be considered whenever visibility is significantly impaired in travel corridors. Similarly, public health advisories may be issued when smoke concentrations pose a serious hazard to respiratory health.

4.2 Preparedness

The program preparedness/readiness component of wildland fire management involves the process of planning and implementing activities prior to wildland fire ignitions. This process includes actions which are completed on a routine basis prior to or during each fire season, as well as actions conducted in response to increasing fire danger.

A. Annual Operating Plan

The AOP includes a National Fire Danger Rating System (NFDRS) Plan, Suppression Plan, Preparedness plan, Fire Restriction Plan, Prevention Plan, Communications Plan, Personnel Qualifications List, current AZSRA Fire Organizational Chart, summary of Annual Operating Plans with other agencies, current WFDSS Procedures, and Delegation of Authority for Wildland Fire Duty Officers and Supervisors. Other planning elements may be included as needed in the future. This document is located in the Salt River Agency Fire Management Office.

Fire preparedness and operational guidance is also provided by the BIA Western Regional Office and the BIA National Interagency Fire Center (BIA-NIFC). BIA-NIFC issues, on a yearly basis, the “Wildland Fire and Aviation Program Management and Operations Guide”, or more commonly known as the “Blue Book”.

B. Fire Season

Fire danger in central Arizona can be described as bi-modal. The first period occurs from late January to mid-March before green up of vegetation occurs, and a second period occurs between early April and late July, prior to the arrival of monsoons. While not significant, a third period of higher fire danger occurs in September to early December after vegetation is cured, but before

winter precipitation begins.

Representative Weather Station for SRPMIC:

Roosevelt station, station # 020604, elevation: 2300 feet, data 1966-2009

Representative Weather Station for FMYN:

Roosevelt station, station # 020604, elevation: 2300 feet, data 1966-2009

Representative Weather Station for PYT:

Saguaro station, WIMS # 021202,970-2010

The Energy Release Component (ERC) is the best fire danger indication for measuring fire season (see figure 5). An analysis of fire occurrence for AZSRA shows that fires can occur any month of the year; however, the majority of fires and acres burned occur between the months of March and August. Generally, the months with the highest fire occurrence match the months with the highest ERC values, which is to be expected. Figure 6 and 7 depict the energy release component for two different weather station.

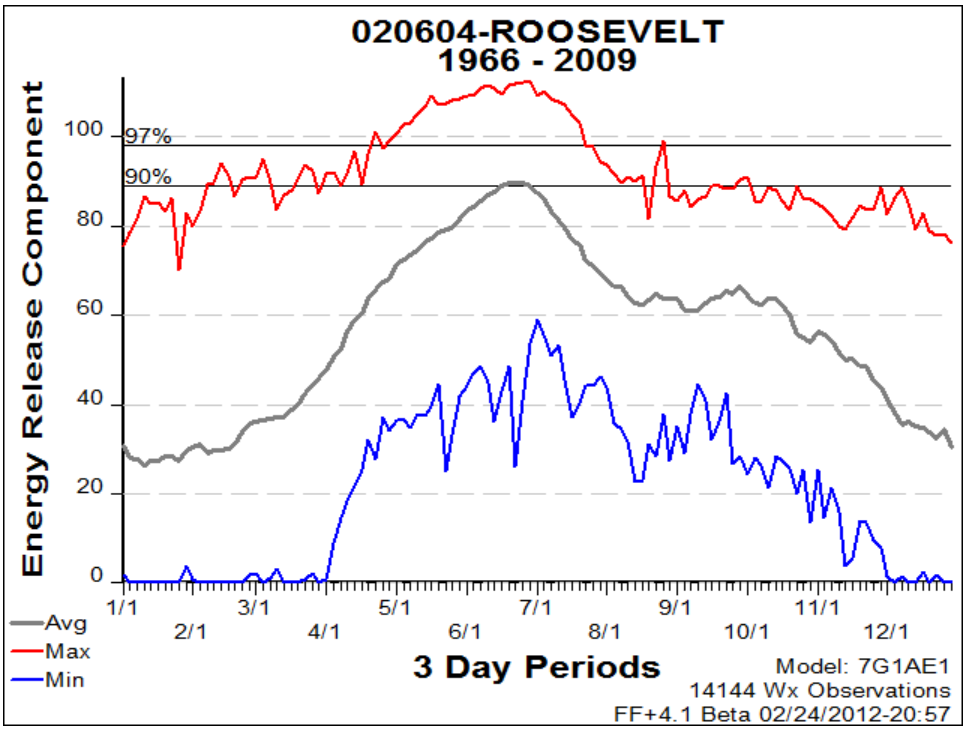


Figure 6. FIRE SEASON ERC FUEL MODEL G, ROOSEVELT WEATHER STATION

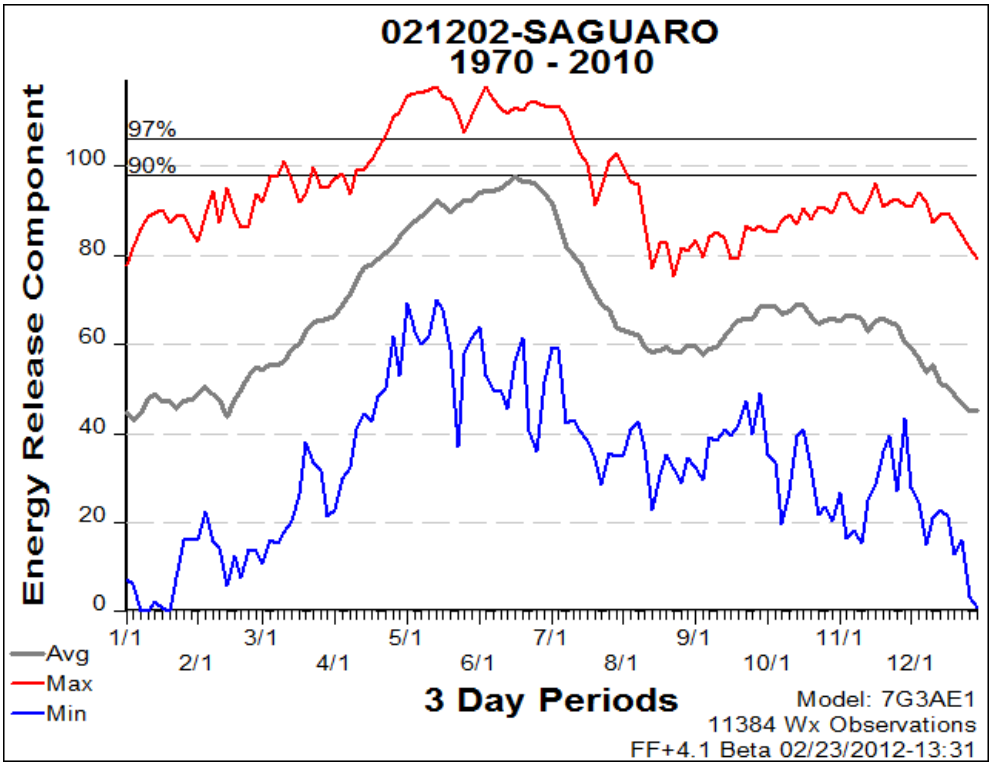


Figure 7. Fire Season, ERC Fuel Model G, Saguaro Weather Station

C. Fire Preparedness and Staffing Plans

Preseason actions include annual fire refresher, physical fitness testing and training, fire cache management, preparedness reviews, and fire qualifications and training needs. The AOP or similar type plan defines annual fire preparedness activities and includes a staffing and dispatch plan. The AOP provides management direction given identified levels of burning conditions, fire activity, and resource commitment and is comprised of preparedness levels, dispatch response levels, staffing levels, trigger points, and mitigating actions.

D. Preparedness Levels

National, regional, and zone preparedness levels are established by interagency coordinating groups based on current and forecast burning conditions, fire activity, and resource availability. Resource availability is the area of most concern. Situations and activities described with the preparedness levels consider wildland and prescribed fire. Definitions and parameters of each associated preparedness level can be found in the Southwest Coordination Center Mobilization Guide. Fire managers need to be aware of current preparedness levels to ensure readiness of resources.

E. National Fire Danger Rating System (NFDRS)

NFDRS is a tool that should be used to help determine preparedness, staffing levels, 7-day coverage needs, severity requests, etc. Personnel involved in fire management should understand and utilize the information provided by daily NFDRS outputs, including BI and ERC, in relation to preparedness, initial attack strategies, and firefighter safety. Pocket cards should be issued as needed to initial attack forces and can be produced using FireFamilyPlus software.

F. Fire Weather Forecasts, Weather Observations, and Weather Stations

1. Fire Weather/Fire Danger and Predictive Services Zones

Information of fire weather and weather stations is included below in table 38.

2. Remote Automated Weather Stations

Table 38. REMOTE AUTOMATED WEATHER STATIONS, AZSRA

Agency/Tribe	Weather Station Name	Station #	Elev. (feet)	Lat. (degrees)	Long. (degrees)	Fire Weather Zone	Predictive Services Zone
SRPMIC	Roosevelt (data 1966-2009)	020604	2300	33.66289	-111.1159	133	SW06
FMYN	Roosevelt (data 1966-2009)	020604	2300	33.66289	-111.1159	133	SW06
PYT	Saguaro (1966-2010)	021202	3100	32.31111	-110.8186	148	SW06S

3. National Weather Service (NWS) Products and Services

National Weather Service (NWS) products and services are described below. For further information, refer to the Southwest Area Fire Weather Operating Plan.

- **Fire Weather Planning Forecast (FWF):** Fire Weather Planning forecasts are issued by all NWS offices serving the Southwest Area. The intent is to provide general, zone-based information for daily preparedness and planning purposes.
- **NFDRS Forecasts (FWM):** The National Weather Service provides 24-hour forecasted weather information that allows the NFDRS software to predict the next day's fire danger indices.
- **Spot Forecast (FWS):** Spot forecasts are detailed site-specific forecasts issued for wildfires, prescribed burns, search and rescue operations, aerial spraying, etc., and are available upon request at any time of day, week, or season. Spot forecasts are available to any federal, state, or municipal agency. Spot forecasts are considered one-time requests and are not routinely updated. Spot forecasts will be updated when representative observations are available to the

forecaster and/or the forecaster determines that the current forecast does not adequately represent current or expected weather conditions.

- **Fire Weather Watches and Red Flag Warnings (RFW):** A Red Flag event is critical combination of dry fuels and weather conditions that support extreme fire behavior. Red Flag Warnings are issued to identify Red Flag events which are highly likely, or imminent, usually within the following 24-hour period. Fire Weather Watches are issued to identify the elevated threat of similar conditions during the following 96-hour period.
- **Fire Weather Area Forecast Discussion (AFD):** The Area Forecast Discussion focuses on the most significant weather issues affecting an NWS office's forecast area over the next seven days. During heightened fire activity a fire weather section (.FIRE WEATHER...) is included in the AFD and contains weather information of interest to fire managers.
- **Special Services:** NWS maintains a cadre of trained Incident Meteorologists (IMETs). A sufficient number of IMETs should be available from Southwest Area offices to support multiple incidents in May and June. At least one IMET from the offices that serve the Southwest Area should be available for dispatch between March 1st and August 1st.

4. Weather Observations:

Weather observations and associated data are available through a number of sources. Some of the best locations include:

- Weather Information Management System (WFMI)
- Real Time Observation Monitor and Analysis Network (ROMAN)
- National Weather Service
- Southwest Coordination Center

5. Predictive Services Products

- **Day 1 and Day 2 Area-wide Fire Weather and Behavior Outlooks**: Fire weather outlooks combine information from FCAMMS/Rocky Mountain Center, NWS, and Predictive Services meteorologists into a day 1 and day 2 graphic of significant fire weather parameters. When the Fire Behavior Service Center is functioning at SWCC (Preparedness Level 3-4+), daily reports and maps of general fire behavior potential may be produced as well.
- **7-Day Significant Fire Potential Outlook**: This integrates fuel dryness, weather triggers, and resource capability into statistically-based large fire potential by Predictive Services Area (PSA). It includes general weather synopsis, fire potential discussion, resource discussion, and anticipated resource demand outlook.
- **Monthly and Seasonal Fire Potential Outlooks**: These utilize all available weather, climate, and fire danger information to make long-term predictions of fire business potential. Monthly outlooks highlight the potential for significant fire activity and resource utilization relative to normal. Seasonal outlooks cover the following three months and only highlight the trends relative to above normal significant fire potential.

G. Severity and Support Action

Guidance for use of support action and severity funding is found in the BIA Wildland Fire and Aviation Program and Management and Operations Guide (Blue Book). Severity funding is generally requested for long duration periods of abnormal fire danger and/or fire behavior or for elevated periods of fire occurrence.

Generally, support actions are used to supplement staffing during short periods of high fire danger or for funding overhead and fires crews dispatched to other jurisdictions.

H. Fire Cache

AZSRA Fire Management doesn't have a fire cache building. It is the responsibility of the FMO to ensure a cache is appropriately stocked and in a clean and orderly state at all times.

Sources of supply for reordering include the following:

- Private vendors
- Silver City Interagency Fire Cache
- General Services Administration

I. Seasonal Readiness Activities

Fire season preparedness involves annual pre-season reviews, evaluation, and updates of critical fire program operations, components, and capabilities. Issues to be considered include updating dispatch plans, communications, training needs evaluation, personnel qualifications, fire cache inventories, equipment maintenance and upgrades, fire-related data processing, weather information systems, and annual budget planning. The AOP identifies further actions to be taken.

Minimum standards for annual preparedness are as follows:

1. Conduct fire cache inventory and determine the level of supplies, materials, and equipment available. Assess equipment conditions and conduct needed maintenance. Order supplies, equipment, and materials necessary to meet normal fire year activity.
2. Conduct detailed inspection of fire engines for safety and operational capability. Obtain needed repairs and safety upgrades. Safety inspections conducted by qualified vehicle dealerships are highly recommended.
3. Develop annual training needs analysis related to current qualifications of fire personnel, desired qualifications to meet program needs, and schedule training for personnel. Interagency training and onsite training should be scheduled well in advance of fire season. The AD pay plan allows for 80 hours of training for emergency firefighters. Coordinate with Tribal Fire Department and Mutual Aid partners and coordinate training to Fire Department

personnel. Ensure all firefighters receive the required annual "safety refresher" course. Update fire qualification records.

4. Review and update dispatch plans and AOP as necessary. Distribute copies to agency and tribal officials, police and structural fire departments, and interagency cooperators.
5. Review fire-related data processing systems to enter, archive, retrieve, and interpret information for fire management planning and operations. Ensure key employees understand how to input fire reports and obtain fire numbers to activate an emergency. Ensure reports are complete and up to date.
6. Review monthly and seasonal fire potential reports from the Southwest Coordination Center and other local sources. Develop severity requests as necessary and coordinate requests with local interagency partners and dispatch centers.
7. Prepare or update pre-attack/staffing plans and ensure that key personnel understand how to use them. Update and continually refine maps using GIS and GPS capabilities to locate structures, road access, water sources, helispots, evacuation locations, and other strategic information.
8. Develop or review cooperative agreements with local interagency partners to improve program capabilities and efficiency.
9. Review maintenance needs for RAWS stations and other manual systems, including belt weather kits. Ensure maintenance is completed as need. Check RAWS weather station(s) for data integrity. Ensure procedures are in place for managing weather data in WIMS.

J. Suppression Equipment and Facilities

SRPMIC, PYT and FMYN maintain wildland engines out of several fire stations. The BIA AZSRA is located at 10000 E. McDowell Road, Scottsdale, Arizona.

A current listing of initial attack resources for AZSRA, SRPMIC, FMYN and PYT is below in table 39.

Table 39. ENGINES, WATER TENDERS, & DOZERS

Organization	Kind/Type	Gallonage	Total Number	Location
SRPMIC	Engine, Type 1	750-1000	4	Salt River, AZ
SRPMIC	Engine, Type 6	250-300	1	Salt River, AZ
SRPMIC	Tender, Type 1	3000	1	Salt River, AZ
PYT	Engine, Type 1 (4 X 2)	750	2	Tucson, AZ
PYT	Engine, Type 6 (4 X 4)	300	1	Tucson, AZ
FMYN	Engine, Type 6 (4 X 4)	300	1	Fort McDowell, AZ
FMYN	Engine, Type 1 (4 X 2)	1000	1	Fort McDowell, AZ
FMYN-FD	Rescue Ambulance (4 X 2)	N/A	1	Fort McDowell, AZ

K. Responsibilities

Responsibilities of key administrative and fire management positions are documented in BIA Indian Affairs Manual Part 90, the BIA Blue Book, and the Fireline Handbook.

The following BIA administrative and support organizations provide assistance for FMYN, SRPMIC AND PYT.

- **BIA Regional Director.** The Regional Director of the BIA Western Regional Office is responsible to the Secretary of Interior for fire management programs administered by the BIA.
- **Agency Superintendent**. The Salt River Agency Superintendent is responsible to the BIA Western Regional Director for the safe, effective, and efficient implementation of all fire management activities within the FMYN, PYT, and SRPMIC boundaries. This includes cooperative activities with other agencies or landowners in accordance with delegations of authorities.
- **Fire and Aviation Management.** The BIA National Interagency Fire Center at Boise, Idaho coordinates the BIA Fire and Aviation Management's wildland fire management program on a national level. Its bureau-wide function is to assist regional offices, agencies, and tribes with the development and implementation of a safe, effective, and efficient fire management program that meet management objectives.
- **Regional Office Fire Management Officer (RFMO).** The BIA Western Regional RFMO is responsible for negotiating interagency agreements and providing planning, coordination, training, technical guidance, and evaluations to fire management programs throughout the Western Regional Office's sphere of influence. The Regional Fire Management Officer also represents the Regional Director on interagency geographic coordination groups and multi-agency coordination (MAC) groups.

L. Fire Management Organization

The Salt River Agency Annual Operating Plan outlines the wildland fire management program. An organization chart is located in the AOP.

M. Aviation

The FMO serves as the Agency Aviation Officer and coordinates all aviation activities. The DOI DM 350-354 DM and Indian Affairs Manual (IAM) Part 57, Aviation Management are the umbrella documents for aviation policy and operations in the Bureau. It is the responsibility of aviation managers and associated personnel (e.g., pilots, dispatchers, fire managers, etc.) to obtain necessary documents and become familiar with their contents. Additional guidance is found in the BIA Blue Book.

N. Communications

The BIA Salt River Agency AOP outlines the communication plan for day-to-day operations and response to fires. Frequencies and equipment are managed by SRMPIC, FMYN and PYT.

O. Detection

There are no fixed detection facilities or lookouts maintained by the BIA or any of the three tribal fire departments. Fires are generally reported by the general public via telephone.

P. Training, Fitness, and Qualifications

The National Wildfire Coordinating Group (NWCG) has established qualification standards for a number of positions associated with wildland and prescribed fire positions. These standards are published as the Wildland Fire Qualification System Guide, PMS 310-1, NFES 1414.

For all actions on federal or lands under federal protection (including Trust lands), all fire personnel and cooperators must be qualified for their position on the incident as specified by NWCG standards. Through the use of task books, NWCG recognizes qualifications through a performance system, which requires candidates to attend classroom training and also function as a trainee on actual assignments. Once qualified, periodic assignments are required to maintain currency. Qualifications are documented on each employee's incident qualifications card, which is issued annually.

The Incident Qualifications and Certification System (IQCS) is an information system that tracks training and certifications for wildland firefighters, and has been designated by NWCG as the official database. IQCS is an interagency application that allows the sharing of wildland firefighter training and certification data across all involved agencies (BLM, NPS, BIA, FWS, and the USFS).

The four major functions that IQCS performs are as follows:

1. Certification Standards Management: IQCS contains the wildland fire incident response position performance standards and their respective qualification and certification requirements.
2. Workforce Analysis: IQCS can report and forecast the disposition, status, and deficiencies of all tracked positions from any agency in the incident response community, using a snapshot up to a 3- to 5-year projection.
3. Incident Responder Management: IQCS tracks personnel information related to qualifications and incident history that includes information such as positions, position performance, training, physical fitness status, and external warrants.

The BIA, SRPMIC, FMYN, and PYT are committed to applying the NWCG qualification standards to their fire personnel and cooperators. Basic training offered by Salt River Agency, either in the form of courses taught/hosted locally or recruits sponsored in non-local courses includes:

1. Mandatory 1-day Annual Fireline Refresher course for all fire personnel and cooperators
2. Basic firefighter training (S-130/190, Standards for Survival)
3. Introduction to the Incident Command System (I-100)
4. Fire Operations in the Urban Interface (S-205)
5. Portable Pumps and Water Use (S-211)
6. Wildfire Power Saws (S-212)
7. Squad Boss (S-131)
8. Crew Boss (S-230)
9. Engine Boss (S-231)
10. Intermediate Fire Behavior (S-290)

For training in other NWCG courses, nominations are coordinated by the BIA Salt River Agency Training Officer and submitted through the appropriate Tribal Fire Department.

In addition to qualification standards, NWCG has developed fitness standards to ensure fire personnel are physically capable of performing in a fire position. Like qualifications, these fitness standards are mandatory for all federal fire employees and cooperators responding to incidents on federal or federally protected lands. Certification for fitness requires an annual fitness test (pack test) and periodic medical and drug screenings. The fitness level for each employee is indicated on his/her qualification card. The BIA Salt River Agency goals for qualified fire positions are listed below in table 25.

SRMPIC has standards that include segments similar to NWCG, but also include National Fire Protection Association (NFPA) standards. Annually the department provides refresher training for basic firefighter and safety training (S-130/S-190). NWCG courses beyond these department personnel attend training given by the Central Arizona Zone. Each firefighter is trained to NWCG standards and is issued Personal Protective Equipment (PPE) that includes a fire shelter. All personnel are required to take the Fit Test, however they are not required to pass, but if they don't they are not issued a Red Card. All tire personnel who have S- I 30/S I 90 and pass the Fit Test are wildland fire qualified at firefighter I or above. All personnel receive annual physicals per NFPA 1581. In addition the department provides an immunization program, and there is a semi-annual fitness evaluation performed by the Wellness Committee. Currently there are three certified Peer Fitness Trainers in the department.

Q. Dispatch Procedures

Dispatching guidelines are outlined in the BIA Salt River Agency Annual Operating Plan and other dispatch plans. SRPMIC, PYT and FMYN Tribal Fire Departments are responsible for all wildland fires and structural fires within the reservation.

The Phoenix Dispatch Center (PHC) has the following responsibilities:

1. Coordination of mobilization and demobilization of resources between Zone Interagency Coordination Centers
2. Coordination of the mobilization and demobilization of resources between participating parties
3. Coordination of all requests for aerial detection
4. Coordination of all requests for air tankers and lead planes
5. Coordination of all requests for helicopters and single engine air tankers (SEATS). SEATS will be dispatched in accordance with guidelines set by each agency

There are geographic and national coordination centers that provide support to the Phoenix Dispatch Center. The support and location of these centers are described below.

The Southwest Coordination Center, located in Albuquerque, New Mexico, has responsibility to coordinate mobilization and demobilization of resources between Area Interagency Coordination/Dispatch Centers located in New Mexico, Arizona and portions of western Texas and western Oklahoma. This center has delegated interagency authority and responsibility to provide incident support in the coordination of resource mobilization and allocation.

The National Interagency Coordination Center (NICC) at the National Interagency Fire Center (NIFC) is located in Boise, Idaho. The center has responsibility for coordinating the movement of resources between geographic area coordination centers. It also has responsibility for international response, activation of U.S. Military Units, and coordination of national contracts. A National Interagency Coordinating Group supervises this center.

Many of the phone calls reporting fires are received from motorists using mobile phones. These calls, as well as calls from local residents are usually received by Tribal (Public Safety) dispatch centers, which in turn notify the Tribal Fire Departments. They also notify the Interagency Central Arizona Zone Dispatch Office at Williams Gateway Airport in Mesa. At this time they must receive a Fire Order number to track resources assigned and costs of the resources. A courtesy call should be made to BIA Forestry.

The Interagency Central Arizona Zone Dispatch performs the following duties for all participating parties within the zone.

1. Coordination of mobilization and demobilization of resources between Zone Interagency Coordination Centers
2. Coordination of the mobilization and demobilization of resources between

participating parties
3. Coordination of all requests for aerial detection
4. Coordination of all requests for air tankers and lead planes
5. Coordination of all requests for helicopters and single engine air tankers (SEATS). SEATS will be dispatched in accordance with guidelines set by each agency

R. Reporting Requirements, Standards, and Responsibilities

Reporting requirements are outlined in the BIA Blue Book, and by through various handbooks and memos issued by the BIA Western Regional Office and BIA-NIFC.

S. Prevention and Education

Guidelines for managing a wildland fire prevention program are contained in the BIA Blue Book. The implementation of Wildfire Prevention programs saves lives, reduces suppression costs, property loss and the disruption of daily life in Indian Country. There are numerous prevention strategies and actions available to Tribes and Agencies that can be used to effectively reduce unwanted person caused fires. Wildland fire ignitions, damage to natural resources by unwanted wildfires, and the threat to firefighter and public safety can be reduced by using these strategies, and integrating prevention actions into existing preparedness programs.

Most wildland fires on SRPMIC, FMYN and PYT are human caused, with most resulting from burning fields and debris, children playing with matches, and careless smoking. Based on these causes, there is significant opportunity for reducing fire frequency and losses through effective prevention efforts.

By request of the BIA, the SRPMIC, FMYN and PYT Tribal Councils usually would be requested to issue a resolution banning open burning and fireworks when fire danger is high through extreme. Notification of this ban to tribal members can be accomplished through several methods; engine crews can notify tribal members while on patrol, local newspapers can provide a public service announcement, and posters can be displayed in strategic locations.

- **SRPMIC Prevention Program**

SRPMIC manages a prevention program that entails public education through signs, newspaper articles, and brochures. In order to develop a comprehensive program, funding to implement the objectives and strategies is necessary. Fire Prevention Program Objectives include:

1. Reduce the occurrence of human caused fires
2. Develop a comprehensive public information and education strategy
3. Inform the public of fire danger levels during the fire season
4. Implement burn restriction program based upon fire danger levels

5. Develop funding requests for a permanent fire prevention staff position and prevention program supplies
6. Prepare annual prevention plans based on seasonal severity
7. Utilize short-term fire prevention funding mechanisms to meet immediate program needs
8. Implement hazard fuel reduction activities as a fire prevention strategy

4.3 Emergency Stabilization and Burned Area Rehabilitation

A. Policy and Guidance

Specific policy and guidance for emergency stabilization (ES) and burned area rehabilitation (BAR) are located in Bureau of Indian Affairs, Wildland Fire and Aviation Program Management Operations Guide, otherwise known as the Blue Book. The Blue Book is issued on an annual basis. Policies and procedures may change from year to year and it's important to reference this document.

ES and BAR treatments are an integral part of wildfire incidents, but are planned, programmed, and funded separately from each other. Reference documents include:

- Interagency Burned Area Emergency Response Guidebook (Feb 2006)
- Interagency Burned Area Rehabilitation (BAR) Guidebook (Oct. 2006)
- Burned Area Emergency Response Team Standard Operations Guide (Jan. 2007)
- Department Manual Part 620, Chapter 1 & 3.
- Department Manual 516 Part 6, Appendix 4.
- Indian Affairs Manual Part 90.
- 25 CFR Section 163.28.
- Interagency Incident Business Management Handbook

SRPMIC, FMYN and PYT should provide a list of all qualified specialists for assignment to the local BAER Team. This local BAER Team will develop and implement the BAER Plan as needed. If complexity of the situation were such that a local team is not qualified, then contact the BIA BEAR Coordinator at the Western Region Office. At that point consider a Regional or National BAER Team. The SRPMIC Environmental Manger would serve as liaison to the team, and other local resource specialists should be made available. It is essential that coordination/communication with Tribal Governments be established and maintained.

B. Fire Suppression Activity Damage

This is defined as damage to resources, lands, and facilities resulting from wildfire suppression actions, in contrast to damages resulting directly from a wildfire. The Incident Commander is responsible for rehabilitation of suppression impacts according to local standards. It is generally incumbent upon the Resource Advisor to provide those standards and work with the incident to assure that rehabilitation is completed appropriately. In order to do this, it is imperative that the Resource Advisor work with the Field Observers and GIS unit to assure that all suppression impacts are mapped. Typical suppression rehabilitation tasks include raking out fire lines, grading roads, installing water bars, disguising cut stumps, scattering slash, removing all trash and flagging, and treating heavily used areas (such as incident command posts, staging areas, and base camp) to reduce soil compaction and/or re-establish vegetation. In any case, time is of the

essence, as the suppression rehabilitation is funded by the suppression account and suppression rehabilitation must be completed within 90 days from date of containment.

C. Emergency Stabilization (ES)

The purpose of ES is to determine the need for and to prescribe and implement emergency treatments to minimize threats to life or property or to stabilize and prevent further unacceptable degradation to natural and cultural resources from the effects of a wildfire. In situations where no post-fire emergency exists or were practical, effective treatments are not feasible, then rely on natural recovery. An Emergency Stabilization (ES) response is a situation where prompt action is necessary to evaluate and address actual and potential post-fire impacts to human life, property, and critical cultural and natural resources. The ES plans will specify only emergency treatments to be carried out within one year of containment of a wildfire. The Agency/Tribes will develop and implement cost-effective emergency stabilization plans to prevent or mitigate harmful impacts to affected resources on lands within the wildfire perimeter or potential impact area downstream from the burned areas in accordance with approved land management plans and applicable policies, standards, and all relevant federal, state, and local laws and regulations. The assessment of stabilization needs and proposed treatments is documented in a burned area emergency response (ES) plan within seven days from date of containment.

All ES plans are approved by the appropriate line officer and funded at the national office. The Dept. of Interior, during some fiscal years, will put a dollar cap on the funds available, which in effect may mean that not all approved plans will be funded. National and Southwest BAER Coordinators will review all plans for technical compliance with policy and procedures.

- The Agency Superintendent may approve plans up to $250,000.
- The Regional Director may approve plans up to $500,000.
- Plans obligating more than $500,000 will be approved by the Bureau of Indian Affairs (BIA) Director, Branch of Fire Management, National Interagency Fire Center (NIFC).

D. Burned Area Rehabilitation (BAR) program

The purpose of BAR is to evaluate actual and potential long-term post-fire impacts to critical cultural and natural resources and identify those areas unlikely to recover naturally from severe wildfire damage. To develop and implement cost-effective plans to emulate historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with approved land management plans, or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented. To repair or replace minor facilities damaged by wildland fire.

The BAR plan will specify non-emergency treatments which meet approved land management plans to be carried out within three years of containment of a wildfire. The Agency/Tribes will develop and implement cost-effective BAR plans to emulate historical or pre-fire ecosystem

structure, function, diversity, and dynamics consistent with approved land management plans or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented.

BAR projects are competitively funded among all four DOI bureaus. Funding is limited so there is no guarantee that BAR treatments/activities will be funded. BAR funds can only be provided three years from containment of the wildfire. Plans that request multi-year funding are not guaranteed funding each year. Funds will be given out on a yearly breakout as specified in the BAR plan and approved by the national BAER coordinators.

E. Monitoring and Reporting

Regions, Agencies, and tribes will monitor ES and BAR projects to assess if proposed treatments were properly implemented, if actual treatments were effective, and if additional treatments or maintenance are needed to make the project successful. Monitoring and evaluation of post fire treatments are critical for understanding and improving such treatments. The collection and dissemination of this information is an integral part of all post fire treatments. All ES and BAR treatments/ activities for each project must be entered into National Fire Plan Operations Reporting System (NFPORS). Completed treatments/activities must be entered into NFPORS on a periodic basis. An initial accomplishment report is required at the end of the fiscal year the project was initiated. A yearly or second accomplishment report is required at the end of the second fiscal year. A final accomplishment report is required at the end of the third year funding of a project. Failure to submit final accomplishment reports will curtail future BAR funding for the agency.

F. BIA Salt River Agency Policy for ES and BAR

The BIA Salt River Agency and Tribal Fire Departments will evaluate all wildland fires for emergency stabilization (ES) and rehabilitation (BAR) needs, on an as needed basis. A Burned Area Emergency Rehabilitation (BAER) Team or individual team positions (resource specialists), may be ordered through the dispatch system as needed to evaluate impacts to resources resulting from wildfires as well as to design resource mitigation efforts and prepare a fire-specific plan.

Rehabilitation efforts (BAR) will be undertaken as appropriate to protect and sustain ecosystems, public health and safety, and to help communities protect infrastructure. Coordination with key resource specialists, both tribal and BIA, is required. These actions are undertaken during and immediately following the incident.

4.4 Management of Planned Fuels Treatments - Fuels Management Plan

A comprehensive fuels management plan was completed in 2012. The fuels plan was designed to meet criteria established by interagency committees, the BIA-NIFC and the BIA Western Region Office. Specifically the Bureau of Indian Affairs Fuels Management Program handbook provides policy and guidance for this document.

Chapter 5. Monitoring and Evaluation

This chapter is designed to address two main factors which include monitoring of the BIA Salt River WFMP (section 5.1) and the on the ground monitoring of other programs and projects including fuels, BAER, and fire suppression (all other sections).

5.1 BIA Salt River WFMP Monitoring

The intent of this section is to document processes for determining whether the WFMP is being implemented as planned and whether fire-related goals and objectives are being achieved. Information obtained from monitoring and evaluations is used to help update the WFMP and land management plans.

Generally the BIA and Tribal Fire Departments should meet yearly to evaluate all aspects of the WFMP. A meeting will also be held prior to the fire season to review preparedness and readiness of the fire organization. This meeting will be to discuss any necessary changes in the plan brought about by new guidelines or direction, adding fire related items of special interest that the tribe may have, discussing priority shifts in the plan, and emphasize priority direction for the upcoming year. Following discussion and agreement on the next year program, the WFMP will be amended.

5.2 Monitoring of Projects; Fuels, Fire Suppression, and BAER

A new monitoring tool called FFI (FEAT/FIREMON Integrated) has been developed to assist managers with collection, storage, and analysis of ecological information. The tool was developed through the complementary integration of two fire effects monitoring systems commonly used in the United States: FIREMON and the Fire Ecology Assessment Tool. FFI provides software components for data entry, data storage, geographic information system, summary reports, and analysis tools. In addition to a large set of standard FFI protocols, the Protocol Manager lets users define their own sampling protocol when custom data entry forms are needed. The standard FFI protocols and Protocol Manager allow FFI to be used for monitoring in a broad range of ecosystems. FFI is designed to help managers fulfill monitoring mandates set forth in land management policy. It supports scalable (e.g., project to landscape scale) monitoring at the field and research level, and encourages cooperative, interagency data management, and information sharing. The FFI program will be used to evaluate and monitor fuels treatments.

5.3 Monitoring Requirements

- Monitoring is required for most fire management activities including wildfire, prescribed fire, mechanical fuels treatments, and burned area restoration and rehabilitation
- The BIA and Tribal programs will determine priorities, goals, and objectives of monitoring for all activities
- Tribal officials will be consulted with in order to obtain their input in determining pre-treatment objectives of vegetation treatments through the monitoring and inventory phase of post-treatment

5.4 After Action Review (AAR)

An AAR is a post incident (or project) review covering what was planned, what actually happened, why it happened, and what we can do better next time. It can be used for any type of project including fire suppression, prescribed fire operations and other activities. The AAR is a technique to measure/monitor what we did and how well we did it. The climate surrounding an AAR must be one in which the participants openly and honestly discuss what transpired, in sufficient detail and clarity, so everyone understands what did and did not occur and why. Most importantly, participants should leave with a strong desire to improve their proficiency. Key concepts include:

- An AAR is performed as immediately after the event as possible by the personnel involved
- The leader's role is to ensure there is skilled facilitation of the AAR
- Reinforce that respectful disagreement is OK. Keep focused on the what, not the who
- Make sure everyone participates
- End the AAR on a positive note
- The main discussion should include: What was planned? What actually happened? Why did it happen? What can we do next time? (Correct weaknesses/sustain strengths.)
- Further guidance is available from the Lessons Learned Center, http://www.wildfirelessons.net/AAR.aspx (Accessed: May 2011).

5.5 Monitoring Plan and Plot Protocols

- Monitoring of fuels treatments is outlined in the Fuels Management Plan completed in 2012. FFI will be the system of record
- Monitoring activities on BAER and BAR projects will be outlined in individual project plans
- Wildfires: Monitoring will include fire behavior, fire weather, and impacts on cultural and natural resources. Monitoring requirements and techniques will vary greatly depending upon the size and location of fires. On most fires, little or no monitoring or documentation is needed. However, on large fires, a monitoring plan may have to be developed
- Landfire: The BIA and Tribal departments should participate in periodic Landfire updates to document changes in vegetation types, fuel models, and fire regimes. These efforts need to be coordinated with the BIA Western Region Office.

- Fuel moisture monitoring: Sampling of fuel moistures (both dead and live) should be considered as appropriate. Sampling data can be entered into the National Fuel Moisture Database (NFMD). The NFMD Users Guide provides detailed information for use of this system (http://72.32.186.224/nfmd/public/index.php).

The National Fuel Moisture Database (NFMD) is a web-based query system that enables users to view sampled and measured live and dead fuel moisture information. The system utilizes a database that is routinely updated by fuels specialists who monitor, sample, and calculate fuel moisture data.

NFMD serves multiple purposes. Firstly, NFMD provides a repository for sampled live and dead fuel moisture. Fuel moisture data can now be stored in a database that serves as a national archive of the fuels record. Secondly, it provides a resource for anyone who has a need for fuel moisture data. A national database eliminates the need for multiple requests for data or exhaustive searches for such data, which can often result in little or no success. Thirdly, it allows for easy viewing of the data in formats that are consistent with other applications used in the land management arena.

5.6 Long-Term Monitoring

- Goals and objectives will be determined/coordinated by the BIA, SRMPIC, FMYN and PYT
- LandFire is an excellent tool for monitoring short- and long-term trends in vegetation and fire regimes

5.7 Reporting Requirements

- DI-1202, Individual Fire Reports: Important monitoring elements include fire size, location, Burning Index, fuel model. Note: Fires over 10 acres should be mapped in GIS and that data provided to geographic coordination centers.
- ICS-209, Incident Status Summary: Important monitoring elements include fire size, fire perimeter data, and location data.
- Burned Area Restoration and Rehabilitation Accomplishment Reports
- NFPORS: Important monitoring elements include fire size, vegetation, location, and treatment type for fuels and BAER treatments.

5.8 Archiving

Data and information will be archived in the appropriate system.

ACRONYMS AND GLOSSARY

AD	A person hired and compensated under the Pay Plan for Emergency Workers (Federal system). Other common terms used for this position are casual and EFF.
AAR	After Action Review: A post incident (or project) review covering what was planned, what actually happened, why it happened, and what we can do better next time.
AFD	Fire Weather Area Forecast Discussion
AFMO	Assistant Fire Management Officer
AOP	Salt River Agency Annual Operating Plan: This includes numerous operational plans and guidelines (e.g., Suppression, Safety, National Fire Danger Rating System, Preparedness, etc.).
AZSRA	BIA Salt River Agency
BAER	Burned area emergency response: Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.
BAR	Non-emergency burned area rehabilitation (BAR) is also the responsibility of the agency administrator and is focused on efforts undertaken within three years of containment of a wildland fire to repair or improve fire-damaged lands unlikely to recover naturally to management-approved conditions, or to repair or replace minor facilities damaged by fire.
BIA	Bureau of Indian Affairs
BIA-NIFC	BIA National Branch of Fire and Aviation, National Interagency Fire Center
BI	Burning Index***:*** The Burning Index is a number related to the contribution of fire behavior to the effort of containing a fire. The BI (difficulty of control) is derived from a combination of Spread Component (how fast it will spread) and Energy Release Component (how much energy will be produced). In this way, it is related to flame length, which, in the Fire Behavior Prediction System, is based on rate of spread and heat per unit area. However, because of differences in the calculations for BI and flame length, they are not the same. The BI is an index that rates fire danger related to potential flame length over a fire danger rating area. The BI is expressed as a numeric value related to potential flame length in feet multiplied by 10. The BI values, from day to day, can vary a great deal, which is directly related to wind speed.
BLM	Bureau of Land Management
Blue Book	Wildland Fire and Aviation Program Management and Operations Guide (issued by BIA-NIFC and updated annually)
CWPP	Community Wildfire Protection Plan
DM	US Dept. of Interior Departmental Manual
DOI	Department of Interior
DI 1202	Department of Interior Individual Fire Report Form
ES	Emergency Stabilization. Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resource, to minimize threats to life or property

resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.

ERC Energy Release Component**:** The Energy Release Component is a number related to the available energy (BTU) per unit area (square foot) within the flaming front at the head of a fire. Daily variations in ERC are due to changes in moisture content of the various fuels present, both live and dead. Since this number represents the potential heat release per unit area in the flaming zone, it can provide guidance to several important fire activities. It may also be considered a composite fuel moisture value as it reflects the contribution that all live and dead fuels have to potential fire intensity. The ERC is a cumulative or "build- up" type of index. As live fuels cure and dead fuels dry, the ERC values increase, thus providing a good reflection of drought conditions. As a reflection of its composite fuel moisture nature, the ERC becomes a relatively stable evaluation tool for planning decisions that might need to be made 24 to 72 hours ahead of an expected fire decision or action. Since wind and slope do not enter into the ERC calculation, the daily variation will be relatively small. The 1000-hr timelag fuel moisture (TLFM) is a primary entry into the ERC calculation through its effect on both living and dead fuel moisture inputs.

ES Emergency Stabilization. Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resource, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.

EVT Existing vegetation types. This is a designation from the LANDFIRE system. The Existing Vegetation Type (EVT) layer represents the vegetation currently present at a given site. LANDFIRE vegetation map units are derived from NatureServe's Ecological Systems classification, which is a nationally consistent set of mid-scale ecological units (Comer and others 2003).

FFI Feat Firemon Integrated**.** FFI (FEAT/FIREMON Integrated) is a monitoring software tool designed to assist managers with collection, storage and analysis of ecological information. It was constructed through a complementary integration of the Fire Ecology Assessment Tool (FEAT) and FIREMON.

FMO Fire Management Officer: Also called Wildland Fire Program Manager.

FMP Fire Management Plan. Another term commonly used is the Wildland Fire Management Plan (WFMP).

FMU Fire Management Unit; A fire management unit (FMU) is defined by the National Wildfire Coordination Group (NWCG), as a land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major fire regime groups, etc. that set it apart from the characteristics of an adjacent FMU. The FMU may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

FMYN Fort McDowell Yavapai Nation

FPA Fire Program Analysis: FPA is a performance-based, landscape scale interagency fire program planning and budgeting system.

FPU	Fire Planning Unit: The FPU is defined in order to describe a geographic analysis area specifically for FPA. It is not predefined by agency administrative boundaries and may be described spatially. It can include a single or multiple Land Use Plan area(s). It can cross jurisdictional boundaries and consists of one or more FMUs.
FWF	Fire Weather Planning Forecast
FWM	NFDRS Forecast
FWS	Fish and Wildlife Service. An agency under the USDI.
GACC	Geographic Area Coordination Center: Interagency regional operational centers for fire resource coordination and mobilization.
GIS	Geographic Information System: A computer based system of geographical data that contains numerous data layers (e.g., terrain, roads, vegetation, other improvements, fire history, fuel models, etc.). It is used for planning future projects and maintaining a record of existing conditions and historical activities.
GPS	Global Positioning System
HFRA	Hazardous Fuels Reduction Act.
FMU	Fire Management Unit: Any land management area definable by objectives, topographic features, access, values-to be-protected, political boundaries, fuel types, or major fire regimes, etc., that set it apart from management characteristics of an adjacent unit. FMUs are delineated in WFMPs. These units may have dominant management objectives and preselected strategies assigned to accomplish these objectives.
IRPG	Incident Response Pocket Guide, PMS 461, NFES 1077.
IA	Initial Attack: An aggressive suppression action consistent with firefighter and public safety and values to be protected.
IAM	Indian Affairs Manual
IAP	Incident Action Plan. Contains objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period. The plan may be oral or written. When written, the plan may have a number of attachments, including incident objectives, organization assignment list, division assignment, incident radio communication plan, medical plan, traffic plan, safety plan, and incident map. Formerly called shift plan.
IC	Incident Commander
ICS	Incident Command System
IMET	Incident Meteorologist
IQCS	Incident Qualification and Certification System
LandFire	LANDFIRE: Also known as the Landscape Fire and Resource Management Planning Tools Project, is a multi-partner project producing consistent and comprehensive maps and data describing vegetation, wildland fuel, and fire regimes across the United States. It is a shared project between the wildland fire management programs of the U.S. Department of Agriculture Forest Service and U.S. Department of the Interior.
MAC	Multi Agency Coordinating Group. A generalized term which describes the functions and activities of representatives of involved agencies and/or jurisdictions who come together to make decisions regarding the prioritizing of

incidents, and the sharing and use of critical resources. The MAC organization is not a part of the on-scene ICS and is not involved in developing incident strategy or tactics.

MIST Minimum Impact Suppression Tactics. The application of strategy and tactics that effectively meet suppression and resource objectives with the least environmental, cultural and social impacts.

NCSS National Cooperative Soil Survey. The National Cooperative Soil Survey (NCSS) is a nationwide partnership of federal, regional, state and local agencies; and private entities and institutions. This partnership works together to cooperatively investigate, inventory, document, classify, interpret, disseminate, and publish information about soils of the United States and its trust territories and commonwealths. The activities of the NCSS are carried out on national, regional, and state levels. The Natural Resources Conservation Service (NRCS) is responsible for the leadership of soil survey activities of the U.S. Department of Agriculture, for the leadership and coordination of NCSS activities, and for the extension of soil survey technology to global applications.

NEPA National Environmental Policy Act

NFDRS National Fire Danger Rating System: A system that uses inputs of temperature, relative humidity, wind speed, fuel moisture, and fuels parameters to compute components and indices related to the ignition, spread, and difficulty of control of wildland fire.

NFFL National Forest Fire Laboratory

NFMD National Fuel Moisture Database

NFPORS National Fire Plan Operations Reporting System: A computer-based online information portal used to request project funding and track project progress.

NIFC National Interagency Fire Center: An interagency facility located in Boise, Idaho that manages fire activities, at the national level, for all five federal wildland fire agencies.

NIMS National Incident Management System

NPS National Park Service. An agency under USDI.

NRCS US Department of Agriculture**,** Natural Resources Conservation Service

NWCG National Wildfire Coordinating Group. A group formed under the direction of the Secretaries of the Interior and Agriculture to improve the coordination and effectiveness of wildland fire activities and provide a forum to discuss, recommend appropriate action, or resolve issues and problems of substantive nature.

NWS National Weather Service

PPE Personal Protective Equipment: Equipment that is required to safely perform assigned tasks. In wildland firefighting, this requirement includes 8 inch high leather boots, Nomex pants and shirt, leather gloves, hard hat, and a fire shelter. Specific jobs may require additional safety equipment.

PS Predictive Services. This function is managed out of the Southwest Coordination Center in Albuquerque, NM.

PSA Predictive Services Area

PYT Pascua Yaqui Tribe

RAWS Remote Automatic Weather Station: Automated weather stations that are located throughout the United States. These stations gather weather data that assists land management agencies with a variety of projects - monitoring air quality, rating fire danger, determining prescribed fire windows, and providing information for research applications.

RFMO The BIA Regional Fire Management Officer

RFW Fire Weather Watches and Red Flag Warnings

RH Relative Humidity

ROMAN Real Time Observation Monitor and Analysis Network

RXFire Prescribed Fire: Any planned ignition intended to meet specific objectives. Prescribed fires are conducted in accordance with prescribed fire plans.

SEAT Single Engine Air Tanker

SRPMIC Salt River Pima-Maricopa Indian Community

SWCC Southwest Coordination Center

SWFF Southwest Indian Fire Fighter Program

USDI United States Department of Interior

USFS US Forest Service

VTP Values to be Protected: These include property, structures, physical improvements, natural and cultural resources, community infrastructure, economic, environmental, and social values.

Wildland Fire A general term describing any non-structure fire that occurs in the wildland. Wildland fires are categorized into two distinct types: Wildfires - unplanned ignitions or prescribed fires that are declared wildfires, and Prescribed Fires - planned ignitions.

WFDSS Wildland Fire Decision Support System: A process which examines the full range of responses to a wildland fire and becomes the documentation support system for the management strategies taken.

WFMI Weather Information Management System

WFMP Wildland Fire Management Plan: A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved Forest Management Plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, prevention plans, etc. This term is synonymous with Fire Management Plan (FMP)

WIMS Weather Information Management System

WSFO Weather Service Forecast Office

WUI Wildland/Urban Interface: The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels or where humans and their development meet or intermix with wildland fuel.

REFERENCES CITED

Federal Fire Policy

- NWCG Terminology Update, attachment A, #24-2010 (April 30, 2010)
- Guidance for Implementation of Federal Wildland Fire Management Policy (February 13, 2009)
- Review and Update of the 1995 Federal Wildland Fire Management Policy (January 2001)
- Modification of Federal Wildland Fire Policy Guidance (memorandum dated May 2, 2008)
- Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy (June 20, 2003)
- Federal Register Volume 66, U.S.D.A. & U.S.D.O.I. 2001. Urban Wildland Interface Communities Within the Vicinity of Federal Lands That Are at Risk From Wildfires
- Healthy Forests Restoration Act of 2003 (HFRA)

Department of Interior Policy

- Department of Interior Departmental Manual Part 620, Chapter 1: Wildland Fire Management (April 9, 1998)
- The Department of the Interior (DOI) Departmental Manual 620 DM, Chapter 3, Burned Area Emergency Stabilization and Rehabilitation

Bureau of Indian Affairs Policy and Handbooks

- Bureau of Indian Affairs Fuels Management Program, 2008 Business Rules Handbook (July, 2008)
- Bureau of Indian Affairs, Fuels Management Program – Supplement to the Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide (December, 2008)
- Indian Affairs Manual (IAM), Part 90 IAM, Wildland Fire Management , Jan. 2006.
- Indian Affairs Manual (IAM), Part 57 IAM, Aviation Management , Oct. 1999
- U.S. CFR.1 April 1999, Title 25, Indians. Chapter I, BIA, DOI. Part 163 – General Forestry Regulations. Sections 163.28 (a), (b), (c), (d)
- U.S. Code of Federal Regulations (CFR). 1 April 1999. Title 25, Indians. Chapter I, Bureau of Indian Affairs (BIA), Department of Interior (DOI)
- Bureau of Indian Affairs, Wildland Fire & Aviation Operations Guide, “Blue Book”, 2010 (issued annually)
- Tribal Wildfire Resource Guide, University of Oregon, 2006

Interagency Fire Management Handbooks and Guides

- Fireline Handbook, NWCG Handbook 3,(PMS 410-1, NFES 0065)
- Incident Response Pocket Guide (IRPG) (PMS 461, NFES 1077)
- Interagency Prescribed Fire, Planning and Implementation Procedures Guide (July, 2008)

- Interagency Burned Area Emergency Response Guidebook, Version 4.0, February, 2006
- Interagency Burned Area Rehabilitation Guidebook, Version 1.3, October, 2006
- Interagency Fire Regime Condition Class Guidebook, Version 1.2, May, 2005
- Southwest Area Fire Mobilization Guide, 2010
- Southwest Fire Weather Annual Operating Plan, 2010
- Fire Program Analysis (FPA) Guidance
- Wildland Fire Qualification System Guide, PMS 310-1, NFES 1414
- FFI (Feat/Firemon Integrated) Users Guide, Ecological Monitoring, March 2011

BIA Salt River Agency. SRPMIC, FMYN and PYT Planning Documents

- BIA, Salt River, Annual Operating Plan, 2011
- Fire Management Plan, BIA Salt River Agency, 2006
- Cooperative Agreement with the BIA and the Salt River Fire Department
- Cooperative Agreement (No. A12AV01018) between the BIA Western Regional Office and Fort McDowell Yavapai Nation.
- Cooperative Agreement with Phoenix Interagency Dispatch Center
- Salt River Pima-Maricopa Indian Community General Land Use Plan, 2006

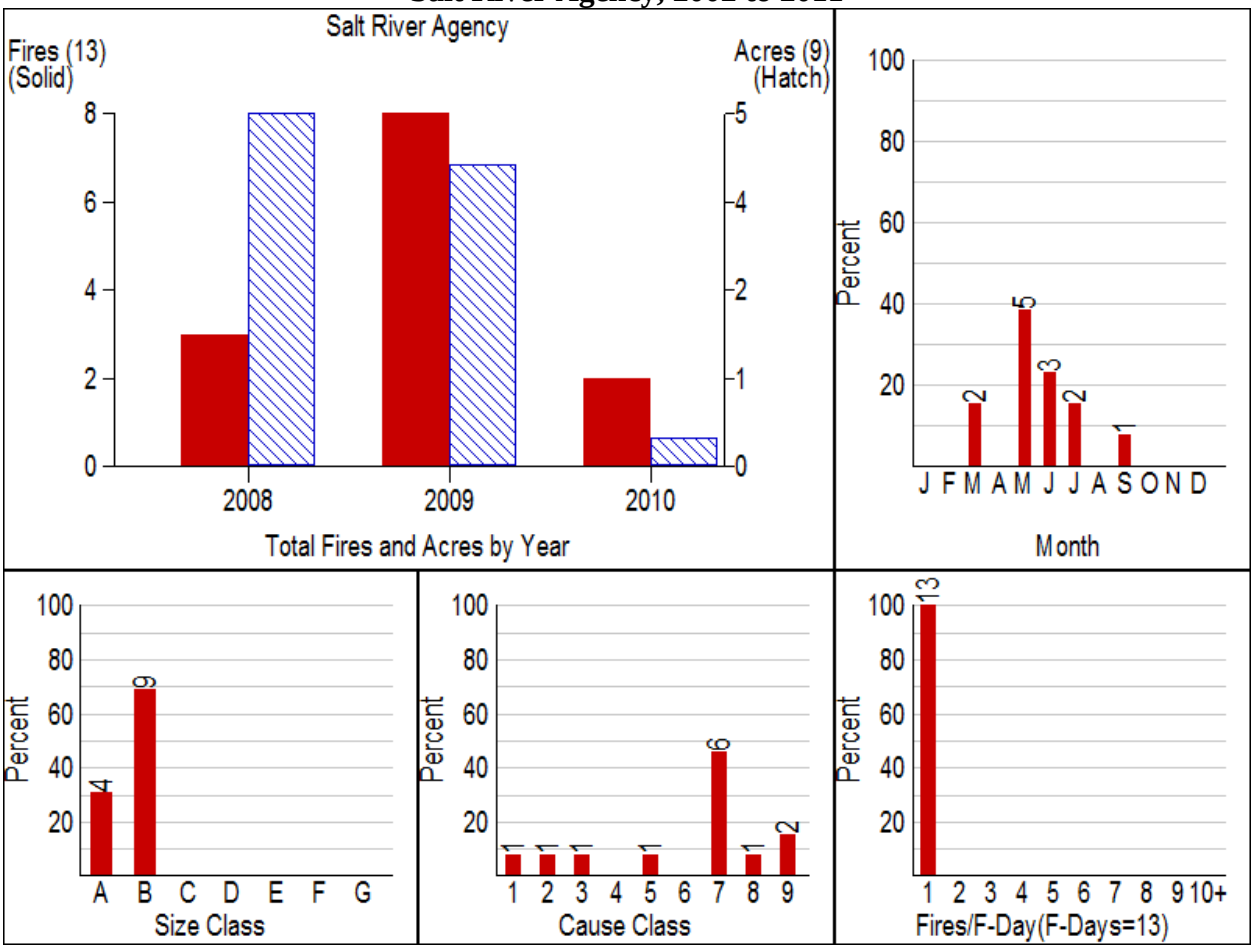
Interagency and Cooperative Agreements

- Maricopa County Community Wildfire Protection Plan (CWPP), 2010
- Pinal County Community Wildfire Protection Plan (CWPP)
- Joint Powers Agreement with the State of Arizona & Federal Agencies
- Southwest Area Fire Weather Operating Plan, National Weather Service & Cooperators, 2010
- Southwest Area Interagency Fire Management Agreement (Reference Southwest Area Mobilization Guide Chapter 40)
- Mutual Aid Agreement within the Central West Zone. (Reference Southwest Area Mobilization Guide Chapter 40)
- Initial Attack, Mobilization and Demobilization (Reference Southwest Area Mobilization Guide chapter 40)

Research Documents and other Publications

- Field Guide to Managing Saltcedar, US Fish and Wildlife Service, TP-R3-16-2 January 2010
- Alford,Eddie J. and Brock, John H. and Gottfried, Gerald J., Effects of Fire on Sonoran Desert Plant Communities, Rocky Mountain Research Station, USDA Forest Service, Phoenix, AZ. USDA Forest Service Proceedings RMRS-P-36. 2005
- Taylor, John P. and McDaniel, Kirk C., Restoration of Saltcedar Infested Flood Plains on the Bosque del Apache National Wildlife Refuge, June 1997.
- National Cooperative Soils Survey, Soils Survey of the Gila Indian Reservation Arizona, 1991
- Chronic, Halka, Roadside Geology of Arizona, 1983

- United States Dept. of Agriculture, Natural Resource Conservation Service, Web Soil Survey, References for Using Soil Survey Databases from the NRCS/USDA
- Effective Resource Advising and Suppression Rehabilitation, BAER Teams, Planning, and Assessments, Sandee Dingman, Lake Mead National Recreation Area, 601 Nevada Way, Boulder City, NV 89005; sandee_dingman@nps.gov.
- Humphrey, R.R. 1974. Fire in the deserts and desert grassland of North America. In: T. T. Kozlowski and C.E. Ahlgren (eds.) Fire and Ecosystems. New York: Academic Press, pp. 365-400.
- National Weather Service, Phoenix, AZ, http://www.weather.gov/climate/climate_prediction.php?wfo=psr. Accessed: May 2011.

Appendix A; Fire Occurrence Graphs

Salt River Agency, 2002 to 2011