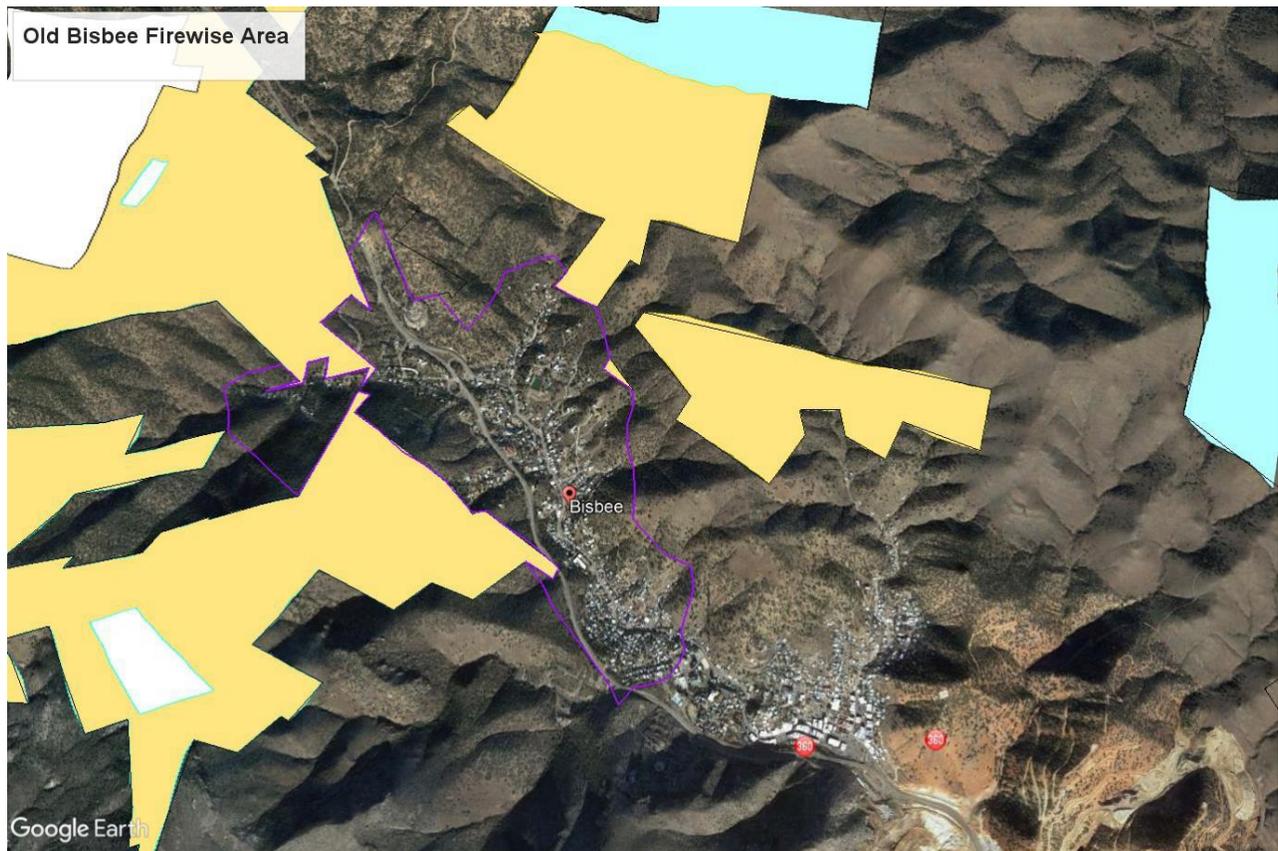


Old Bisbee Firewise Plan

September
2018

Figure 1. Photo of Old Bisbee Firewise Area



Old Bisbee Firewise Plan, 2018

DESCRIPTION AND HISTORY OF THE COMMUNITY

Bisbee, Arizona, the county seat of Cochise County, is located 90 miles southeast of Tucson and nestled in the Mule Mountains. Founded in 1880, and named after Judge DeWitt Bisbee, a financial backer of the Copper Queen Mine, its original iteration as an Old West mining camp proved to be one of the richest mineral sites in the world, producing nearly three million ounces of gold and more than eight billion pounds of copper, not to mention silver, lead and zinc. By the early 1900's, the Bisbee community was the largest city between St. Louis and San Francisco. It had a population of 20,000 and had become the most cultured city in the Southwest. In 1908 a fire ravaged most of Bisbee's commercial district along Main Street. Reconstruction – some of which was meant to withstand or at least frustrate a future catastrophic fire – began immediately, and by 1910 most of the historic district had been rebuilt and remains completely intact today. Activities began to slow as the mines played out and the population began to shrink; mining operations, on a large scale, shut down in 1975. Bisbee has since evolved into an attractive county court administrative center, historic cultural center, artist colony, general and alternative holistic health center, portal to Mexico and retirement and recreation-minded community, much of which emphasizes monthly special events for enhanced tourism, as well as for the enjoyment of its own residents. Travelers from all over the world come to Bisbee to stay and savor “its unique charm, an uncommon blend of creativity, friendliness, style, romance, and adventure all wrapped in the splendor of the Old West.”

The community is located in the Madrean Evergreen Woodland and Chihuahuan Desert-scrub Biotic Communities, characterized by oak and juniper woodlands in the higher elevations; and shrubs and grasslands in the lower elevations like in the San Jose District. Bisbee development started in the Mule Mountains, which are rich in copper, turquoise, and other ores. The City prospered originally because of the copper industry, which also shaped the City's land uses and types of construction. Development, then, spread to the surrounding plains. Physical constraints as well as the geology and topography of the area have made the three developed sections of the City (Old Bisbee, Warren, and San Jose) in some ways isolated from one another, although community efforts are underway to bridge those gaps. Phelps Dodge had a strong mining company presence throughout Bisbee until Freeport McMoRan bought out Phelps Dodge Mining Company in 2007 in what was touted as the world's largest mining takeover ever.

The original incorporated area of the City encompassed only the Old Bisbee area. Warren and San Jose were annexed into the City limits in the early 20th century. The City has not aggressively annexed areas over the years. A total of 38 acres off of Naco Highway have been annexed since 2004. Thanks to efforts of its earliest European mining residents as well as strategic renovation and preservation efforts since, Old Bisbee resembles a European hamlet more than a 1800s Old West town. Originally called the “Queen of the Copper Camps,” Bisbee has a rich history from humble beginnings as a mining camp to boom town in the 1880s. Bisbee has maintained an Old World charm seldom found in the United States.

GOALS OF THE PLAN

The community of Old Bisbee, AZ, has committed to preparing for wildfires that are inevitable, yet need not be disastrous to lives, properties and the environment on which our local ecotourism economy depends. By formulating and executing an action plan, including by promoting regular and continuous attention to fuels reduction and structure safety, our community will become more resilient to wildfires in the wildland-urban interface (WUI). Principles developed under the National Fire Protection Association (NFPA) have proven effective in enhancing community resiliency to wildfire, and this effectiveness drives us to seek official recognition and certification as a Firewise Community.

Our goals are three-fold: (1) to educate members of our community about Firewise principles and methods; (2) to motivate property owners to adopt and maintain Firewise principles, and (3) to enhance community resilience to wildfire through implementation of these principles.

FIREWISE COMMITTEE REPRESENTATIVES

The Chairpersons are Al Anderson (tel. 520-227-6504; aanderson@cableone.net) and Anne Carl (tel. 520-227-7367; anne@carlplc.com).

COMMUNITY LOCATION

Bisbee, Arizona is located in Cochise County, southeast Arizona, approximately four miles from the international border with Mexico and the State of Sonora. Bisbee is approximately 50 miles from Interstate 10 and 90 miles southeast of Tucson. State Highways 80 and 92 meet at its center, where Old Bisbee essentially ends and Warren and then San Jose begin.

Old Bisbee's Historic Business, Arts and Cultural District (and more specifically its Post Office and Library) is located at 31°26'29.30"N, 109° 54'56.32"W.

OWNERSHIP (WITHIN TARGETED AREA)

Old Bisbee Firewise area encompasses about .60 square miles of private land with approximately 517 residences. What considerably boosts the number of structures are the many out-buildings associated with homes - commonly 1.5 per home and including storage structures, garages and car ports. With a seasonal influx of part-time residents, the local population of about 1163 grows to about 1337 during winter months. BLM and Freeport McMoRan-owned lands border many of the private properties.

TOPOGRAPHY

The City of Bisbee is in the Mule Mountains and the surrounding plains to the south. These mountains have been greatly altered over time by mining activity and are honeycombed with tunnels. In addition, the Lavender Pit to the west of State Highway 80 greatly altered the landscape of the area. The area encompasses more than a dozen distinct, and in many cases,

geographically separated boroughs or neighborhoods each with distinctive character.

Old Bisbee was the site of the original mining camp and most of the buildings started up Tombstone Canyon and Brewery Gulch. Then, these progressed up the steep Mule Mountain slopes in the late 1800's. Retaining walls, stair networks and narrow winding roads are characteristic of this area. Development covers the mountainsides and will most likely continue to do so as infill takes place on vacant lots. The terrain is rocky; in many areas, sewer and natural gas lines are above the ground.

Drainage flows from the mountains down the Mule Gulch adjacent to Tombstone Canyon and Main Street in Old Bisbee. There is also drainage from the east of Old Bisbee down Zacatecas Canyon and Brewery Gulch, intercepting the Mule Gulch drainage-way near Goar Park and Lyric Plaza.

Development in the Old Bisbee area clearly follows the form of the land giving the area a very distinct character. However, this did not free the turn-of-the-century population from the hazards of rapidly flowing run-off from the steep rock inclines of the mountains or from the problem of serious fires. Water courses consisting of sub-level ditches have long been in place to alleviate the flooding. Fires still pose a serious threat, both in the town as well as wildfires in the uplands around Bisbee.

Old Bisbee's perfect location in the Mule Mountains (5300 ft) of southern Arizona protects it from extreme summer heat and winter cold. Summers are noticeably cooler than in Phoenix and Tucson. Winters are crisp and short with plenty of sunshine, and daytime highs are often in the 60s. The air is always crystal clear throughout the year. The average daily high temperature during Fall/Winter (October–March) is 63 degrees (F). The average daily high temperature for Spring/Summer (April–September) is 82.5 degrees. The average daily low temperature during Fall/Winter (October–March) is 36 degrees (F) and the average daily low temperature during Spring/Summer (April–September) is 55 degrees. Annual rainfall is an average of 18.3 inches per year. Both steep terrain and daily wind cycles (down-canyon evening and up-canyon morning winds) could potentially contribute to severe fire behavior.

VEGETATION

Juniper and oak trees were formerly abundant in the Bisbee Quadrangle, particularly on Juniper Flat and Escabrosa Ridge. The neighboring hills were dotted with shrubs. By 1904, as development occurred, these disappeared as they were used for a variety of purposes, including mining, smelting, building construction, and fuel. Over the years, secondary regrowth has begun a definite reestablishment of native oaks and shrubs on the mountain sides around Old Bisbee. Some areas now sport thick stands of oaks and brush. In addition, there are many native grasses on the hills and plains. The tailing piles remain fairly barren of any vegetation. Salt cedars are known to accept the near sterility of tailing piles and Desert Broom has made a few footholds here and there. The aridity of the climate is suspended once a year, just after the summer rains, and the countryside experiences, for a brief period, a belated spring. Grasses wave over many of

the hill slopes and bright multi-hued flowers appear among the rocks. The change is transient, and the greenery soon fades into the neutral tints of aridity common to the high desert. The Old Bisbee area is gifted with the regenerating softwoods and other sparse green bushes, which provide a softer mountainous scene toward the Mule Pass on the west where Old Bisbee nestles below in Tombstone Canyon and the surrounding slopes to the north.

CLIMATE

Bisbee enjoys an annual average temperature of 59.2 degrees Fahrenheit, with extremes ranging from 3 to 100+ degrees Fahrenheit over the seasons. Precipitation averages 18.3 inches per year, which helps to alleviate the more arid climate common among other communities in the region. However, since 1971, climate variability has led to a slight decrease in average high temperatures, while average low temperatures have increased by over one degree Fahrenheit. Overall annual average precipitation has also decreased since 1961 by over 6 inches a year. (source: Western Regional Climate Center/NOAA National Climatic Data Center (NCDC) 1981-2010, 1971-2000 and 1961-1990 Monthly Normal).

Figure 2. Rain Data Chart.

Month	Average Temperature (F)		Average Total Precipitation (Inches)
	Daily Maximum	Daily Minimum	
January	56.6	30.6	1.27
February	60.5	33.1	1.20
March	66.4	36.7	0.94
April	73.8	42.6	0.55
May	81.6	49.8	0.32
June	89.0	58.0	0.89
July	87.6	61.6	4.07
August	84.4	59.6	4.16
September	82.1	54.8	1.92
October	74.6	45.9	1.33
November	62.3	35.6	0.84
December	56.6	31.1	1.45
Year	73.2	45.1	18.92
(Based on a 30-year average 1981-2010)			

Source: Western Regional Climate Center/NOAA National Climatic Data Center (NCDC) 1981-2010 Monthly Normals.

Fire season typically extends from late winter through early summer. Beginning in late February or early March, Bisbee receives strong, drying winds from the ‘tails’ of frontal storms reaching this far south without the precipitation needed to boost fuel moistures significantly. Although winds can be strong in November-December, they are normally accompanied by precipitation during that season. Annual grasses begin to cure at the end of the monsoon, or if winter rains begin soon after, then when those rains cease. Lightning is rare during this season, but extreme fire weather in March through May has spread fires ignited by humans at astonishing rates. The

intensity of fire weather normally subsides in June and July, depending on the strength of the summer monsoon, but humidity's remain low through mid-June.

WILDLIFE

Mammal species occurring regularly in our community include cougar, bobcat, black bear, Coues whitetail deer, collared peccary, coatimundi, raccoon, gray fox, striped, hooded, spotted and hog-nosed skunks, woodrats, other cricetid, sciurid and heteromyid rodents, and 24 bat species, including the endangered lesser long-nosed bat.

Among other animals, herptiles are represented by numerous lizard species, including Gila Monsters (a species of special concern), snakes, and amphibians. And a remarkable diversity of passerine birds, including some rare seasonal migrants, make Old Bisbee an internationally renowned birding destination. Other notable birds include the Mexican Spotted Owl (federally listed as threatened), Gould's Turkey and an unusually diverse community of nesting raptors (hawks and especially owls).

FIRE HISTORY

Grasses and heavy brush vegetation types dominate everywhere within the boundaries of our community. Private properties are most numerous in this vegetation zone, and not coincidentally, most wildfires have been ignited by human activities like brush burning and misuse of light equipment like welding equipment. Old Bisbee typically experiences at least one brush fire each year and many times evacuations are implemented. Fires are usually extinguished within the same day in which they start. This is due in part to the proximity of Libby Air Tanker Base in Sierra Vista, which is only 26 air miles away. The Base hosts a revolving variety of aircraft that can include P2V, P3V, BAe-146's and RJ85. The steep terrain surrounding Bisbee hinders aerial firefighting and this community recognizes that these aerial firefighting assets may not always be available when we need them, so more must be done to avoid and prepare for future fires.

COMMUNITY INFRASTRUCTURE

The Bisbee Traffic Circle located at the confluence of State Route 80 (Milepost 343.7) and State Route 92 (Milepost 329.4) and its 10 accompanying islands are all property of ADOT. Positioned astride two major arteries on the southernmost state system, the circle catches the attention of travelers as they enter or leave Bisbee. Constructed in 1947, the circle is the oldest and most historic in Arizona and is one of the few on the State System.

Egress in and out of the Old Bisbee Firewise area is limited to the confines of the canyon in which it lays. The canyon runs roughly Northwest by Southeast. Tombstone Canyon Street (a.k.a. Main Street and West Blvd.) follows the canyon bottom and is the artery that serves most of the residential neighborhoods. Highway 80 runs parallel but is perched high above on the south side of the canyon.

The Arizona Water Company supplies drinking water to the entire City and fire suppression water to Warren and San Jose sections. For years, the City reservoir storing Old Bisbee's fire suppression water had leaked. As of this time, the main 2.9 million-gallon reservoir has been sealed. The Bisbee Fire Department also makes sure its 2,000-gallon water tender is available in Old Bisbee in case there is fire in areas not serviced within the proximity of the fire suppression system. The three (3) other reservoirs located on the fire suppression system overlooking Old Bisbee are in need of upgrading.

The Bisbee Fire Department responds to all types of emergency situations. These incidents include but are not limited to fire response within the city limits, wildland fires for the Arizona State Land Department, as well as hazardous material incidents. The Fire Department also provides Advanced Life Support Ambulance Service, which includes 400 square miles throughout Cochise County as well as inter-facility transports from hospital to hospital. The Fire Department is also responsible for enforcement of the Uniform Fire Code and inspection of all businesses and public access areas. The Fire Department is charged with investigating for cause and origin any and all fires when necessary. The Fire Department employs 18 personnel that are trained and certified at different levels to include, 1 Fire Chief, 1 Captain EMT, 2 Captain Paramedics, 1 Lieutenant Paramedic, 2 Lieutenant EMTs, 2 Firefighter Paramedics and 10 Firefighter EMTs

COMMUNITY ACCOMPLISHMENTS

Providing and Installing Free Smoke Alarms that have 10-year Batteries – Bisbee's being both the county seat and a former mining town opens our fledgling Old Bisbee Firewise program to certain opportunities that some other western cities may not necessarily have. For example, Freeport McMoRan recently informed one of our participants that it can offer free smoke alarms to those residents in Bisbee who may not be able to afford one or more of these on their own. It is almost useless, however, to simply hand a resident a smoke alarm without installing it for them. That is why our program intends to tap into our neighborhood County Probation Office to directly connect with probationers who need "service hours" and can be trained to install smoke alarms in houses that need them for free.

Individual property assessments – An assessment form is being developed. This form can be filled out as a hard copy or electronically and emailed to property owners as pdfs. Many local residents have already begun to work on fuel reduction and structure protection. Some of the fuel reduction work has been performed by prison crews, and other work was accomplished by locally hired help or by property owners themselves. To date, many properties have made significant progress toward wildfire survivability, including structure protection measures like sealing and caulking, removal of firewood near structures, and installation of 1/16" screen in vents and other places of concern. The Committee will be applying for grants to help community members who lack the resources to reduce fuels on their properties.

Firewise recommendations attempt to create a sustainable balance between safety and the homeowner's desire to maintain environmental harmony. Individual homeowners must balance these two goals on their private properties but can make better (more informed) choices by

employing Firewise principles to reduce vulnerability of the home ignition zones during wildfire.

COMMUNITY PROJECT GOALS

Future fuel/vegetation treatments – Old Bisbee Firewise will apply for grants to support fuel reduction efforts on private properties and on the Bureau of Land Management’s properties that surrounds Old Bisbee area. Of special concern are unoccupied homes, and homes of elderly folks with limited resources. We will identify and recruit workers willing to be hired by homeowners for fuels reduction and various projects addressing vulnerabilities in structures.

Future Firewise education or notification plans – Community meetings will be held every few months, to reinforce the need for property owners to meet and maintain Firewise standards. Members of the Firewise Committee will also pay visits to local homeowners to perform property assessments and additional follow-up after earlier assessments.

Future Firewise event plans – We will coordinate with the City of Bisbee Department of Public Works to help strengthen and speed their program which hauls brush and tree trimming from public right of ways and private properties to their safe disposal site.

We will be meeting to organize a phone tree alert system and an evacuation drill. Once that system is operational, and after notifying community members through email and posted notices, we will hold a practice evacuation drill. Alerts will go out by phone, and residents will be asked to evacuate, probably to a luncheon or BBQ event. This test will be useful in planning to avoid traffic congestion during evacuations.

COMMUNITY INVESTMENT

Annual community’s minimum investment – Dramatic images of destructive California wildfires have ‘lit a fire’ under Bisbee residents. Many of whom are already working energetically at reducing fuels. Whereas our community is aware of the fire dangers that exists within Bisbee, there has not been a concerted effort to deal with that problem. The idea of creating a Firewise area and organizing community involvement has been enthusiastically received by everyone.

Plans to achieve minimum investment going forward – Based on this and community appreciation for Firewise as a continuing process, we do not anticipate problems with meeting requirements going forward in subsequent years. Additionally, if Old Bisbee Firewise competes successfully for grants, some property owners who felt they could not afford to participate will be motivated to participate in the future.

COMMUNITY FIREWISE DAY

Firewise Day Events community volunteer clean-up days will be planned for sometime around early November, 2018, and again for early March, 2019.