

## 2006 Western Great Basin Weather and Fuels

After 5 straight years of drought (winter 1998- summer 2004), Nevada had two years of exceptionally wet winters: 2004-2005 and 2005-2006. As a result, the U.S. Drought Monitor showed virtually all of Nevada out of drought classification for the entire 2006 fire season.

The beginning of 2006 saw a state that had just gone through a month of strong winter storms. Snowpack was heavy, with a single December storm dumping 2-3 feet in the Sierra. Rainfall in lower elevations was just as heavy, with mudslides and local flooding costing several million dollars of cleanup costs. Spring weather was a wild swing between warm and dry conditions and occasional heavy rainfall / heavy snowfall events. Seasonal snowpack totals were 175% of normal in the Sierra in early April. Rainfall for most of the state during the month of May averaged 250% of normal, with a small slice of southern Nevada at 20% of normal.

Fuels responded to the wet soil conditions and heavy mountain snowpack that existed across the northern, central and western parts of the state. Abundant and continuous fine fuels in the lower elevations laid the groundwork for a busy fire season ahead. The far south had far less rainfall but still retained a significant carryover of dead grass from the previous year. 1000-hour fuels (high elevation timber) were generally under a heavy snowpack.

In June, spring rains ended. The jet stream retreated north and a ridge of high pressure took its place. Nevada had what the National Weather Service called a "heat wave", with Reno setting a record of 102 degrees on June 25<sup>th</sup>. The ridge persisted through July with well above normal temperatures creating a very unstable atmosphere...and consequently numerous occasions of lightning. Unusually high temperatures and several lightning outbreaks combined for over a million burned acres by the end of the season.

Temperatures were so high that Red Flag Warning criteria had to be changed to include thunderstorms with rainfall instead of exclusively "dry thunderstorms". Rain produced by thunderstorms dried so quickly that it provided no apparent reduction in fire starts compared to dry thunderstorms. The only areas spared were the highest elevations, where melting snow kept soil moistures high enough to ward off most large fires. By the end of July, the southwest monsoon had started, bringing moisture to the far south. It did little to increase relative humidity in the area, but was enough to spark several instances of lightning and brought a couple of large fires to southeastern Nevada.

A shift in the weather pattern in August and September brought temperatures down to normal. A series of deep troughs pushed through northern and western Nevada, bringing cooler air into the state although without any season-ending rains. Fires continued, however, due to completely cured fine fuels, in some cases driven by the increased winds. October finally brought the end of fire season with much cooler temperatures, shorter daylight hours and several days of rain.

## Fire Occurrence

Nationally, three significant wildland fire records were broken in 2006. They were: the largest number of wildfires ( 96,385 fires), the largest number of acres ( 9,873,745 acres) and the greatest number of large fires (1,801 ) reported.

The Western Great Basin (WGB) set a new wildland fire record in 2006. 135 large fires were reported, 2.5 times the 10 year average of 54, surpassing the previous record of 113 large fires set in 1999. 20 of those large fires were over 10,000 acres each. Initial attack efforts were successful about 91% of the time factoring in the number of large fires that were contained within 24 hours. The five year average for IA efficiency is 95% based on number of large (>300 acres) compared to total number of fires.

The 1,274 fires reported to the Western Great Basin Coordination Center (WBC) is historically second in number only to the 1,548 fires reported to the WBC in 1996, and well above the 10 year average of 925 fires. The total of 1,348,871 acres burned in the WGB represented 13% of the total acres burned nationally, second only to the Southern Area which accounted for 26% of all acres burned. Those acres burned are historically second in number for the WGB only to the 1.6M+ acres that burned in 1999.

Typically lightning causes the majority of the wildfires in the WGB and accounted for 74% of the area's total number of fires and 97% of the area's total number of acres burned. The 1,301,924 lightning-caused acres represented nearly 24% of the national total, higher than any other geographic area. From late June through the second week in September, large fire activity throughout Nevada was nearly a daily occurrence. Three episodes of dry lightning stand out through this season. The six day period from June 22 to June 27 produced 125 lightning fires, 32 becoming large fires torching over 400,000 acres. The Winters fire occurred during this time, burning 238,458 acres mostly in Elko County, becoming the second largest fire reported in the nation. The fifteen day period from August 6 through August 20 produced 51 lightning fires, 17 becoming large fires consuming over 250,000 acres. The Charleston Complex occurred during this time, burning 190,421 acres in Elko County, becoming the fifth largest fire reported in the nation. The 3 day period from September 2 to September 4 produced 39 lightning fires, 8 becoming large fires accounting for nearly 300,000 acres. The Sheep fire (#7 in the nation) and the Amazon fire (#15 in the nation) both started on September 3 in Elko County.

Elko County took the brunt of the fire season with 235 fires (19% of the state's fires) and nearly 1,000,000 acres burned (68% of the state's acres and 10% of the national total). Miraculously no lives were lost and only four primary residences were reportedly destroyed. Hundreds of thousands of acres of livestock and winter wildlife forage were lost prompting the BLM to purchase 1 million pounds of grass seed. Emergency stabilization and restoration (ESR) efforts started soon after the fires were controlled and continued through the winter and into spring. The State Wildlife Department authorized emergency mule deer and antelope hunts to thin the herds and also relocated some 350 antelope from the burn areas. Additionally they raised about \$500,000 to purchase seed for restoration of native grasses on private property.