

Piñon Mortality from 2001 to 2005: Causes and Management Strategies

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Abstract—Piñon mortality in the piñon-juniper and piñon-sage types of the Southwest peaked in 2003 following several years of winter drought. The majority of the drought-weakened trees died from piñon ips bark beetle attacks, but twig beetles also played a role. Forest Service aerial surveyors estimate more than 50 million piñon trees died in New Mexico alone from 2001-2005, most likely a conservative estimate since understory trees cannot be seen from the air. Unprecedented densities, advancement of piñon into drier sites at the low end of its elevation range, and multiple years of drought have made this period of die-off particularly notable. There is considerable evidence from the paleobotanic record that the range of piñon had reached its maximum extent following a comparatively wet period in the 1960s and 1970s, but there is also information that suggests piñon has always colonized and retreated from large areas over time. While natural events such as drought cannot be controlled, some management strategies can ease the adverse impacts on lands where the piñon component is valued. These management strategies must be tailored to address the specific damaging agent from the guild of organisms that are associated with piñon and juniper.