MHF04z

Fire scarred section of giant sequoia (*Sequoiadendron giganteum)* collected 1989 in Mountain Home State Forest, California, near the Enterprise Mill site by T. Swetnam, T. Caprio, C.H. Baisan. Dated by C. H. Baisan 2015. Prepared by C. H. Baisan.

Specimen data (MHF04z)

Inner date: 223 AD

Outer date: 1459 AD

Fire dates: 231L, 245L, 275D, 291L, 326EE, 353D, 365L, 386, 410L, 442L, 468 release, 486ME, 498LE, 527LE, 561NE, 587LE, 626LE, 646L, 661ME, 681L, 699L, 718ME, 729ME, 768 release, 792 release, 827LE, 859D, 875L, 891ME, 929EE, 950ME, 1034 release, 1090L, 1115ME, 1144L, 1182L, 1198ME, 1220ME, 1268L, 1297ME, 1323L, 1365 release, 1387 release, 1407 release, 1430 release.

Tree data (MHF04)

Inner date: 154 BC

Outer date: 1699 AD

Fire dates: -83 release, -33 release, 202EE, 231L, 245L, 275D, 291L, 313ME, 326EE, 353D, 365L, 386, 410L, 442L, 468 release, 486ME, 498LE, 527LE, 561NE, 587LE, 626LE, 646L, 661ME, 681L, 699L, 718ME, 729ME, 768 release, 792 release, 827LE, 859D, 875L, 891ME, 929EE, 950ME, 971LE, 1015ME, 1034 release, 1044D, 1090L, 1115ME, 1144L, 1182L, 1198ME, 1220ME, 1268L, 1297ME, 1323L, 1365L, 1387, 1407L, 1430E, 1442L, 1473E, 1499, 1519, 1571L, 1592ME, 1620L, 1650E.

D: dormant season scar, end of growing season; EE: early earlywood scar; ME: mid-earlywood scar; LE: late earlywood scar; L: latewood scar. Release: growth increase following fire, date of fire given.

MHF04 was a naturally fallen tree whose top had been harvested, probably for fence posts. Not a large tree, its root ball and base were elevated and easy to section near ‘ground level’ - unlike the tall cut stumps from the logging. The first sample cut revealed a beautiful series of buried, healed-over fire scars and demonstrated clearly that long and fairly complete fire histories could be reconstructed from these trees.

Following the fire in 1297 the marked surge in growth is an indication of a severe fire that most likely resulted in high mortality of the mixed species understory. This growth change is visible on stumps throughout the stand and there is also a large cohort of trees about 650 years old – evidence of a stand clearing fire that left mainly mature sequoia as survivors and a mineral soil seed bed that provided optimal conditions for sequoia recruitment.

As the pith area had decayed away and the sapwood was missing we can only guess at this tree’s age. A reasonable estimate would be around 2,000 years.