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Edward R. Schneegas

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Aspen Snag Yields Record Bitterbrush Seed Cache

EDWARD R. SCHNEEGAS
*Wildlife Management Biologist Inyo
National Forest, Bishop, California*

Robbing rodent caches for seed is an age-old custom that works fine, but first one must find a cache. Pete Mills, Southern California Edison employee, ran into such a cache—and a big one—when he noticed bitterbrush (*Purshia tridentata*) seed trickling through a saw-cut in an

old hollow aspen (*Populus tremuloides*) he was felling near Bishop, California. As a result, Mills uncovered the largest known rodent cache of this seed which has been observed or reported. Approximately ten pounds of cleaned (dehulled) large seed was collected from this single tree.

The aspen stand where this cache was found is along McGee Creek on the Buttermilk deer winter range in Inyo County at 8,600 feet elevation. Most of the trees in this stand are

decadent. The tree containing the cache was about 30 feet high and two feet in diameter, and about three-fourths of the center had rotted out where the cut was made. The most likely rodents responsible for this cache are the golden mantled ground squirrel (*Citellus lateralis*) or chipmunks (*Tamias spp.*), both species are common to the area and are known to gather and store seeds for winter food. The closest bitterbrush plant to this tree was about 100 yards away. Although

there was abundant evidence of rodent habitation in the area and nesting litter mixed with the cached seed, none were observed actually entering the tree stand. It appeared the rodents had been very discriminate. The stored seed was large and good quality. Bitterbrush seed production in 1963 was so much heavier than in previous years the Inyo National Forest felt it warranted an intensive effort at seed collection.

This observation certainly points out the importance of rodents in bitterbrush ecology. Research by Hormay¹ has pointed out the importance of rodents in caching bitterbrush seeds in the ground. Widespread observations and measurements indicate that most of the plants in bitterbrush stands in California become established from seeds cached by rodents. He found the seeds cached 0.25 to 1.5 inches below the soil surface and the seedlings from these varied in number from 2 to 100, although in one case 139 were found. Hormay did not actually observe caching by rodents, but he suspected that chipmunks and golden mantled ground squirrels did most of it, the same rodents that we believe cached the seeds in the hollow aspen tree.

¹ Hormay, August L. 1943. *Bitterbrush of California. Pacific Southwest Forest and Range Experiment Station Research Note No. 34. 13 pp.*