

# IDENTIFYING WILDLIFE DEPREDATION OF PECANS



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**W**ildlife are significant depredators of pecans, particularly in native groves where losses up to \$280/acre have been documented (Huggins 1991). Basic to implementing methods to reduce these losses is the need to identify what species are causing the damage. This pamphlet has been prepared to assist growers, researchers, and damage control agents in this task.

Wildlife reduce pecan production in three ways: tree injury - damage to the pecan tree itself, nut damage - consumption or spoilage of pecan nuts within the orchard, and caching - the removal, burial, or storage of pecan nuts rendering them unavailable for harvest. This pamphlet addresses nut damage only.

Hall (1984) identified 99 wildlife species as possible pecan depredators, but considered the eastern fox squirrel, blue jay, and American crow to be the major depredators. This publication is based on work with the common pecan depredators of south-central Oklahoma only, and so its direct application is limited somewhat regionally to two bird and six rodent species. However, comparisons of shell samples among the rodent species tested indicated that damage characteristics were similar among species of comparable size, and so generalizations within a genus are probably valid. It is difficult to distinguish damage among the bird species, and so examples of American crow and blue jay damage are included mainly for comparison to that of the rodents. The high visibility of most bird species should allow damage identification in the field, however.

Rodent damage was evaluated by live trapping animals in the field, housing them in cages, feeding them pecans, and then comparing the pecan fragments. Bird damage samples were collected in the field following observations of feeding.



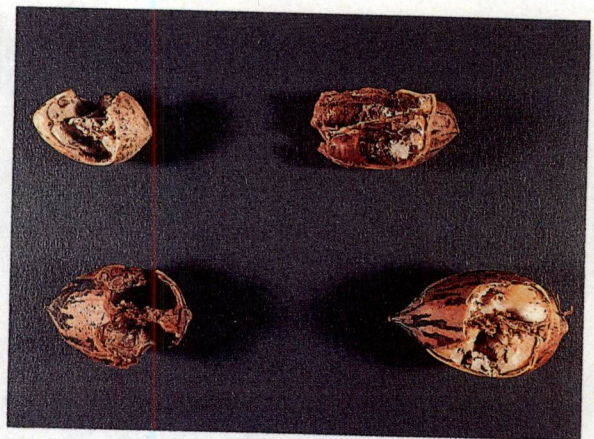
**American Crow**  
*Corvus brachyrhynchos*



Crow damage is identified by the characteristic beak indentation marks (▴) and the lack of gnaw marks. Rarely is the whole pecan meat removed by a bird, but ants often clean out any remaining meat. Birds are not major depredators until after shuck split. Crows prefer large cultivar nuts, if available, to natives.



**Blue Jay**  
*Cyanocitta cristata*



Blue jay damage is similar to that of crows, but blue jays prefer the smaller native pecans and are only minor depredators of the larger cultivar nuts.





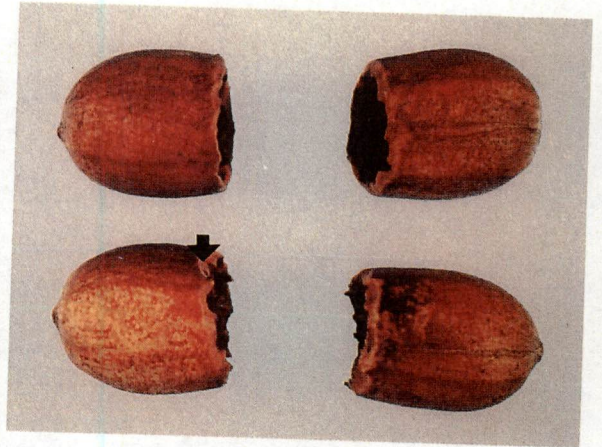
**Eastern Fox Squirrel**  
*Sciurus niger*



Fox squirrels produce a jagged, chipped entrance hole with few gnaw marks, usually with less than half of the shell remaining intact. In southern Oklahoma, the peak of fox squirrel damage occurs in September during the "dough" stage of pecan development just prior to shuck split.



**Eastern Woodrat**  
*Neotoma floridana*



Woodrats gnaw through a pecan shell in a cross-sectional plane from one or both ends, often creating a beveled shell edge (➡) with their gnaw marks.



**Hispid Cotton Rat**  
*Sigmodon hispidus*



Cotton rat damage is not possible to consistently differentiate visually from that of woodrats.





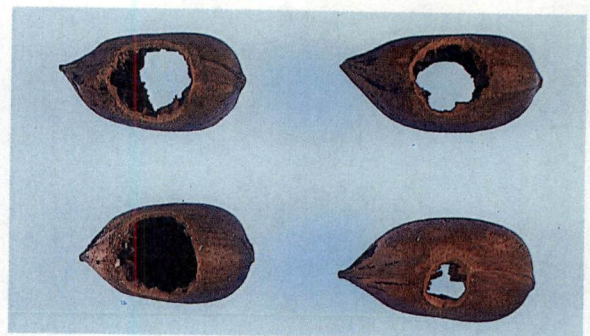
**Southern Flying Squirrel**  
*Glaucomys volans*



Flying squirrels gnaw through a pecan shell in a longitudinal plane through one end, leaving small and inconspicuous gnaw marks around the entrance hole.



**White-footed Mouse**  
*Peromyscus leucopus*



White-footed mice usually gnaw two or more entrance holes through opposite faces of a pecan. If there is only one entrance hole, it is usually centered between the two ends of the pecan. The small gnaw marks are usually conspicuous around the hole. Damage samples from the deer mouse, *Peromyscus maniculatus* (not-pictured), were indistinguishable from that of the white-footed mouse.

#### ACKNOWLEDGMENTS

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#### ADDITIONAL INFORMATION SOURCES

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