Over 200,000 hunters will take to the woods this fall in search of deer, turkeys, and bears as well as a host of smaller game species. One thing all of these hunters should know is the importance of acorns for the game they hunt. Acorns are a nutritious food providing protein, fat, and energy in the diets of 90 species of game and non-game animals in Virginia. As such, they are a staple food for Virginia’s wildlife, providing important resources to meet the physical challenges of winter weather and reproduction in the following spring. Wildlife will concentrate in areas where acorns are available, making game hard to find and leaving some hunters to wonder if game populations are low. Under these conditions hunter success rates decline. Conversely, when acorn crops fail, wildlife search forests and fields for other food sources which makes game easier for hunters to find and increasing hunter odds of success.

Given the importance of acorns to wildlife and their relevance to hunter success and satisfactions, the Department annually monitors acorn crops across the state. In addition to Department staff, personnel from the Department of Forestry, Department of Conservation and Recreation-State Parks, Smithsonian Conservation Biology Institute, Natural Resources Conservation Service, several military bases, and US Army Corps of Engineers participate in the surveys.

The white oak acorn crop was a bust in 2019 (Fig. 1). At best, white oak was very spotty in the Piedmont Region. Some white oak acorns were found in the northern and southern reaches of the Piedmont (Fort Belvoir and Briery Creek WMA, respectively).

As far as acorns go, the only game in town for most wildlife this year are red oaks (Fig 2.). Statewide, red oak acorn production was near the long-term survey median value. In the mountain regions, red oak production ranged from good in the northern mountains to spotty in the central and southern mountain counties. In the Piedmont, red oak acorns production was fair to good throughout the region with 20-25% of most tree crowns showing acorns. The southern reaches of the Tidewater Region also had good red oak acorn abundance.

Unfortunately, red oak acorns are high in tannins, a chemical that tastes bitter to most mammals. Birds don’t have a sense of taste, so they are not deterred by tannins in acorns. But, size does matter as the larger red oak acorns often limits their use by some smaller birds. Red oak acorns are high in energy and fat and most mammals will eventually feed on red oak acorns when other foods disappear. Having some acorns, even red oak acorns, is a benefit for most wildlife.

Readers should know that mast abundance ratings are intended to reflect the regional averages; however, mast crops are not uniform across a region. Acorn abundance can vary among local areas that are 10-15 miles apart. White oak acorns, the “sweet acorns,” are the first to be selected and the first to disappear. Scouting will once again prove useful to Virginians going outdoors this fall with or without a weapon, to enjoy our wildlife and perhaps harvest a deer, bear, or wild turkey.
Figure 1. Statewide white oak acorn production index (average percent of tree crowns with acorns) in Virginia, 2007-19.
Figure 2. Statewide red oak acorn production index (average percent of tree crowns with acorns) in Virginia, 2007-19.