

## **“Christmas Bird Count, or CBC” by Sally Cureton**

One of the annual events in Virginia birding is the Christmas Bird Count, or the CBC. Its roots go back over 100 years to a New England Christmas. Back then, hunters would go out in the fields and shoot anything they could find and then count it up to see who “won” with the largest count. An ornithologist named Frank M. Chapman found this a somewhat disconcerting practice and so on Christmas Day, 1900, he and about two dozen other volunteers settled in at scattered locations throughout the Northeast to count bird sightings.

From this modest beginning an annual event has grown, sponsored by the National Audubon Society with more than forty thousand volunteers in every state and Canadian province. Counts even extend into Guam, Columbia and the South Pole. There are about sixteen hundred count sites, each consists of a circle about 15 miles wide. The count takes place for one 24-hour period sometime during December 14th, 2007 through Saturday, January 5th, 2008. Each site may have a different day on which the count takes place. This time period is referred to as "early winter," because many of the birds counted then are still in the late stages of their southward migration. When this data is combined with other surveys scientists can get a picture of how the continent's bird populations have changed over the past hundred years. The information is also vital for conservation. For example, local trends in bird populations can indicate habitat problems or signal an immediate environmental threat, such as groundwater contamination or poisoning from improper use of pesticides. Past counts have been as high as 190 million birds for North America alone.

The mid-Atlantic region has more than 160 count sites and has one of the highest densities of CBC's in the country. Many volunteers start hours before daybreak counting owls. Count teams are always glad to accept new members whether they are experienced or not, another set of eyes is a bonus. Counts are kept for individual species, which can become somewhat a challenge for common birds such as starlings and house sparrows.

The final totals are published in the Audubon Society's *American Birds*. This volume comes filled with all of the facts and figures turned in by each of the CBC's. This count is the longest continuous survey of North America's winter bird population and gives many clues on trends that scientists are glad to have available. For instance, those birds with the greatest population declines since 1967 are Northern Bobwhite, evening grosbeak, northern pintail, greater scaup, boreal chickadee, eastern meadowlark, common tern, loggerhead shrike, field sparrow, and grasshopper sparrow.

Results are also posted on the web at [www.audubon.org/bird/cbc/](http://www.audubon.org/bird/cbc/). I was able to go into the website and get information for last year for Rockingham County. The count took place on Dec. 16 with 29 people participating and 69 species were counted. The table the site constructed shows the name of each species and how many were spotted by the participants.

With all the leaves changing colors and dropping from our trees, the question inevitable arises - what will the colors be like this year. This seems like a good time to talk about why the colors change and why trees drop their leaves. As most of us know summer leaves are green because they contain chlorophyll. But in the fall the yellows and reds are the result of two distinct processes. Chlorophyll looks green because it reflects green light. It absorbs all other wavelengths of light. The other pigments found in leaves, yellow and orange, become apparent in the fall when the plant stops producing chlorophyll. The yellow pigments are more stable than chlorophyll, so they remain in the aging leaf and that is what we see.

The red colors in maples and oaks come from a pigment that is not present in summer leaves. They don't make this pigment until after the chlorophyll is gone. When the leaves start to die, sugar is left in the leaves. The alternate warm days and cool nights causes a chemical reaction in the sugars which produces the bright red that we see. For all leaves, the final color we see is brown, produced by tannin. This is made by plants throughout the year and stored in the leaves and bark of the tree. It gives some leaves a bitter taste and therefore discourages animals from eating them.

The catalyst for these changes is the drop in temperatures and shorter days of autumn so that there is less light for chlorophyll production. The pathways for water and nutrients in the leaves become clogged. The leaf begins to deteriorate and slowly dies. The point where the leaf stem attaches to the tree weakens and the leaf falls off, except in the case of red oaks where it stays on until spring. Dropping their leaves also helps the trees to retain moisture. So in a year like this one with little moisture, trees need to drop their leaves as quickly as possible.

Here in Massanutten many people put their Christmas trees out to be picked up and recycled into mulch. Another alternative, if you have the space, is to put it out for small animals to use as winter shelter. It is a perfect place for them and will eventually break down and make for some wonderful soil.

Happy Holidays to Everyone!