

## Williamsburg Bird Club

Wednesday, May 19, 2021

Conducted via Zoom, invited by Dean Shostak and presided by Cheryl Jacobson, 7pm

**Attendance:** 32

**Program:** Tory Gussman, Programs, introduced the evening's speaker, Dr. Amanda Gallinat, who delivered a fascinating program on *The Effect of Climate Change and Invasive Plants on Fruit Availability for Fall Migrating Birds*.

Dr. Amanda Gallinat, who spoke to us from Logan, Utah, is currently a postdoc at University of Wisconsin-Milwaukee and the National Phenology Network. Phenology was a new word for many of us and is defined as the study of cyclic and seasonal natural phenomena, especially in relation to climate and plant and animal life. The National Phenology Network brings together citizen scientists, government agencies, non-profit groups, educators, and students to monitor the impacts of climate change on plants and animals in the US.

Dr. Gallinat pointed out that global warming is disproportionately affecting high latitude areas of the boreal and temperate regions in the northern hemisphere. Animals and plants are responding by shifting their ranges northward to continue to match the environmental conditions they are accustomed to and by changing the timing of their biological events. She gave an example of 2020's spring leaf-out time in the southeast as being almost 20 days earlier than the long-term average. She noted that historical field notes, like those of Henry David Thoreau's at Walden Pond in Concord, MA in the 1850s, are important for making comparisons. Thoreau noted highbush blueberries flowering in mid-May, whereas in 2012, they flowered on April 1<sup>st</sup>: a difference of almost 1 1/2 months. Insects, responding to local cues of increased temperature, are also emerging earlier. But long-distance migratory birds responding to local cues, like day length, on the wintering grounds, who arrive on the breeding grounds at the same time they always have, find that the peak of insect abundance has already passed. This ecological mismatch results in decreased availability of food for babies and can result in the serious decline of a species.

Dr Gallinat's research has focused on whether there are similar shifts in timing in the autumn. She noted that the spring events being monitored also have autumn counterparts: peak autumn foliage and beginning of leaf drop; insects entering dormant stages; plants starting to fruit; and birds beginning to migrate south. But there has been only a quarter amount of research done on autumn events as there has been on spring events, because observing the last of something is more challenging than noting the first of something. Accordingly, there are fewer long data sets available. However, for the complete understanding of the effect of climate change, it is critical to understand how the changes in both seasons are affecting the growing season of plants and active seasons of animals.

Dr. Gallinat decided to study the correlation of the timing of fruit ripening and bird migration and the effect of increased temperatures on bird migration times shifting, fruiting times shifting, and bird-fruit interactions changing. Studying over 50 years of records at Manomet's Banding Lab on Cape Cod Bay revealed that 13 common species of birds delayed migration in warmer years by an average of two days. Because there are very few records of wild fruits, she and an undergraduate resorted to examining the preserved specimens of 55 plant species collected between 1850 and 2010 in seven herbaria across New England, and found 3,159 specimens with evidence of ripe fruit that included the date when the plant was pressed. Their study along with other published observations revealed that some species of fruit are

now ripening almost 5 days earlier. She reported that whereas wild fruits are available in New England from mid-July to early November, the invasive species, like *Rosa multiflora*, *Ligustrum* and *Euonymus*, regularly tend to fruit an average of 26 days later than native plants. Dr. Gallinat wanted to know if native fruits are ripening earlier and birds are migrating later, are the migrants resorting to eating more non-native fruit? Collecting fecal samples from 19 species of birds caught in mist nets at Manomet Banding Lab, where there were both native and non-native fruiting plants, she and her team found from 970 fecal samples that 469 had seeds in them. They also noted evidence of a lot of insect parts which highlighted the importance of insect diversity and biomass in fueling bird migration. By identifying the seeds in the feces, they found that although the invasive fruiting plants were more available, the birds had a definite preference for the native fruit and went out of their way to find them. Research has shown that the nutritional content of fruit from native plants tends to be higher than that of invasive plants. She described the invasive fruits with a high sugar content and low energy density as the fast foods of the bird world. Birds preparing for migration are preferring the more nutrient density, high antioxidant value of native fruits. It has been found that the fruit of invasive plants is more likely to be eaten by resident overwintering birds after the native fruit is gone. She noted that in our area, Arrowwood *Viburnum* and Virginia Creeper are two native species that provide a super nutritive source of food for birds.

Dr. Gallinat concluded that whether managing a backyard or a national park, we can support birds challenged by climate change by promoting the abundance of native plants not only for their nutritive fruit but for their support of a greater diversity of insects and biomass.

**President's Remarks:** President Cheryl Jacobson reminded the assembly that there will be no membership meeting in June and July. The next meeting will be in August. A Board meeting will be held in June. She requested that the membership be on the lookout for emails on the listserv that will provide updates resulting from the meeting.

**Programs- Tory Gussman, Co-Vice President:** Tory reported the following:

**Wednesday, August 18:** Julie Mallon, a doctoral candidate at the University of Maryland, will discuss her research on Turkey Vultures and migration.

**Wednesday, September 15:** to be confirmed: Bryan Watts speaking about Black Rails, a species that is in steep decline.

**Bird Walks:** Scott Hemler, bird walk leader, reported that the next New Quarter Park bird walk will be Sat, May 29<sup>th</sup> at 8am. The maximum attendance is 15. It is hoped that as Covid restrictions continue to ease, this will be the last time that there will be a limit and request for reservations. Cathy Flanagan is taking reservations. If interested, send her an email. There are 6 slots left.

**Field Trips – George Martin, Field Trip Coordinator:** George reported that the next one will be:

**Saturday, June 19:** Chippokes Plantation State Park. No details yet. The most current CDC guidelines will determine Covid precautions to be followed.

**Newsletter (The Flyer) – Mary Ellen Hodges, Vice-President, Editor:** Mary Ellen reported that although initially it was decided that there would be no June newsletter, there have been so many reports on

club activities in May as well as wonderful photos submitted, that she is prepared to publish a June newsletter.

**Records/Liaison to CVWO – Nancy Barnhart:** Nancy reported that she posts an updated monthly record on our club's website. She noted there are still some winter species like Pine Siskins and Purple Warblers around. There have been some early record dates set for the arrival of some warblers and other migrant. Information from Jim Corliss regarding the results from our Spring Bird Count will be in the next *Flyer*.

Cheryl adjourned the meeting at 8:48 pm.

Respectfully Submitted,  
Cathy Millar, Secretary Williamsburg Bird Club  
May 30, 2021