

**Williamsburg Bird Club**  
**March 20, 2024**

Hybrid meeting; conducted in-person at Quarterpath Rec Center, Room 2, Quarterpath Rd,  
Williamsburg and via Zoom hosted by Ann Carpenter at 7pm

**Attendance:** 23 in person; 23 via Zoom

**President's Remarks:** President Nancy Barnhart greeted everyone present and on Zoom. She reported there would be a brief business meeting followed by a raffle and refreshments following the presentation.

**Program:** Patty Maloney, Vice President, Programs, introduced our very own Dr. Dan Cristol, Chancellor Professor of Biology at W&M, and where he has taught for 28 years. He delivered an important presentation about his personal experiences with the Superfund Law and how it protects birds. Driven by his lifelong fascination with birds, he has studied avian behavior and ecology, and is best known for his work on migration, cognition, and the effects of pollution.

To emphasize how birds need our help, he discussed the serious threats birds are facing. Some, like free-roaming house cats who kill more than a billion American birds per year, could be more easily addressed by nurturing a culture that encourages folks to keep their cats indoors. There is a need for containment of deer to prevent their denuding the forests' understory growth where birds in the understory and midstory nest and find insects to feed their brood. There are bird safety window films that prevent big city building and private home window strikes killing many hundreds of millions of birds in just the US each year. Invasive plant species replacing prime bird habitat; energy extraction (esp. fracking); and many types of pollution. Climate change, with salt marsh nesting species currently being hit the hardest as sea level rise is forcing them out of nesting areas, will eventually affect all species. The biggest threat to birds is habitat loss or degradation, which has been responsible for a 30% decline of our birds over the last 50 years.

The rest of Dan's presentation was more upbeat as he explained what he is doing to help birds. For the last 20 years, his research has been centered on the effects of pollution on birds because, unlike climate change and habitat loss, that can be more readily addressed right now. To date, Dan has conducted research along contaminated portions of 6 rivers (Shenandoah, Mississippi, Penobscot, Hudson, Passaic, and Christina) and documented the effects of pollutants such as PCB, mercury, Kepone, dioxin, and creosote.

Dan's first pollution study was on the 100 miles of the South and Shenandoah Rivers where DuPont's acetate fiber (rayon) factory in Waynesboro had leaked mercury, a neurotoxin, in the 1930's and 1940's. Beginning in 2005, Dan led several teams of students to document how mercury entered the food chain and the resulting impact to wildlife, esp. birds, along both rivers and thousands of acres of associated floodplain. Including control studies in W&M's avian lab in Williamsburg, they documented that those birds contaminated with mercury had significantly fewer offspring. Because of memory deterioration from mercury, the ability of adults to forage and migrate is affected. In addition, offspring of Zebra Finches, who were never fed mercury at the W&M lab but whose parents were, still had fewer babies. They also showed that mercury contaminated the land for up to 500 meters (5 football fields) inland from both sides of the rivers. Dan then pointed out that as an element, mercury does not break down, and other than the impossible task of paving over the entire river and floodplain, the mercury will be

made inaccessible only by being slowly covered with sediment over many decades/centuries. Dan expressed gratitude to our club for the grants we annually award every year to selected grad students to help fund this research that really matters now. Because birds are a natural resource that belongs to everyone, the federal government threatened to sue DuPont, and DuPont proposed a settlement of \$50 million to restore habitat for birds, fish, turtles, and frogs. Because the area can't be restored, the money goes to creating bird habitat somewhere else, like buying and reforesting nearby safe land.

The government was empowered to sue DuPont due to the Comprehensive Environmental Response, Compensation and Liability Act, or "Superfund" that was passed by Congress in 1981 in response to the public's outcry when they learned about late 1970's toxic waste dumps, with Love Canal, NY being the most notorious. Superfund allows EPA to oversee identified toxic sites and forces the polluters to perform Natural Resources Damage Assessment (NRDA) necessary to determine the appropriate type and amount of restoration needed to offset the damage done. For birds, this means how many are affected, their level of contaminants, and how much restoration is required to replace them, including those birds that would otherwise have been born. It also forces the responsible parties to either clean-up or reimburse the government for EPA led cleanup work. Because Dan and his teams have documented how many species of birds existed, and what happened to their eggs and babies in the contaminated portion of the Shenandoah valley, a monetary value of \$50 million could be assigned.

Because of this success, Dan has now been focusing his research on enacting NRDA at toxic sites on 5 other rivers. This involves conducting bird surveys and finding nests to take samples from eggs to determine the presence of the toxin and the level of contamination. Work takes Dan far afield. He and former students he hires set up temporary labs to dissect and preserve egg samples in motel rooms where they also sleep. Because the samples are evidence for important legal cases, they are sent to government approved labs. One of the recent results of his work is that a settlement with a company causing mercury pollution on the Penobscot River in Maine has been reached that provides up to \$267 million to fund remediation and restoration. GE has agreed to pay about \$20.5 million just for the initial comprehensive study of the PCB pollution on the upper Hudson River floodplain and is close to settlement. These settlements don't cover the real cost of all the birds that are lost to pollution in each case. That would more likely cost a billion dollars. But they definitely make an important impact by restoring/preserving healthy bird habitats which also brings back all the other forms of wildlife. With his infectious enthusiasm, Dan made a very convincing case that the Superfund is a powerful law, that, as long as funded, can bring back some of the birds we've lost to pollution.

### **Announcements:**

#### **Bird Walks – Scott Hemler:**

- **Saturday, March 23:** Nancy will be leading the monthly bird walk at NQP at 8 am but it might be rained-out.

#### **Field Trips – George Martin, Field Trip Coordinator:** George reported the following:

- **Saturday, April 20:** Jason Strickland will lead a bird walk at Newport News Park. We will assemble at the Ranger Station parking lot at 8 am.

**Spring Bird Count:** Nancy reported that the WBC Spring Bird Club will be held on April 28<sup>th</sup>. She invited interested members who would like to join a team, to please let her know.

**The Flyer:** Nancy reported for Mary Ellen Hodges that the deadline for articles/photos for the newsletter is March 27.

**Programs – Patty Maloney, Vice President (Programs)**; Patty noted that we will continue meeting in person at the Quarterpath Rec Center for the foreseeable future as well as continue hybrid meetings. She reported the following programs:

- Wednesday, April 17: The 2023 recipients of the Ruth Beck/Bill Sheehan Ornithology Research Grants will report on their projects.
- Wednesday, May 15: Nancy Barnhart will give an illustrated talk about her 2024 birding trip in India
- Wednesday, June 26: A social gathering at Chickahominy Riverfront Park including nearby WBC supported Purple Martin colony.

**College Creek Hawk Watch:** Nancy reported record setting dates. On March 14, they recorded the first 1,000 birds one day earlier than the last record. On that day, they also recorded the biggest number of Turkey Vultures – 222 and the biggest number of birds in one day – 253!

**Peregrine Falcon Cam:** Shirley Devan encouraged folks to check-in on the DWR live-stream via a high-definition camera of a falcon nest in Richmond. Two eggs have been already laid.

**End of the Meeting:** A free raffle was held and refreshments organized by Cathy Flanagan, were offered.

Nancy Barnhart adjourned the meeting at 8:30 pm

Respectfully submitted,  
Cathy Millar, Secretary Williamsburg Bird Club  
March 24, 2024