Williamsburg Bird Club

Wednesday, April 18, 2018

Andrews Hall, Room 101, W&M, 7:00 pm

Attendance: 45

President's Remarks: President Cheryl Jacobson opened the meeting with a blast from the past with a music video of The Trashmen performing the 1963 zany song *Surfin' Bird*. The lyrics "*Bird, bird, bird,is the word"* segued into Cheryl giving us an update on the club's progress with the Breeding Bird Atlas. She reported that sixteen club members attended our local survey training work shop and four more attended the one held by Hampton Roads Bird Club. A flyer of the 2017 Season Summary of the VBBA2 compiled by Atlas Coordinator, Ashley Peele, was made available to the membership. Cheryl reported that the data being compiled has already shown that the number of breeding Northern Bobwhites is continuing to decline but that for the first time Common Mergansers are now breeding in Virginia. Cheryl noted that the upcoming Saturday field trip will be led by Matt Anthony and focus on how to determine breeding bird activities. The group will meet and start surveying at Chickahominy Waterfront Park and then car pool to continue onto club member Inge Curtis's waterfront property which usually attracts a nice variety of birds. Cheryl explained that whereas in regular field trips the focus is on tallying bird species, the focus in atlasing is about observing bird behavior which requires being quieter and taking ones time.

Announcements:

- Janet Curtis, Reference Librarian at Williamsburg Regional Library, reported on three programs being held at the Williamsburg Library Theatre that the membership might be interested in. The program on April 26th at 7pm will feature *Africa's Vanishing Wilderness by* Billy Dodson, a wildlife conservationist and photographer. On April 30th at 7pm, our own Bill Williams will present basic bird identification and how to use these skills in the upcoming Spring Bird Count. On May 17 at 7pm at the James City County Library there will be a program on Solar 101.
- Matt Anthony noted that on the upcoming field trip he will explain how to use the breeding codes. He stressed that one needs to be an eBird member to submit data via the Atlas eBird portal.
- Rexanne Bruno reminded the membership that the Virginia Society of Ornithology is holding its annual meeting on May 18-20 in Harrisonburg. There will be field trips to higher elevations and some that will also be contributing to the BBA. The guest speaker is Nathan Pieplow, author of **The Peterson Field Guide of Bird Sounds of Eastern North America**. His talk will focus on female bird songs.
- Cheryl announced that Melinda Cousins, manager of Backyard Birders, gave a nice donation to the club.

Program: Judy Jones, Program Chairperson, announced that Dan Cristol would introduce the three W&M students who were recipients of the 2017 Williamsburg Bird Club ornithology research grants and who would talk about their research.

Dan introduced Masters student, Carly Hawkins, who is finishing her degree but will continue her research in Australia leading to publication before enrolling for her PhD at University of California at Davis. He next introduced Ananda Menon who's finishing his Master's degree and will continue research at W&M as an employee before continuing graduate work. The third grant recipient was undergraduate Megan Thompson who is finishing her second year and has already completed a research project.

Megan Thompson's topic was *Can Zebra Finches Avoid Eating Mercury*? After describing how abnormal levels of mercury get into our environment and food chain, she reported that when birds are exposed to high concentrations of mercury, it collects in the bird's blood and feathers and in the eggs of females which can result in decreased reproduction success, immune system deficiency and death. Her research question was: do birds possess an avoidance mechanism that enables them to develop an aversion to mercury-induced food at high concentrations? She used male Zebra Finches and food laced with a small concentration of mercury to see if after a long period of exposure to mercury the finches would choose uncontaminated food when given the option. There is precedent from previous research done in 2014 that partridges will choose food with lower concentration of pesticides when given visual cues of contamination, as in the color of the food or its placement. Some of the implication if birds were capable of avoiding mercury-toxic areas would be that they would be more protected from the toxin and therefore reduce the accumulation and concentration of mercury in the ecosystem. Also the movement of birds from the contaminated area could disrupt the balance of the existing ecosystem. Megan proceeded to describe in detail how she conducted her research. The finches were in 2 rooms in an outdoor aviary that had a connecting tunnel. She started with non-mercury bird seed in both rooms. The birds showed an innate preference to the left room. After 7 days, she replaced the food in the left room with mercury contaminated seed. Over the course of the study the finches continued to prefer the left room, which implied that the finches did not possess an avoidance mechanism at the concentration level they were fed. This has broader implications for other pollutants that are introduced into the environment at smaller concentrations that are detectable but can still have very deleterious effects.

Ananda Menon's topic was *Mercury: Silent Sperm Killer*. He noted that male birds have to spend a lot of their daily energy requirements to make sperm. Studies have shown that mercury contamination creates about a 50% reduction in bird reproductive success. However, the number of eggs, the length of incubation, the feeding of young and the time in between two clutches remain normal. All these activities vary with female behavior, which led to the question if the reduction in reproduction was a male effect. He noted that male reproduction is of concern in humans as well because in the developed world there has been a 50% decrease in human sperm count over the last 40 years which has been referred to as the male fertility crisis by the WHO. He described his research wherein he fed Zebra Finches a diet that either had no mercury in it or a 'tuna salad' level contamination that is equivalent to what birds are exposed to at a contaminated site. He found that mercury did reduce the number of sperm in birds that were exposed to mercury. He noted that with birds one can also study how the sperm is working because all the sperm that have survived the trip up the female's reproductive system are trapped by the egg membrane around the yolk. Ananda found fewer sperm around the yolk that had come from males exposed to mercury in their food. He also found that mercury-dosed finches had more

malformed sperm and also shorter sperm cells, which influences their swimming ability. He reported that male and female birds often have different dietary preferences. He gave several examples, including male Red-wing Blackbirds who generally live and eat more insects at wetland sites whereas females eat more seeds. If that wetland site is mercury contaminated, prime males who eat there will father fewer young. There is also indication that females who mate with these males might have smaller hatchlings that will develop slower.

Carly Hawkin's topic was *Human Influence on Ecosystems,* especially noise pollution. She noted that noise covers sounds that birds need to hear such as mating songs or the approach of a predator. As birds become more stressed their immune system suffers and there is overall reduction of reproduction. Birds can cope with noise pollution by either communicating louder or more frequently which takes more energy or males can sing at higher pitches to stand out over the other noises but females find this less attractive. Or they can leave. Most studies focus on birds that stay in noise but Carly wants to know how displacing birds from noisy areas is affecting their social groups. Her question is: can noise drive social change in some bird populations? Will it change who they're friends with, and are they adjusting habitat use in response to noise? Carly noted that the closer connected birds are, the more readily they can communicate danger, pass on disease and build immune systems and facilitate mate selection. Although Carly did work with Zebra Finches in Williamsburg, she talked about her research on the Red-backed Fairywren in Australia which are easier to study in the wild because they are very poor flyers and don't travel far. They also form family groups of parents and offspring from previous year. She studied three groups of birds of four to five each and banded the birds in each family to identify individuals. After studying the birds for a few days, she started playing traffic noise from speakers set in the area of the three families to see if the social groups changed. She described traffic noise as being more variable and less likely to be tuned out by the birds after continued exposure. She also had control social groups who were not exposed to sound. Carly found that sociality decreased with birds exposed to sound. They reduced the number of social partners and the frequency of interaction with the partners they kept. Regarding habitat use, two groups moved away from the sound area when she turned the speaker on but one group moved toward the speaker. She is returning to Australia to continue her research. Carly is interested in how being less social affects reproduction rate or escape predation. Her goal is to gather data to be able to inform policy makers about managing noise pollution, such as using different substrate for roads that make less noise when cars drive on them, and incorporating noise considerations when making conservation decisions. She noted the simple act of adhering to speed limits helps, as the faster one drives the more noise is introduced. She also did a study with the Zebra Finches to see how they would react when they couldn't escape noise. As a social group, they huddled together and became more social which she interpreted as increased vigilance as they perceived predation risk as higher.

Spring Bird Count: Jim Corliss, Bird Count Chairperson, was not present. Cheryl announced that the count is May 6th and urged members to participate.

Programs: Judy Jones, VP and Program Chairperson, reported on upcoming programs.

- **Wednesday, May 16:** Susan Powell will present the joy of birding and help us renew our ability to identify birds. A Boy Scout group will be attending to meet their requirement for bird badges.

- **Wednesday, September 19:** Dave Youker will be the speaker. The three students who received the 2017 Nature Camp scholarships will give brief presentations on their experiences.
- **Wednesday, November 15:** Fletcher Smith will talk to us about his research above the Arctic Circle.

At the end of the meeting a free raffle was held.
Refreshments were provided by Rick Brown, Joanne Andrews, Geoff Giles, Bill Van Zetta, Judy Jones and Adrienne Frank.

Cheryl adjourned the meeting at 8:10 pm.

Respectfully Submitted,
Cathy Millar, Secretary Williamsburg Bird Club,
April 21, 2018