



2021






BioBlitzBG

 Bowling Green State University



Hello BGCS Teachers and Students AND BGSU Pre-Service Teachers,

Thank you for your participation in the first BioBlitz BG event! We were so impressed with the participation and engagement witnessed among ALL participants, and we hope you found the event to be as remarkable as we did!

Below is a recap of our BioBlitz BG activities held on September 29, 2021. Please discuss and reflect on this information so that we can further deepen all learning. Our goals for the event were simple: **ENGAGE•LEARN•ACT!** We wanted to engage students in exploration and investigation in nature in order to learn about both living and nonliving components of the local prairie ecosystem and what they and their families can proactively do to maintain its health. Finally, we wanted to inspire students to take action to help protect and preserve both local prairies and planet Earth.

Please send us your feedback, both positive and growth feedback to: nwo@bgsu.edu, with the subject line of BioBlitz BG Feedback. With your help, we can make this event even better in the years to come.

We'd like to thank the **BGSU College of Education and Human Development** as well as our local community sponsor **Lubrizol**, along with support from the **Toledo Zoo & Aquarium** and the **Bowling Green City Parks** who made this event possible. We are very grateful for continued partnership and collaboration with our STEM Education community!

Dr. Jodi Haney, Professor Emerita, BGSU

Mitch Magdich, Curator of Education, The Toledo Zoo & Aquarium

Dr. Emilio Duran, Professor and Director, Northwest Ohio Center for Excellence in STEM Education, BGSU College of Education and Human Development

Lisa Addis, Creative Manager, Northwest Ohio Center for Excellence in STEM Education, BGSU College of Education and Human Development

Susan Stearns, Assistant Director, Northwest Ohio Center for Excellence in STEM Education, BGSU College of Education and Human Development

Jenna Pollock, Education Program Manager, Northwest Ohio Center for Excellence in STEM Education, BGSU College of Education and Human Development

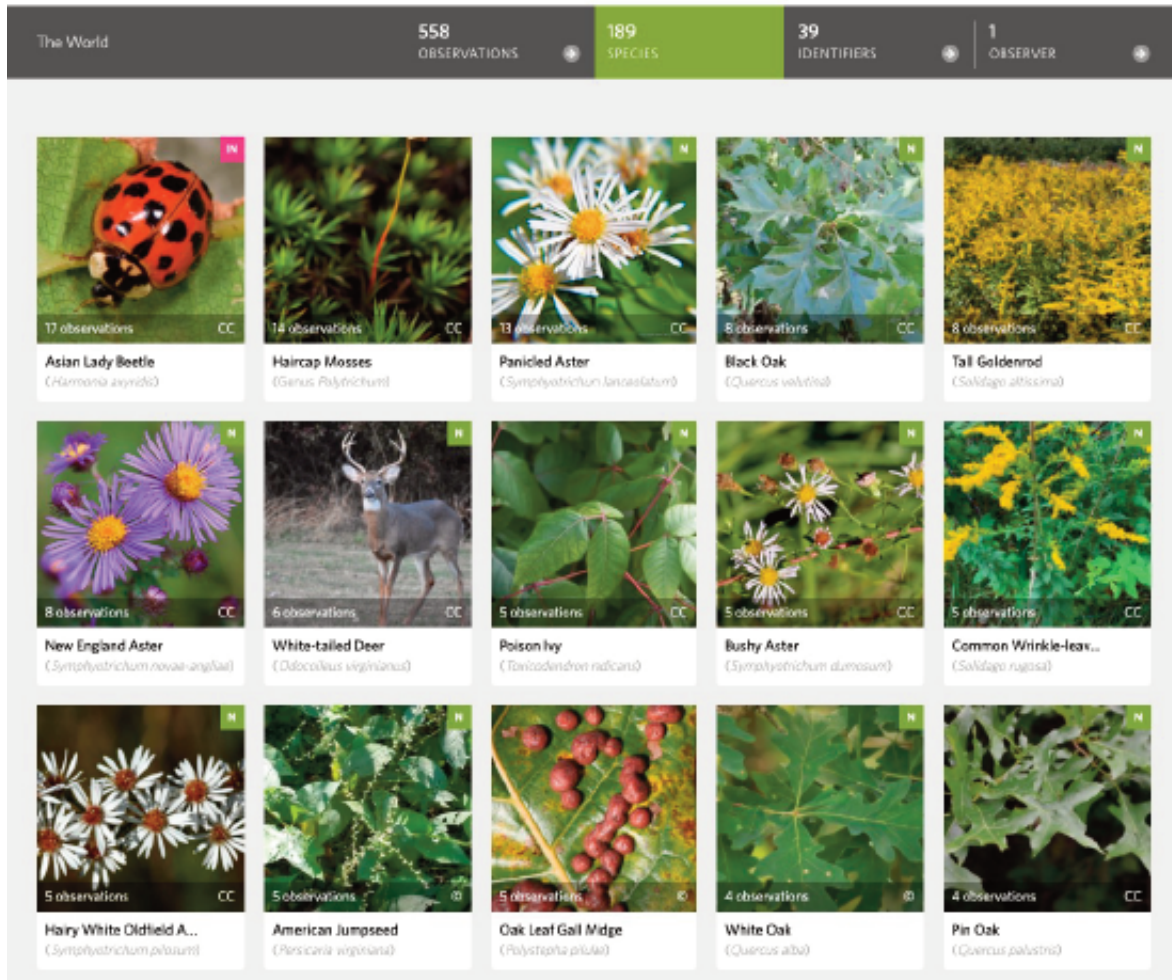
A RECAP OF BIOBLITZ BG

iNaturalist

Using the iNaturalist app, we made 339 recorded observations for Wintergarden Park representing 126 species. 38 observations were classified “Research Grade” which means there is community consensus on a precise identification. Lots of plants identified and a few spiders (Banded Argiope Spider!), insects (Asian Lady Beetles!), snails and slugs also observed. For the Project Prairie BioBlitz as a whole (other schools around the area also participated), there were 1,149 observations recorded representing 336 species. About 25% of all observations are “Research Grade”. Some of the more unusual observations include Red-Backed Salamander, Five-Lined Skink, White-Footed Mouse, DeKay’s Brown Snake, Butler’s Garter Snake and Banded Argiope Spider. There were many species of prairie plants observed as well including Rattlesnake Master, Anise Hyssop, Black-Eyed Susan and many others. 66% of all observations were of plants. Though the BioBlitz is officially complete, the iNaturalist community will continue to verify observations. The hope is that 50% or more of the observations made during the 2021 Project Prairie BioBlitz will eventually be verified and receive “Research Grade”.

Want to see our inventory? Go to [iNaturalist.org](https://www.inaturalist.org) and sign in using: bioblitzbg [bgbioblitz1!] as the username [password].

To check out what other participants in the BioBlitz saw on their prairies, go to <https://tinyurl.com/ftuzrtn> on iNaturalist and click on each individual school.



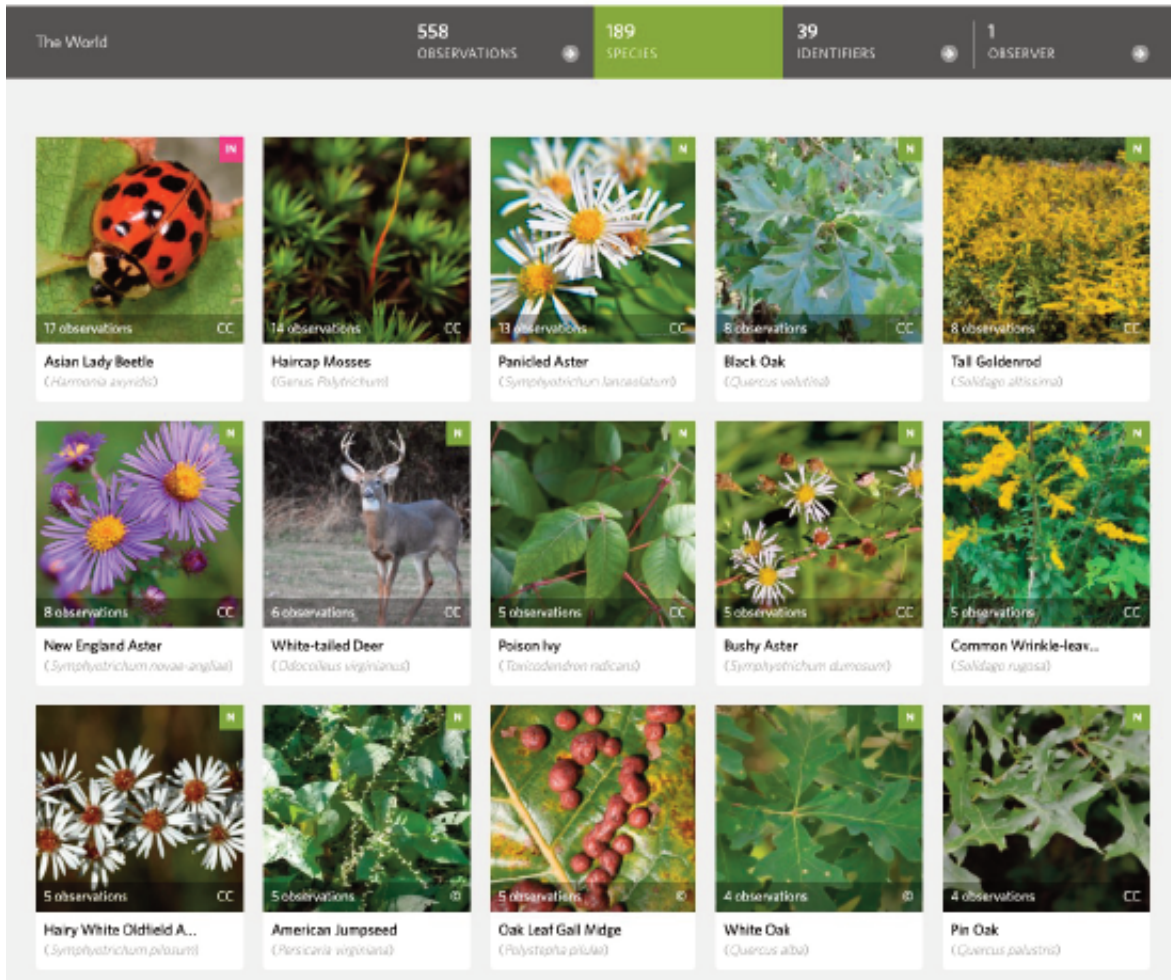
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Be Home, Bees: Assembling a Native Bee Habitat

Honeybees are not native to North America. They were one of the many farmed animals brought by European settlers. Most native North American bees are smaller than honeybees and nest in holes and crevices, not hives. Students built a native bee home with a whole-lot-of-holes using paper straws, and recycled cardboard tubes, and metal cans. These bee homes will be a great addition to any backyard habitat.

We need bees for more than just honey! During the activity students discussed the need for bees on our earth and the role they play in the pollination of plants and crops and why that is important to local farmers to be able to provide us the yummy food we love so much! Students could be heard chanting 'We Need Bees' through the activity!

Here is a video link to the Native Bee Home activity: <https://www.youtube.com/watch?v=cByH6saBYEg>

Here is a link to the book where the activity (and many other habitat creation projects) can be found: <https://www.storey.com/books/wildlife-ranger-action-guide/>

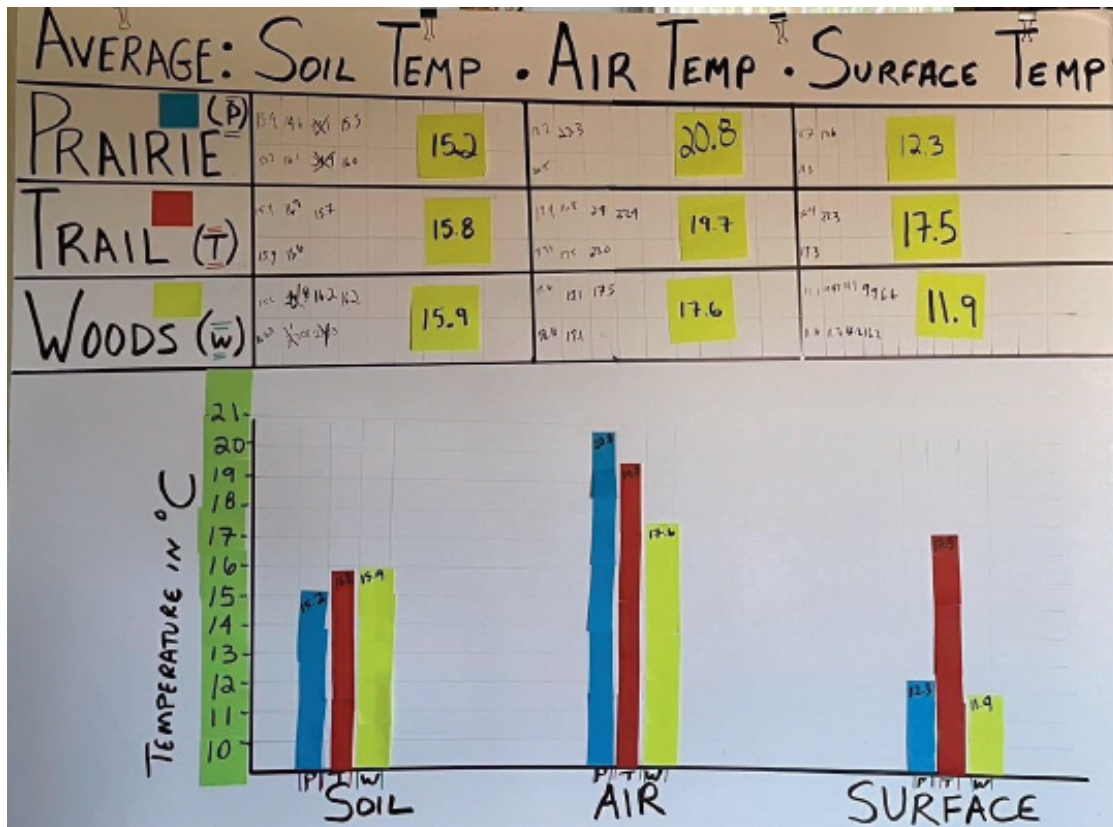
After assembling the Bee Home, students used the provided Prairie Bingo board to explore and make specific observations throughout the prairie.



A RECAP OF BIOBLITZ BG

The GLOBE Program: Comparing Soil, Air, and Surface Temperatures and making Cloud Observations

We took soil, air, and surface temperature measurements to compare the prairie to nearby places (the trail and the woods). Here is a table and graph of the data collected. Discuss with your students what they think these results mean. Soil temperatures are typically close to one another, as the soil is a great insulator... even still, the prairie temperatures were slightly cooler than the trail or the woods. Perhaps the tall prairie grasses shade the grass and the deep root system of prairie plants helps the grasses cool the soil through evapotranspiration? The surface temperature of the prairie was much cooler than the adjacent trail. Why? Tall prairie grasses give off their heat, helping to keep the environment cooler and more ideal for the plant and animal species living there. The prairie surface temperatures taken in full sun were nearly as cool as the shaded forest! The prairie air temperatures were just slightly warmer than the trail or woods. Why? The prairie plants are living and photosynthesizing, giving off their heat back to the air, keeping the surface cooler. A cooler surface is needed by the animal and plants residing there.



GLOBE Cloud Observations: We also took cloud observations using the GLOBE Observer App. This app allows any citizen to be a citizen scientist, making important observations used by NASA scientists! Different types of clouds have a different impact on the earth's climate. Cirrus clouds and contrails found high in the sky allow the sun's energy to pass down to earth but then trap that energy in our atmosphere

and ultimately heat up the earth. Low cumulus clouds block the sun's energy from reaching the earth, keeping us cooler. There were sunny skies in BG, Ohio on 9/29/21, as depicted by our many cloud cover observations!



And here's all the GLOBE cloud measurements made around the world on the same day - 9/29/21!



Solar Balloon: Ask your student how the 50-foot black bag rose into the air. This was a fun demonstration to show that the color of the bag (black) absorbs the sun's energy and heats up the air molecules inside the bag. When the air molecules are heated, they move away from each other, providing LIFT to the solar balloon! On a sunny day when the air surrounding the bag is cool, the heated bag can reach heights of up to 400 feet... that is... if the conditions are just right! You can purchase a solar bag online, this one was purchased at <https://www.stevespanglerscience.com/>



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