

BIODIVERSITYWORKS SNAPSHOT USA 2021 REPORT



BiodiversityWorks partnered with the Edgartown (ED), West Tisbury (WT), and Martha's Vineyard Public Charter School 7th and 8th grade science students in the fall of 2021 to participate in Snapshot USA, a nationwide eMammal effort to monitor mammal populations with camera "traps" in September and October each year.

Using automatic game cameras and the Smithsonian's Wildlife Insights image-processing software, researchers participating in Snapshot USA sample sites in all 50 states across multiple habitats and levels of human development. BWorks biologists Liz Olson and Luanne Johnson work with students to deploy 12 cameras in anthropogenic habitat in Edgartown (cemetery, golf course, and school property) and 12 cameras in forest habitat in West Tisbury.

After collecting 400 nights of camera trap data over six weeks, Liz trained students and volunteers to identify the mammal species captured in 33,000 images using the Wildlife Insights software platform's artificial intelligence (AI). A goal of the project is for users to help the AI learn by correcting its mistakes, like when it identified a skunk as a wild boar! Like all new technology, Wildlife Insights had a few glitches, but it made processing thousands of images much easier than going through the data one photo at a time. It also gave students an opportunity to see AI use in science.

Overall, the cameras collected a representative "snapshot" of the mammals in each town, and the species diversity was similar. However, river otters, chipmunks, rats and smaller rodents were missing from the mammal list. We had hoped the cameras in the golf course near Trapp's Pond would capture a river otter, but we did not have any luck this year. No surprise - the wild mammal recorded most frequently was the white-tailed deer (0.65 deer/camera night), and deer were captured on more cameras in WT forest habitat (11/12) than in ED anthropogenic habitat (6/11).

Eastern cottontail and Gray squirrels were also captured frequently (0.27 rabbits/camera night and 0.11 squirrels/camera night) but not evenly across cameras (2-4 cameras/site), so it is possible those cameras were visited daily by resident animals. While skunk and raccoon are abundant here on the island, we did not capture many of either on camera. This is likely due to the camera locations. Few cameras were near wetlands where raccoons are most abundant. Most skunk captures were in the cemetery, which is not surprising given skunks love to grub in lawns!

Highlights

Most Detected Species
WHITE-TAILED DEER

Most Surprising
FEW SKUNKS AND
RACCOONS

Most Funny
SKUNK IDENTIFIED AS
A WILD BOAR

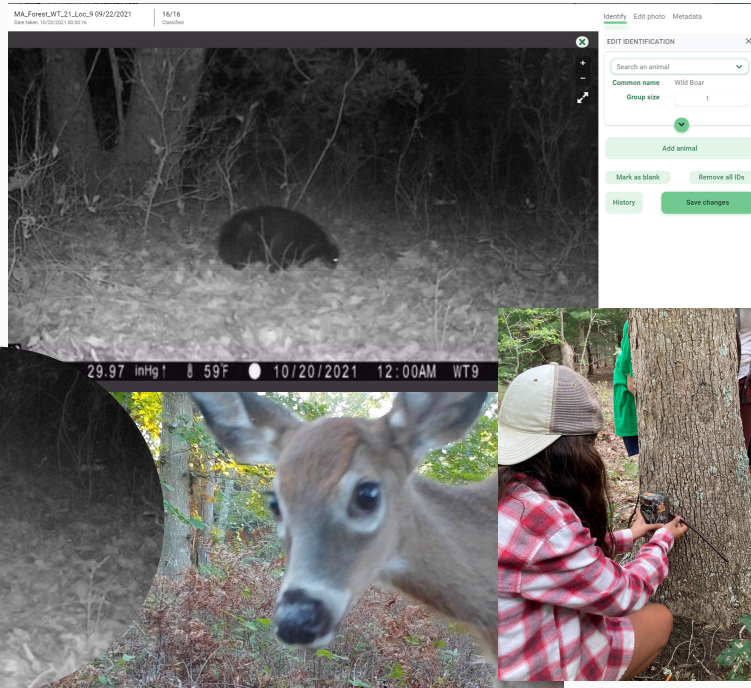
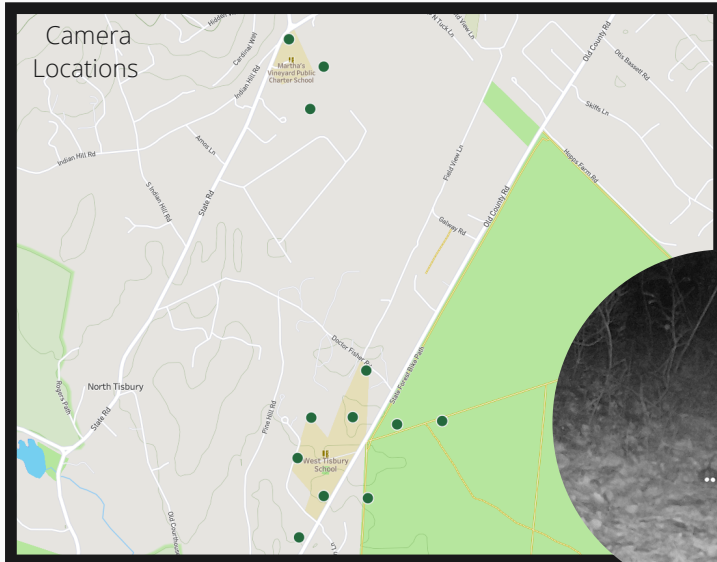
Most Human Activity
EDGARTOWN

Most Wildlife Diversity
WEST TISBURY

Most Active Camera
EDGARTOWN #4
(BACK OF CEMETARY)

RESULTS BY TOWN & HABITAT

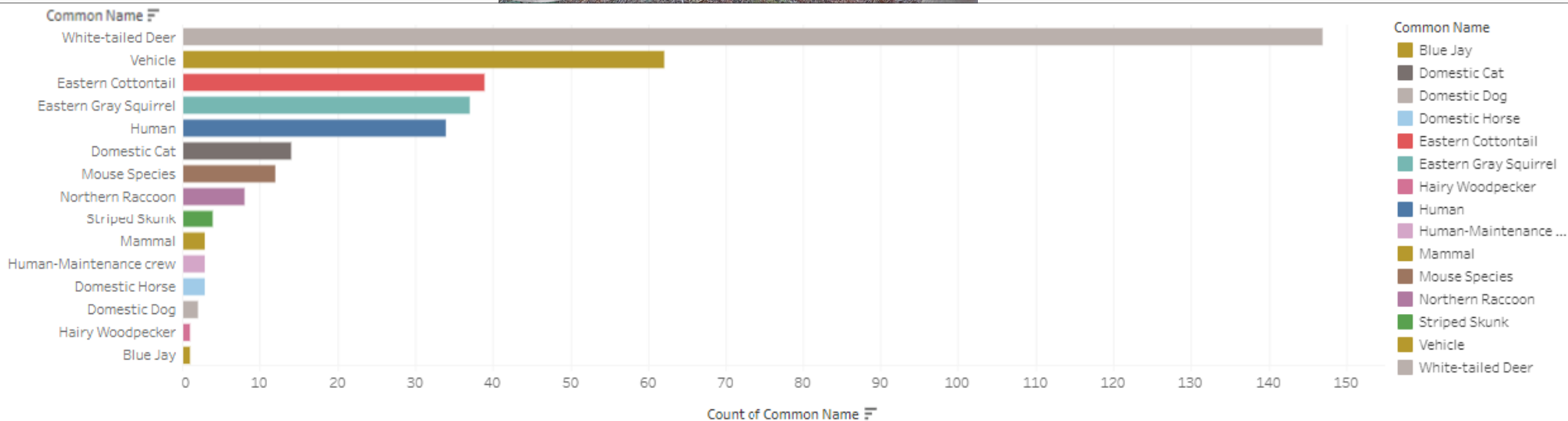
WEST TISBURY- FOREST HABITAT



White-tailed deer, Eastern cottontail, Eastern gray squirrel, Northern raccoon, and striped skunk were captured on cameras in both towns. Only camera 9 in WT captured a mouse species. Cats and dogs were captured in both towns. Despite widespread occurrence, no rats were captured on the cameras.

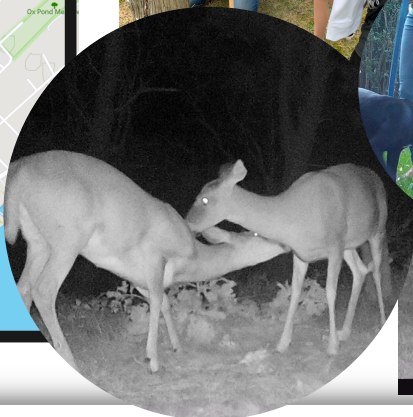
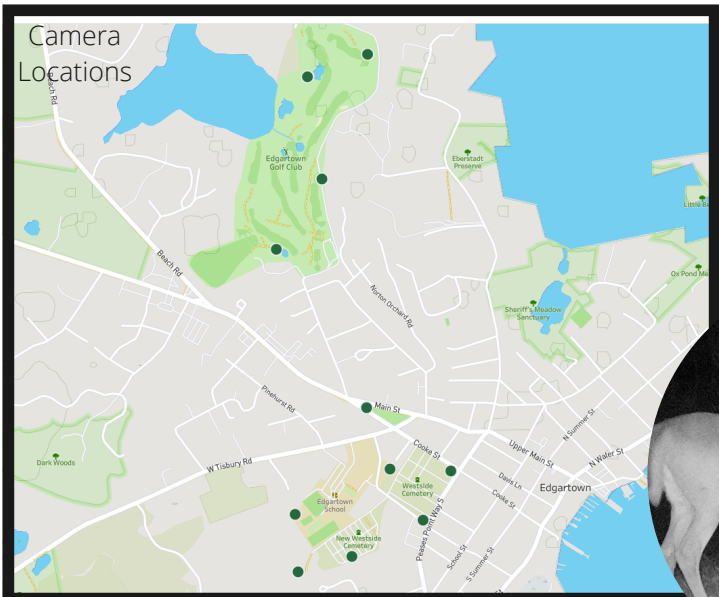
As expected, ED cameras had more humans and vehicles compared to the WT forest cameras.

2021 was the first year of data collection. We look forward to collecting more in September 2022.





EDGARTOWN-ANTHROPOGENIC HABITAT



Thank You

TO THE FARM NECK FOUNDATION
FOR A GRANT THAT FUNDED THE
CAMERAS FOR THIS PROJECT

Teachers:

-Charter School, Jane Paquet, and
Rebecca Conner

-Edgartown School, Justen Foster

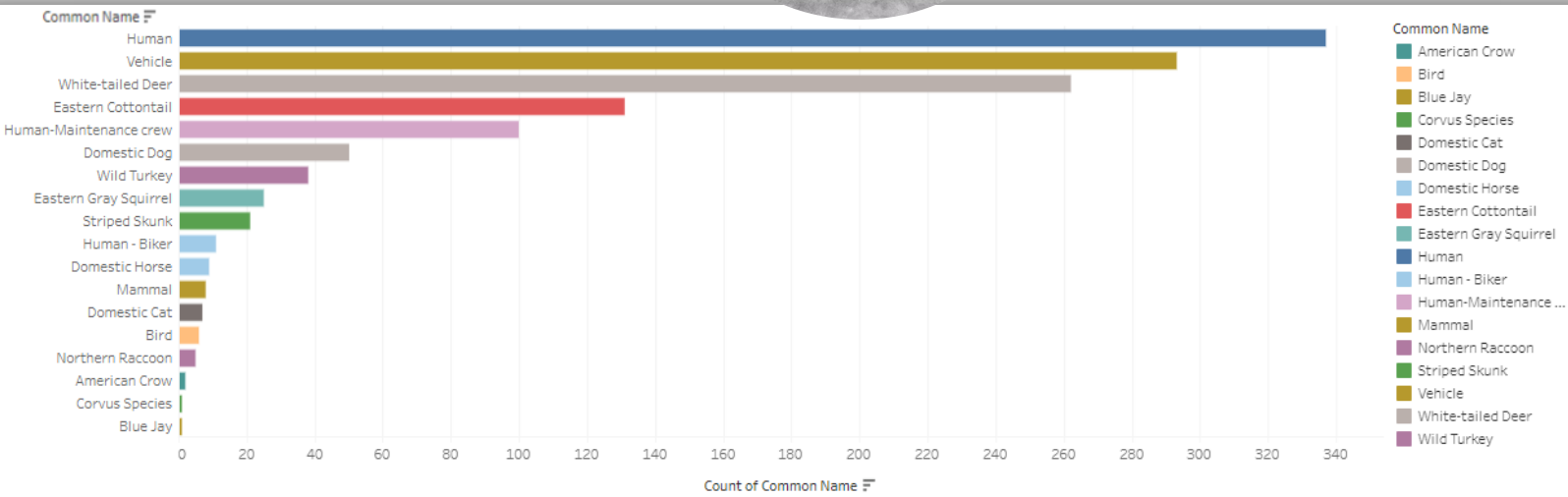
-West Tisbury School, Sara Hoffmann
and Zoe Turcotte

Landowners:

Charter School, Edgartown Golf Club,
MASS Department of Conservation &
Recreation, Town of Edgartown,
Town of West Tisbury

Volunteers:

Ellen Link, Judy Perlman, Ken Magnuson
Liz Brown, Nancy Weaver, Sharon
Pearson, and Ulrike Wartner



- American Crow
- Bird
- Blue Jay
- Corvus Species
- Domestic Cat
- Domestic Dog
- Domestic Horse
- Eastern Cottontail
- Eastern Gray Squirrel
- Human
- Human - Biker
- Human-Maintenance ...
- Mammal
- Northern Raccoon
- Striped Skunk
- Vehicle
- White-tailed Deer
- Wild Turkey

