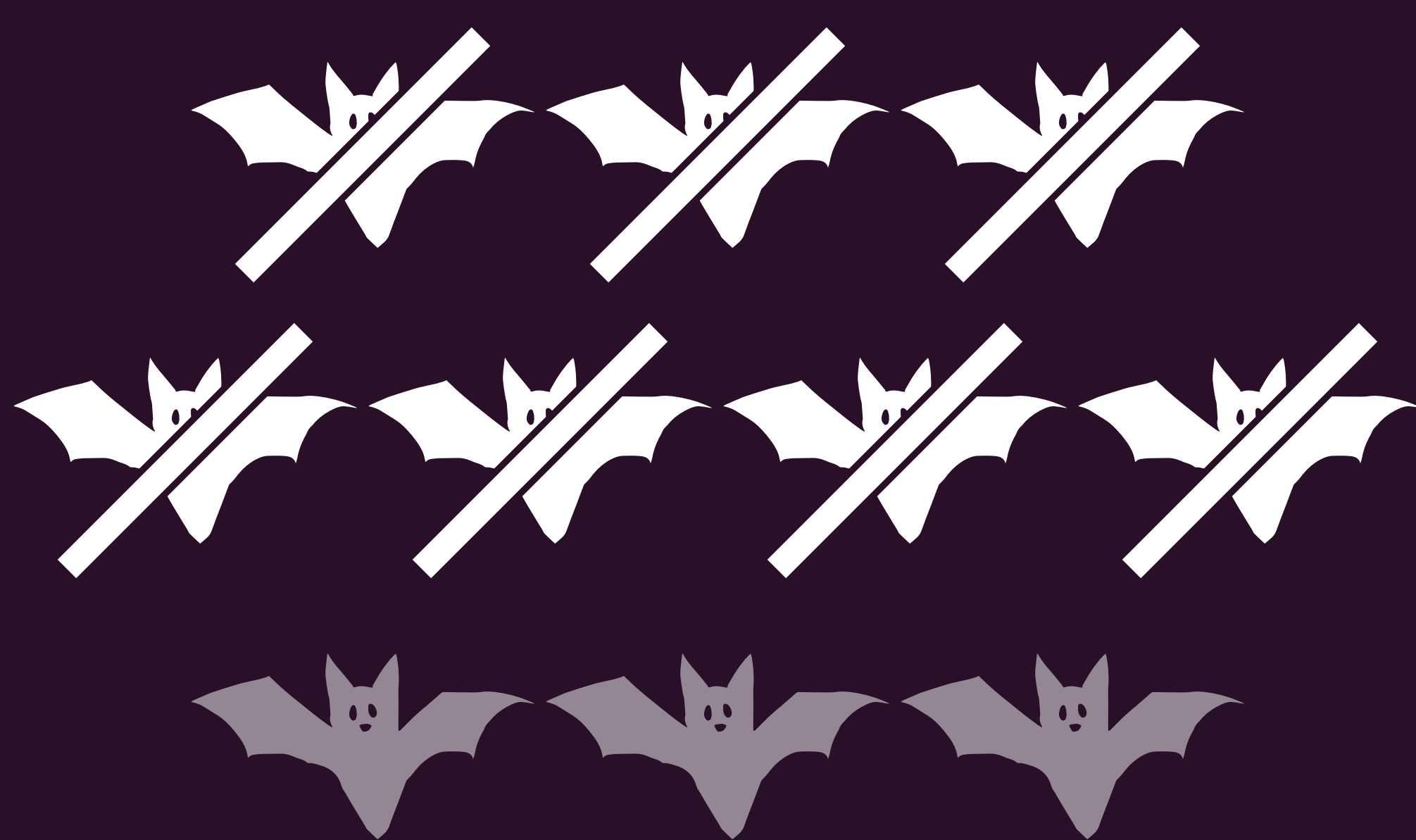




## Bat populations are declining rapidly due to habitat displacement from the spread of White Nose Syndrome and urban expansion

Spread of Fungus in North America:

Typically threatens 70-90% of a colony



# Bats...

save

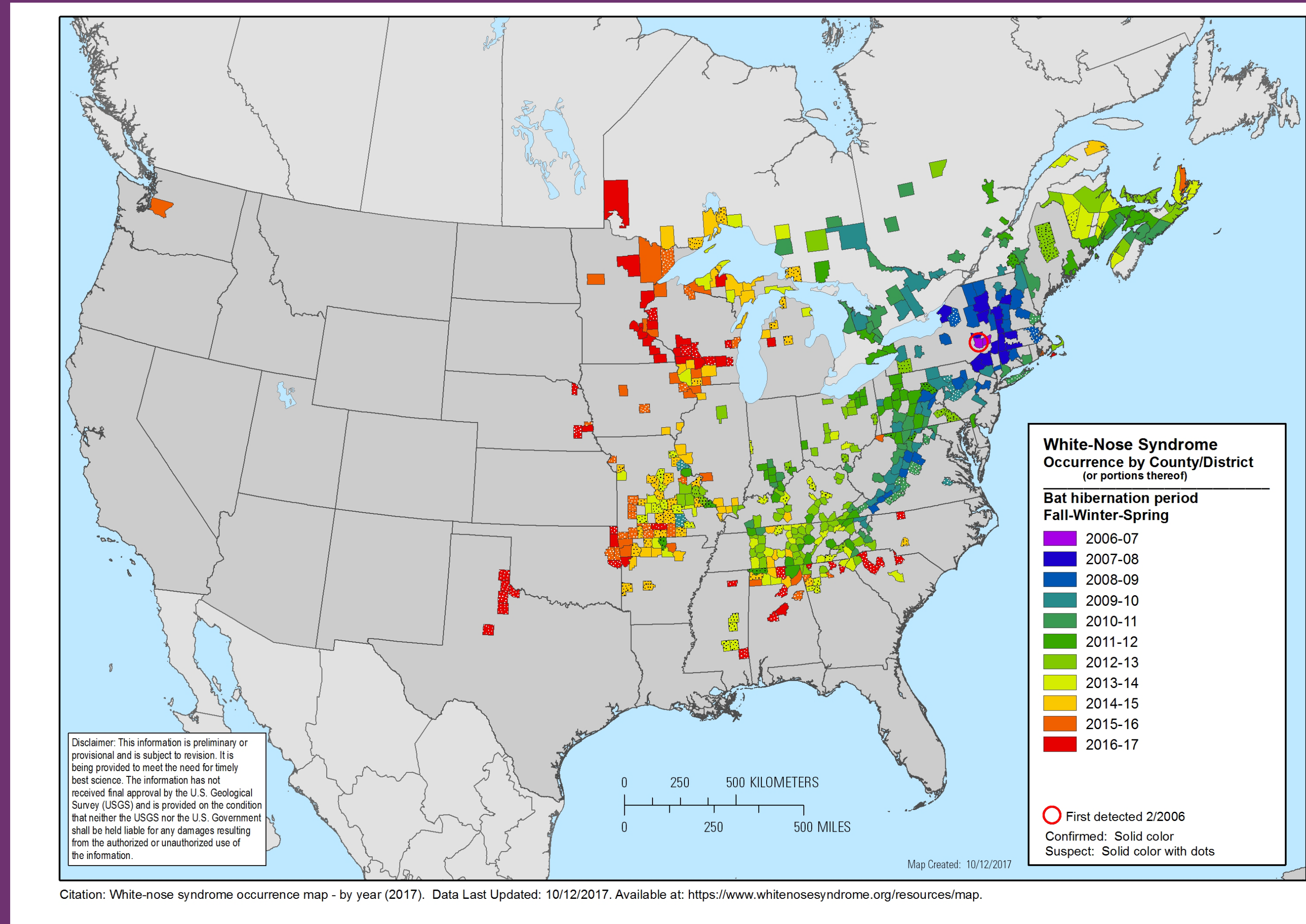
# 22.9

billion USD/yr in agriculture

consume

# 10000

mosquitoes per hour

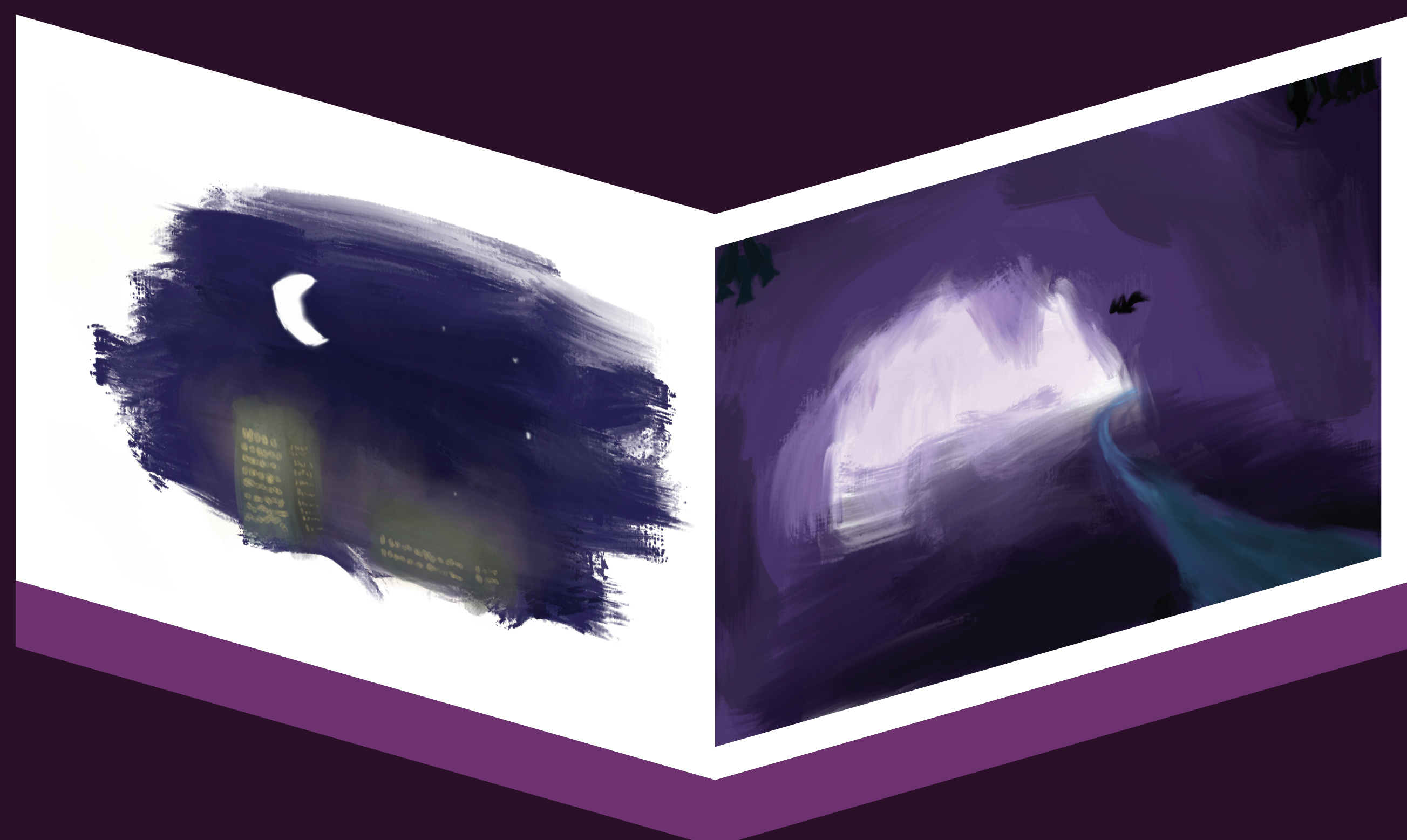


Spreading awareness of bat population decline through an educational program targeted at children can increase support for bat conservation efforts, increasing the likelihood of bats' survival

Bat boxes give bats space to live in urban environments.



## Educational materials



We'd like to thank our Professors for their guidance; Alyssa Konsko, our Peer Learning Advisor, for her insight and feedback; and Giorgia Auteri, the head of the Michigan Bat Monitoring Program, and Paul Ramey, the assistant director of the Florida Museum of Natural History, for their time and courtesy in interviews.

Bat Conservation International. (2017). *White-nose Syndrome: A Deadly Disease*. Retrieved from <http://batcon.org/our-work/regions/contact-bci/usa-canada/white-nose-syndrome>

Boyles, J. G., Cryan, P. M., McCracken, G. F., Kunz, T. H. (2011). Economic importance of bats in agriculture. *Science*, 332(6025), 41-42. <https://doi.org/10.1126/science.1201366>

Brittingham, M. C., & Williams, L. M. (2000). Bat boxes as alternatives for displaced bat maternity colonies. *Wildlife Society Bulletin*, 28(1), 197-207 Retrieved from <http://www.jstor.org/stable/4617303>

Center for Biological Diversity. (2016). White-nose syndrome: Questions and answers. Retrieved October 2, 2017, from [https://www.biologicaldiversity.org/campaigns/bat\\_crisis\\_white-nose\\_syndrome/Q\\_and\\_A.html](https://www.biologicaldiversity.org/campaigns/bat_crisis_white-nose_syndrome/Q_and_A.html)

Ganea, P. A., Ma, L., & DeLoache, J. S. (2011). Young children's learning and transfer of biological information from picture books to real animals. *Child Development*, 82(5), 1421-1433. <https://doi.org/10.1111/j.1467-8624.2011.01612.x>

Hoffmaster, E., Vonk, J. Mies, R. (2016) Education to action: Improving public perception of bats. *Animals*, 6(1), 6. <https://doi.org/10.3390/ani6010006>

Pennisi, L. A., Holland, S. M., & Stein, T. V. (2009). Achieving bat conservation through tourism. *Journal of Ecotourism*, 3(3), 195-207. <https://doi.org/10.1080/14664200508668432>

White-Nose Syndrome.org. (2017). [Map of the spread of White-Nose Syndrome in North America over time through 2017]. *White-Nose Syndrome Map*. Retrieved from [https://www.whitenosesyndrome.org/resources/maphttp://lasp.colorado.edu/cgi-bin/ion-p?page=input\\_data\\_for\\_spectra.ion](https://www.whitenosesyndrome.org/resources/maphttp://lasp.colorado.edu/cgi-bin/ion-p?page=input_data_for_spectra.ion)