



THE **OUTSIDE** IS IN US ALL.

Going the Extra Mile for Bats

Assessment form for November/December 2019 “Searching for Something They Don’t Want to Find.” And July/August 2011 “Going to Bat for Bats.” (CCRA.R.10)

1. Based on the two provided articles, what disease is currently causing the most concern for bat survival rates?
 - Wind turbines
 - Chiroptera
 - White-nose syndrome
 - Barotrauma
2. Based on the two provided articles, to what extent has white-nose syndrome expanded in North America since “Going to Bat for Bats” was published in 2011?
 - From New York state to 16 other states
 - From 16 states and 3 Canadian provinces to 33 states and 7 Canadian provinces
 - To North Carolina
 - North America
3. According to the article “Going to Bat for Bats,” what does the scientific name for bats, Chiroptera, stand for in English?
 - Chiropractor
 - Broken umbrella
 - Thin, elastic skin membrane
 - Hand wing
4. According to the article “Going to Bat for Bats,” how many different bat species live in Montana?

- Roughly 1,000
 - 15
 - 20
 - The number of bat species living in Montana is unknown
5. According to the article “Going to Bat for Bats,” the Montana Department of Public Health and Human Services reports that about what percentage of bats carry rabies?
- Less than one-half of 1 percent
 - 20 percent
 - 70 percent
 - 100 percent
6. According to the article “Searching for Something They Don’t Want to Find,” what is the name of the fungus that causes white-nose syndrome in bats?
- West Nile fungus
 - Pseudogymnoascus destructans*
 - Bat athlete’s foot
 - WNS
7. According to the article “Searching for Something They Don’t Want to Find,” where do scientists believe white-nose syndrome originated before being discovered in New York in 2006?
- Africa
 - Asia
 - Europe
 - Canada
8. The article “Searching for Something They Don’t Want to Find” has an interesting headline. Why might wildlife scientists *not* want to find white-nose syndrome in Montana caves and bats?
- They already know where the disease is located in Montana.
 - It would mean that North Dakotans were sneaking into Montana caves.

- It would mean that white-nose syndrome has arrived in Montana and has begun to harm the state’s bats and bat populations.
9. In the article “Searching for Something They Don’t Want to Find,” what is the name that scientists use for the winter roosting areas of bats?
- Hibernacula
 - Dracula
 - Bat dens
 - Hibernation Holiday Inn
10. In the article “Searching for Something They Don’t Want to Find,” why are wildlife scientists now trying to locate caves that carry the fungus and bats that have white-nose syndrome?
- They need to learn what bats look like.
 - They enjoy crawling around caves in the dark.
 - So they can monitor bat loss within hibernacula and track the spread of the disease from areas where it exists.
 - They like using night-vision goggles.
11. In the article “Searching for Something They Don’t Want to Find,” officials with FWP say that which organization of cavers has been important in helping search for white-nose syndrome?
- Northern Montana Ghetto
 - Northern Rocky Mountain Grotto
 - The American Claustrophobia Alliance
 - Bats Unlimited

Finding Key Information

Fill out the charts below by using both articles

What benefits do bats provide to the ecosystem and humans?	
“Going to Bat for Bats”	“Searching for Something They Don’t Want to Find”
1.	1.

2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

What challenges do bats face for survival in Montana?	
“Going to Bat for Bats”	“Searching for Something They Don’t Want to Find”
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

Get your boots on the ground and dig deeper!

Objective: Write an informative research paper on one of the 15 bat species that live in Montana
(RI.8.1, W.8.2, W.8.4, W.8.5, W.8.6, W.8.7)

Research and write about it (Informative): Select 1 of the 15 bat species that live in Montana and research the known information about it. Once you have completed your research, write an informative essay based on your research.

1. Select a bat to research from the following list:

- Big Brown Bat (*Eptesicus fuscus*)
- California Myotis (*Myotis californicus*)
- Eastern Red Bat (*Lasiurus borealis*)
- Fringed Myotis (*Myotis thysanodes*)
- Hoary Bat (*Lasiurus cinereus*)
- Little Brown Myotis (*Myotis lucifugus*)
- Long-eared Myotis (*Myotis evotis*)
- Long-legged Myotis (*Myotis volans*)
- Northern Myotis (*Myotis septentrionalis*)
- Pallid Bat (*Antrozous pallidus*)
- Silver-haired Bat (*Lasionycteris noctivagans*)
- Spotted Bat (*Euderma maculatum*)
- Townsend's Big-eared Bat (*Corynorhinus townsendii*)
- Western Small-footed Myotis (*Myotis ciliolabrum*)
- Yuma Myotis (*Myotis yumanensis*)

2. Develop 5 research questions that you would like to answer about your selected bat in your research paper. Try to develop questions that require explanation. Quality research questions can't be answered in one word or even one sentence.

- Consider the geographic range and habitat that your bat lives in during different times of the year and why.
- Consider the food habits and ecology of your selected bat.

3. Begin your research based on your 5 questions.

- Collect information that answers your questions along with the citations for any sources you use.
- Consider using the Montana field guide to answer some of your questions:

<http://fieldguide.mt.gov/displaySpecies.aspx?family=Vespertilionidae>

4. Once you have completed your research, select the 3 strongest questions to create your paper.

- Develop an introduction with a thesis statement tied to the 3 questions you selected.
 - Create 3 body paragraphs for the 3 questions you selected. The claim for each body paragraph should be based on the research question and the information you found in your research answering the question. Be sure to provide both evidence and analysis supporting each claim.
 - Create a conclusion that restates the thesis.
5. Extension activity: Build a bat house to help our small, furry, flying friends thrive! Plans can be found here: <https://www.nwf.org/Garden-for-Wildlife/Cover/Build-a-Bat-House>



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