BEAR ANSWER KEY

1. In the blue box at the center top of the page, the number of "*Statewide bear detections*" for the selected species (bear) is reported. Use the "*Select date range of data*" slider tool to answer the following questions.

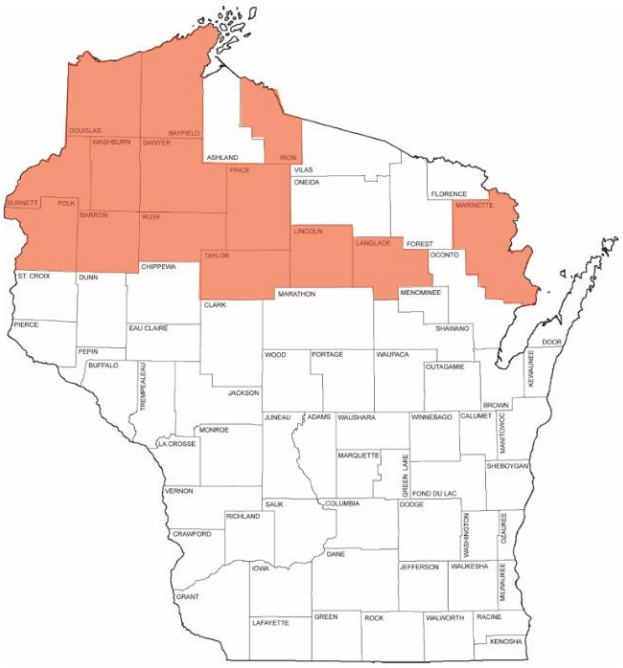
    a. **How many statewide detections of bear are there from January 2018 to December 2023?** _ This number changes bi-annually. Please refer to the Data Dashboard to find the correct answer. As of Spring 2024, 41,593 detections

    b. **How many statewide detections of bear are there from January 2018 to December 2018?** _ This number changes bi-annually. Please refer to the Data Dashboard to find the correct answer. As of Spring 2024, 5,463 detections

    c. **How many statewide detections of bear are there from January 2023 to December 2023?** _ This number changes bi-annually. Please refer to the Data Dashboard to find the correct answer. As of Spring 2024, 6,187 detections

2. In the center of the page on the left-hand side you will see a "*Presence Map*" of Wisconsin that displays the percentage of cameras which detected bear by county. Use the key in the upper right corner of the map to determine the different percentages that bear were detected in each county. You can also hover over each county on the map to see the county name and exact percentage.

    a. Using the blank map handout provided, shade in the counties where bears are detected on 80% or more of cameras between January 2018 and December 2023.



Keep the date range from January 2018 to December 2023 for the following questions.

3. On the left-hand side of the page, select "*Ecological Landscapes*" using the "*Select map mode*" tool to explore the different ecological landscapes of Wisconsin where bears are detected. Hover over each landscape on the map to see the names and specific percentages.

    a. **What ecological landscapes detect bears on over 60% of cameras?** Superior Coastal Plain, Northwest Lowlands, Northwest Sands, Forest Transition, North Central Forest, Northern Highland, Northeast Sands

    b. **What ecological landscapes detect bears on less than 20% of cameras?**

    Central Lake Michigan Coastal, Central Sand Hills, Western Coulees and Ridges ,Southwest Savanna, Southeast Glacial Plains, Southern Lake Michigan Coastal

    c. **What are possible reasons that bears are detected in some ecological landscapes more than others? Explain your reasoning.** Discuss concepts such as forested habitat, availability of both plant and animal food resources, and den sites. Black bears prefer large, forested areas with streams and swamps mixed in, which is predominantly the northern two-thirds of Wisconsin. They search for land with dense ground vegetation rich with their food: nuts, berries, plants, insects, frogs, small mammals and carrion. In fall, bears search for winter den

sites in hollow trees and upturned roots, caves and rock crevices, brush piles, and holes in hillsides (FIELD Edventures).

4. Use the "*Animal Activity*" graph to answer the following questions. Below the graph are two blue buttons that allows you to view activity "*by Hour*" and "*by Month*".
    a. **What 3 *months* are bears detected most often?** _____June, July , August ___
    b. **What 3 *months* are bears detected least often?** _December, January, February
    c. **Why do some months have more bear detections than others? Explain your reasoning.** _Discuss concepts such as winter torpor, summer breeding season, food availability during warmer months (FIELD Edventures).
    d. **Within a 24-hour period, which two hours of the day show a *peak* in bear activity?** _6 AM and 8 PM_____
        i. **Based on their peak hours of activity, do you think bears are diurnal, crepuscular, or nocturnal?** _crepuscular_
5. Now navigate to the "*Detection Rates*" tab to view a bar graph of yearly detections, comparing bears to other animals. You can hover over each bar on the graph to see detailed statistics.

    a. **Are bears detected at a higher or lower rate than coyote?**
    _____lower_____

    b. **Do you think bear and coyote population levels impact one another? Why or why not?**

    This question gives the opportunity for students

    to critically think about competition over resources such as food and habitat.

    In Wisconsin, coyote feed on a wide variety of organisms, such as deer

    carcasses, birds, rodents, rabbits, fish, and more (FIELD Edventures). Coyotes are

    found throughout Wisconsin.

    Black bears are most abundant in the northern forests of Wisconsin. Black bears

    feed heavily on vegetation, carcasses, small animals, and insects (FIELD

    Edventures).

REFERENCES

FIELD Edventures. (n.d.). *Black Bear*. Environmental Education for Kids. https://www.eekwi.org/animals/mammals/black-bear

FIELD Edventures. (n.d.). *Coyote*. Environmental Education for Kids. https://www.eekwi.org/animals/mammals/coyote

DEER ANSWER KEY

1. In the blue box at the center top of the page, the number of "*Statewide deer detections*" for the selected species (deer) is reported. Use the slide tool in the lower left corner of the page to "*Select date range of data*".
    a. **How many statewide detections of deer are there from January 2018 to December 2023?** 7,426,354
    b. How many statewide detections of deer are there from January 2018 to December 2018? 769,001
    c. How many statewide detections of deer are there from January 2023 to December 2023? 1,192,805

2. In the center left of the page you will see a "*Presence Map*" of Wisconsin that displays the percentage of cameras which detected deer by county. Use the key in the upper right corner of the map to determine the different percentages that deer were detected in each county. You can also hover over each county on the map to see the county name and exact percentage
    a. **Using the blank map handout provided, shade in the counties where deer are detected on 80% or more of cameras between January 2018 and December 2023.**

    ALL counties EXCEPT Menominee (in red below).

For the remainder of the questions, keep the date range at January 2018 to December 2023.

3. On the left-hand side of the page, under the species list, you will see an option to "*Select map mode*". Select "*Ecological Landscapes*" to explore the different ecological landscapes of Wisconsin where deer are detected. Hover over each landscape on the map to see the names and specific percentages.
    a. **What ecological landscapes detect deer on over 60% of cameras? Check all that apply.**

        All.

    b. **What ecological landscapes detect deer on less than 20% of cameras? Check all that apply.**

        None.

    c. **What are possible reasons that deer are detected in some ecological landscapes more than others? Explain your reasoning.** Discuss concepts such as habitat and food resources. Deer prefer habitat near forest and agricultural areas, like crop fields, as these areas provide cover and food. Their diet consists of grasses and herbs, tree leaves, berries and fruits, nuts and acorns, wheat and corn, twigs and bark (FIELD EdVentures).

4. In the center right of the page you will a see line graph that displays "*Animal Activity*". Below the graph are two blue buttons that allows you to view activity "*by Hour*" and "*by Month*".
    a. **What 3 month*s* are deer detected most often?** September, October, November
    b. **What 3 months are deer detected least often?** January, February, March
    c. **Why do some months have more deer detections than others? Explain your reasoning.** Discuss concepts such as fall breeding season (rut), vegetation food availability (FIELD EdVentures).
    d. **Within a 24-hour period, which two hours of the day show a *peak* in deer activity?** 6 AM and 6 PM
        i. **Based on their peak hours of activity, do you think deer are diurnal, crepuscular, or nocturnal?** Crepuscular

5. Now navigate to the "*Detection Rates*" tab to view a bar graph of yearly detections, comparing deer to other animals. You can hover over each bar on the graph to see detailed statistics.
    a. **Are deer detected at a higher or lower rate than coyote?** Higher
    b. **Do you think deer and coyote population levels impact one another? Why or why not?**

    This question gives the opportunity for students to critically think about predation and competition over resources such as food and habitat. Coyotes will commonly eat deer, especially roadkill carcasses and fawns (Wisconsin DNR, n.d.). Both coyotes and deer are common throughout Wisconsin (Field EDVentures).

REFERENCES

FIELD Edventures. (n.d.). *Coyote*. Environmental Education for Kids. https://www.eekwi.org/animals/mammals/coyote

FIELD Edventures. (n.d.). *White-tailed deer*. Environmental Education for Kids. https://www.eekwi.org/animals/mammals/white-tailed-deer

Wisconsin DNR. (n.d.). Furbearers. https://dnr.wisconsin.gov/topic/WildlifeHabitat/furbearers

SANDHILL CRANE ANSWER KEY

1. In the blue box at the center top of the page, the number of "*Statewide sandhill crane detections*" for the selected species (sandhill crane) is reported. Use the "*Select date range of data*" slider tool to answer the following questions.

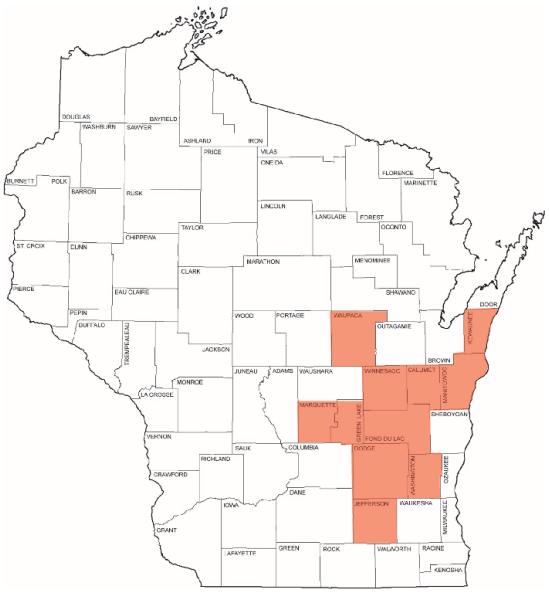
    a. **How many statewide detections of sandhill crane are there from January 2018 to December 2023?** This number changes bi-annually. Please refer to the Data Dashboard to find the correct answer. As of Spring 2024, 31,848 detections

    b. **How many statewide detections of sandhill crane are there from January 2018 to December 2018?** This number changes bi-annually. Please refer to the Data Dashboard to find the correct answer. As of Spring 2024, 2,503 detections

    c. **How many statewide detections of sandhill crane are there from January 2022 to December 2022?** This number changes bi-annually. Please refer to the Data Dashboard to find the correct answer. As of Spring 2024, 5,935 detections

2. In the center of the page on the left-hand side you will see a "*Presence Map*" of Wisconsin that displays the percentage of cameras which detected sandhill cranes by county. Use the key in the upper right corner of the map to determine the different percentages that sandhill cranes were detected in each county. You can also hover over each county on the map to see the county name and exact percentage.

    a. Using the blank map handout provided, shade in the counties where sandhill cranes are detected on 40% or more of cameras between January 2018 and December 2023.



Keep the date range from January 2018 to December 2023 for the following questions.

3. On the left-hand side of the page, select "*Ecological Landscapes*" using the "*Select map mode*" tool to explore the different ecological landscapes of Wisconsin where sandhill cranes are detected. Hover over each landscape on the map to see the names and specific percentages.

    a. **What ecological landscapes detect sandhill crane on over 60% of cameras?** None
    b. **What ecological landscapes detect sandhill crane on less than 20% of cameras?** Southwest Savanna, Western Coulees and Ridges, North Central Forest, Superior Coastal Plain, Northwest Sands, Northwest Lowlands, Northern Highland, Southern Lake Michigan Coastal
    c. **What are possible reasons that sandhill cranes are detected in some ecological landscapes more than others? Explain your reasoning.** Discuss concepts such as open wetland habitat, food resources, nesting, and migration. Sandhill cranes migrate to and from the prairies, fields, bogs and marshes of Wisconsin in the spring and fall (International *Crane Foundation*, 2022). They typically nest in open wetland areas and build their nests in shallow water using nearby plants, like cattails and reeds. Sandhill cranes use their long narrow beaks to probe for food in marshy areas, such as snails, insects, frogs, lizards, nesting birds, and rodents. They also feed on some crop plants like corn and wheat grains, seeds, roots, and berries (*Smithsonian*, n.d.).

4. Use the "*Animal Activity*" graph to answer the following questions. Below the graph are two blue buttons that allows you to view activity "*by Hour*" and "*by Month*".
    a. **What 3 *months* are sandhill crane detected most often?** May, June, July
    b. **What 3 *months* are sandhill crane detected least often?** December, January, February
    c. **Why do some months have more sandhill crane detections than others? Explain your reasoning.** Discuss concepts such as spring and fall migrations, laying eggs in late spring, vegetation food availability and use of agricultural fields (FIELD Edventures).
    d. **Within a 24-hour period, which two hours of the day show a *peak* in sandhill crane activity?** 10 AM and 11 AM
        i. **Based on their peak hours of activity, do you think sandhill cranes are diurnal, crepuscular, or nocturnal?** diurnal
5. Now navigate to the "*Detection Rates*" tab to view a bar graph of yearly detections, comparing sandhill cranes to other animals. You can hover over each bar on the graph to see detailed statistics.

    a. **Are sandhill crane detected at a higher or lower rate than coyote?** lower

    b. **Do you think sandhill crane and coyote population levels impact one another? Why or why not?**

This question gives the opportunity for students to critically think about predator/prey interactions and habitat. In Wisconsin, coyote feed on a wide variety of organisms, such as deer carcasses, birds, rodents, rabbits, fish, and more (FIELD Edventures). Sandhill crane eggs may be predated on by raccoons, fox and coyotes (International Crane Foundation, 2022).

REFERENCES

FIELD Edventures. (n.d.). *Sandhill Crane*. Environmental Education for Kids. https://www.eekwi.org/animals/birds/sandhill-crane

FIELD Edventures. (n.d.). *Coyote*. Environmental Education for Kids. https://www.eekwi.org/animals/mammals/coyote

Frequently asked questions about cranes. International Crane Foundation. (2022, May 26). https://savingcranes.org/learn/frequently-asked-questions-about-cranes/

Sandhill crane. (n.d.). Smithsonian's National Zoo and Conservation Biology Institute. https://nationalzoo.si.edu/animals/sandhill-crane#:~:text=Sandhill%20cranes%20are%20omnivorous.,for%20food%20in%20marshy%20areas.