

USGS Data Exploration Unit: Bald Eagle Activity 3 Student Workbook

Opening Questions

Read and answer each question.

1. What state had the highest DDE concentrations post-1980? From what location within the state were these records collected?

2. What could explain such high DDE concentrations in this one location?

Discussion Questions

Refer to the datasheets and graphs for Bald Eagle Activity 3 to answer the following questions. Discuss each question as a group before deciding on an answer. You may attach additional sheets of paper as needed.

1. Review the hypotheses you proposed after viewing the graph from Bald Eagle Activity 2. Does this new graph support any of the hypotheses you proposed? Why or why not?
2. While Santa Catalina is extremely different when compared to the other states, within the non-California group there are differences between states as well. How might these differences be explained?
3. Look at the graph and values for DDE concentrations in the combined dataset for AK, DE, FL, MD and ME. Do you think the increase you see on the graph from 1994-1996 and 1997-2000 reflects an actual increase in DDE across the United States? Why or why not?
4. How long did it take for DDE concentrations to decrease to an insignificant concentration in bald eagle eggs? Is this the same or different than the time it took for osprey eggs? How might you explain this difference between the two species?
5. Given your answer to the question above, at what year in the future do you think DDE concentrations might decrease to insignificant concentrations in bald eagle eggs collected from Santa Catalina Island?
6. Reflect back on your experience of the different ways to view and analyze the bald eagle data. How did data analysis techniques bias the results received and alter the conclusions that might be drawn from the same set of data?

USGS Data Exploration Unit: Bald Eagle Activity 3 Student Workbook

Final hypothesis

Develop a hypothesis to explain why DDE concentrations are so high in bald eagle eggs collected from Santa Catalina Island from 1989 to 2000. Describe the experiment you would conduct and the data you would need to collect to test your hypothesis. Be prepared to present your hypothesis and experiment to the class if time allows.