ENVIRONMENTAL
SCIENCE
JOURNAL
FOR TEENS

How can we quickly assess
the status of eagles?

TEACHER'S KEY

Check your understanding

1 What is a snapshot metric?

Answer

A snapshot metric is something that biologists can quickly measure (without the need of long-term studies) to assess the overall health of an animal population.

2 Why do we need snapshot metrics?

Answer

Humans negatively impact the lives of wild animals, mostly by destroying and degrading their habitat (but also in many other ways). That's why biologists try to monitor animal populations to see which might be at risk, so they can intervene if needed and hopefully keep animals from going extinct. However, long-term monitoring studies are difficult, require a long time, and often are very costly. So anything that allows biologists or conservation officials to quickly assess how an animal population is doing is a welcome tool for wildlife conservation.

3 What is the problem with the two current snapshot metrics used for rapid risk assessment of raptor populations?

Answer

The mathematical models in this study found that when used alone (like it's currently done), these two metrics (floater/breeder ratio and rate of subadult nesting) are not very reliable in predicting the health of an eagle population.

Check your understanding

4 How can we overcome that problem?

Answer

We need to include other metrics, like the rate of survival of adult birds, to make our current snapshot metrics more reliable. When used together, these three metrics can give a better sense of the risk a raptor population is facing.

5 What if scientists wanted to assess how well a particular human population is doing? What kind of metrics do you think they would have to look at?

Answer

Answers will vary, but may include:
- average life expectancy in that country/region
- socio-economic conditions
- job availability
- food availability and quality
- water availability and quality
- access to healthcare and education
- average income
- network of friends
- climate
- political stability, war, etc.