

USING DECLINE IN BIRD POPULATIONS TO IDENTIFY NEEDS FOR CONSERVATION ACTION

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DECLINE OF THE NORTH AMERICAN AVIFAUNA

Purpose:

- To highlight the significance and dramatic decline of North American Avifauna using multiple monitoring networks to analyze population loss and biomass passage over a 10 year period.

Results:

- 419 native migratory species experienced a net loss of 2.5 billion individuals. These trends in population decline are not only a problem in North America but in Europe too.

BIRD POPULATION DECLINE AND CONSERVATION ACTION

Research Question:

- Does a population trend effectively indicate species conservation needs?

Methods:

- Population trends measured by Breeding Bird Survey Trends
- Conservation needs predicted from BBS Trends and IUCN endangerment categories

FINDINGS

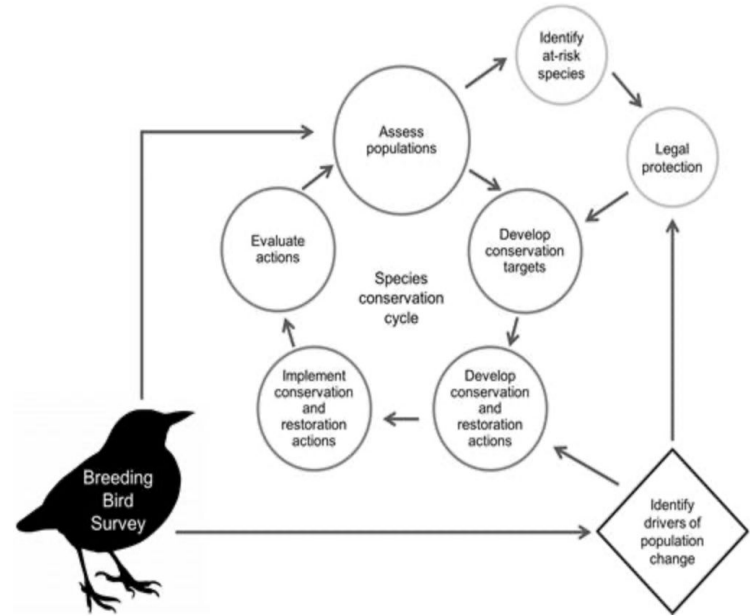
- Majority of species that qualified for an endangerment category were not candidates for immediate intervention
- Population decline should not be used as a way to identify at risk species

HOW DOES THIS FIT?

-Once bird population declines have been identified and categorized by severity, we are able to make efforts towards prioritizing conservation efforts

-Without data from the first paper, we are unable to know where to apply conservation efforts

-We have the power to make a change



TIME TO BREAK OUT

GROUP 1: ALYSSA, TAYLOR, Tessa, AND KAYLA

GROUP 2: CAITLIN, MEGHAN, Bailey AND TALBOT

GROUP 3: EARL, CAT, Jessica, AND BRANDON

GROUP 4: MAKAYLA, BRI, AND TATYANA

1st Person: Facilitate conversation

2nd Person: Write all answers to the questions reviewed

3rd Person: Share answers with class

4th Person: Come up with a counter argument to the answer

Everyone should participate in the discussion!

TEAM DISCUSSION

1. Some individuals categorize critically endangered species as an 80% decline over 10 years and others say it's a 50% decline over 25 years. List pros and cons for each argument.
2. Explain a few causes that may lead to the shifts in alert status seen in table 4.

Table 4. Percentage of species meriting an alert level (total *n* in parentheses) that changed to a positive trend in the subsequent decade, and percentage of species with positive trends that later qualified for alert status.

<i>Predictive period (years)</i>	<i>All species</i>		<i>Species with significant trends</i>	
	<i>alert to positive</i>	<i>positive to alert</i>	<i>alert to positive</i>	<i>positive to alert</i>
1974-1978 (5)	62 (29)	55 (60)	86 (7)	56 (16)
1969-1978 (10)	56 (27)	52 (62)	50 (8)	75 (16)
1984-1988 (5)	53 (30)	44 (61)	45 (11)	20 (10)
1979-1988 (10)	33 (30)	34 (62)	10 (10)	23 (13)

DISCUSSION CONT.

3. There are many varying opinions when it comes to taking conservation action that were listed in the paper. Based on the arguments from both sides, what do you personally feel are the pros and cons of taking action versus letting endangered species fend for themselves?

4. The paper states that it's important to determine whether qualification for alert status based on population decline is a good indicator of conservation needs rather than immediate intervention. Which do you think is a more effective indicator? Why?

Questions?



REFERENCES

- Dunn, E. H. (2002). Using Decline in Bird Populations to Identify Needs for Conservation Action. *Conservation Biology*, 16(6), 1632-1637.
- Hudson, M.-A. R., Francis, C. M., Campbell, K. J., Downes, C. M., Smith, A. C., & Pardieck, K. L. (2017). The role of the North American Breeding Bird Survey in conservation. *The Condor*, 119(3), 526-545.
- Rosenberg, K. V. et. al., (2019). Decline of the North American avifauna. *Science*, 366, 120-124.