scribed (the selected model had a sixth-degree polynomial log-trajectory and an intervention effect corresponding to the severe winter of 1976–1977, for a seven-parameter model). Fifteen of the 20 BBS routes in the Maryland Northern Piedmont Stratum had adequate data to fit the seven-parameter model. We fit the

tistical modeling, biological intuition, and familiarity with the methods of the surveys producing the counts.

For the BBS, we have shown that several factors produce pattern in the proportion of birds counted; these include differences among observers and changes through time in the ability of individual observers.

CONCLUSIONS

Analysis of count data should begin with the frank acknowledgment that counts are not necessarily very good surrogates for population sizes. Pattern in counts is reflective not only of corresponding pattern in population sizes, but also of corresponding patterns in the proportion of animals counted. Surveys producing count data should be designed, inasmuch as possible, to minimize variation in the proportion of animals counted. Complete removal of this variation is not likely to be possible, hence, analysts must be aware of potential sources of pattern in this proportion, and must design analytic methods accordingly. Thus, analysis of count data requires a delicate interaction among statistical modeling, biological intuition, and familiarity with the methods of the surveys producing the counts.

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