**Inferring species extinction: the use of sighting records**

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This review paper stemmed from a workshop that Ben and I attended in Woods Hole, Massachusetts in the summer of 2010. The workshop was about how to decide when a species is extinct and it was thought it would be generally helpful if Ben, Tracy and I summarised all the existing methods that use a species’ sighting history to determine whether or not it is extinct.

All of the methods are based on the same principle. Imagine you have two neighbours. One, you regularly pass on your way to work as he is returning with his morning paper. The second works shifts and your paths cross only occasionally. Should a week pass without seeing either neighbour you will likely be more worried about the neighbour you see on a daily basis than the one you see infrequently. We can extend this analogy to rare species. If a species has not been sighted for several decades it is more likely to be extinct if it was previously recorded at frequent intervals than infrequent ones. Various statistical models have been built to describe this, each with its own set of assumptions and each best suited to a particular set of circumstances. We thought it would be useful to build a ‘roadmap’ for the models, explaining the pros and cons of each method and the situations in which each is most appropriate.

The workshop was a lot of fun and Ben and I greatly appreciated the wonderfully dry sense of humour of Andy Solow, a statistical guru and our host. The review took two maternity leaves to see the light of day but with Tracy’s expertise and Ben’s patience and encouragement we got there in the end.

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