

# The Great Elephant Census as a Case Study in Field Methods and Modelling: Scaffolded Activities with HHMI BioInteractive

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It is necessary for students to acknowledge that multiple methods can be used solve a problem. In addition, they should be able to use critical thinking skills to determine which method is best in different circumstances. Attendees at this mini workshop will engage with several HHMI BioInteractive resources that facilitate students developing their sense of real-world challenges to methodology and considerations of accuracy and precision. Participants will see how students are drawn in by the current plight of modern African elephants. Three distinct, but related, activities are scaffolded and include active learning and modelling. The activities serve to clarify and reinforce terminology and concepts of various survey methods, as well as the advantages and disadvantages of each. They are also a wonderful springboard for discussion of real-world challenges for scientists, biodiversity loss, keystone species, and much more. Students are quickly engaged in the activities and narrative because it is current and relevant. The lessons learned can be applied far beyond the elephant census.

**Keywords:** biodiversity, keystone species, HHMI BioInteractive, survey, modeling, methodology, field techniques, population census, case study

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