Counting sheep in climate change predictions

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Climate change can have devastating effects on endangered species, but new mathematical models may be able to aid conservation of a population of bighorn sheep.

The effects of a changing climate on a population of bighorn sheep can be mathematically predicted, as described in a recent paper recommended by Faculty of 1000 Biology members Barry Brook and Lochran Traill.

Researchers from Germany, the US, and Mexico studied a population of bighorn sheep introduced to Tiburon island, Mexico, in 1975. Here, the sheep are not at risk from disease or predators, and climate change is the only variable threat to the animals. In this new study, the researchers predicted the effect of climate change on the sheep population using a mathematical simulation. The sheep appear to be vulnerable to increased drought in the area - a side-effect of global climate change. More severe drought will eventually lead to a decrease in the sheep population.

Being able to predict the effect of climate change before it happens is of great importance to the conservation of endangered species. Brook and Traill point out that their calculations can be adapted to other species, in other regions: "The work is therefore an important contribution towards [...] the continued conservation of small populations under global change."

More information: The full text of this article is available at www.f1000biology.com/article/id/1160441 .

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