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News Release

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Mothers' appetites can keep size of wild animal groups in check

The eating habits of mothers may be key to keeping wild animal populations steady, a study suggests.

The discovery shows that the food intake of mothers – which impacts on the appetite of their offspring – protects animals from periods of population boom and bust.

It could explain why a decades-old scientific theory that predicts populations should swell until they are too big, at which point their numbers should crash, has never been validated in the wild.

The findings suggest that the relationship between mothers' appetites and those of their offspring may help populations survive lean times. When conditions are poor, mothers will tend to eat less – and have less hungry offspring – making it more likely that the population survives.

Researchers at the University of Edinburgh set out to further investigate their recent discovery that how well a mother eats impacts on the appetites of their offspring.

They built a mathematical computer model to better understand how this effect might impact on population sizes. They found that instead of populations consistently rising and falling, as predicted, factoring in the impact of mothers' appetites kept population size relatively stable.

Researchers suggest that the effect of mothers' appetites may help prevent species going extinct, and help counteract the effect of large numbers within a population being preyed upon, such as during harvesting.

The study, published in *Proceedings of the Royal Society B*, was carried out with scientists at the University of Stirling and funded by the Natural Environment Research Council.

Dr Tom Little, of the University of Edinburgh's School of Biological Sciences, who led the study, said: "How much a mother eats presets the appetite of her offspring. This effect seems to help keep populations of wild animals stable, and may help them avoid extinction."

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