

# Elephants particularly enjoy presence of zoo visitors, study shows

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Animal behavior experts at Nottingham Trent University and Harper

Adams University investigated more than 100 previous research papers exploring the various ways in which visitors impacted behavior across more than 250 species in zoos.

The team found significant results regarding elephants, with [social activity](#) among the animals increasing and repetitive behaviors—often indicating boredom in animals—decreasing during public feedings.

The repetitive behaviors also decreased in the presence of larger numbers of [visitors](#), it was found and in the period after public feedings there was increased foraging by elephants and a decrease in their levels of inactivity.

The researchers also found positive effects with cockatoos, whose [social behavior](#) was seen to increase—possibly as a result of the visitors stimulating the birds.

And another bird, the long-billed corella, spent the majority of time on busy days closer to the visitors, it was found.

Across all of the studies the interpretation of the impact of visitors was predominantly neutral, with some considered positive and negative.

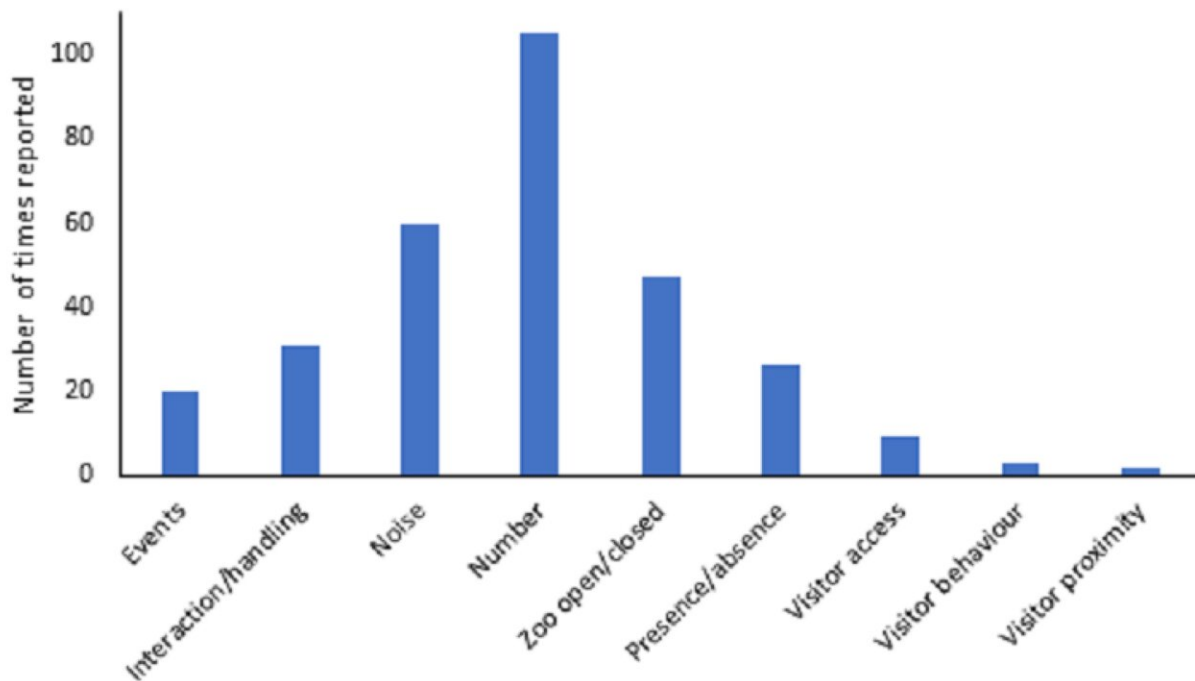
Other species which displayed a positive response to visitors included penguins, jaguars, [grizzly bears](#), polar bears, cheetahs, servals, banteng and black tailed prairie dogs.

Animal groups for whom visitors were reported to have a negative impact included flightless birds, odd and even-toed ungulates, marsupials, ostriches, tuatara and hedgehogs.

Previous research has shown how [prey species](#) that were from closed habitats such as forests, or those which had nocturnal activity patterns

where they were less likely to encounter people, may make animals more fearful of humans.

The research looked specifically at non-primate species, and the majority of animals studied were mammals (56%) and birds (28%). Amphibians, reptiles, fish and invertebrates were also included.



Range of visitor variables and number of times they were studied in the reviewed papers. Credit: *Animals* (2023). DOI: 10.3390/ani13071178

Visitors affected species' behavior in a variety of ways, including their levels of activity, how they used their enclosure space, feeding, movement, rest, and changes in abnormal, vigilance and social behaviors.

Animal behaviors changed as a result of visitors in up to 38% of cases it

was found.

Visitors are a prominent feature in the lives of zoo animals, with millions visiting annually across the world, and their presence can cause a range of impacts on different species.

There has been a steady increase in research into the effect of visitors in zoos over the last ten years.

"Some animal species have been born and raised in zoos and so have likely become used to the presence of humans," said Dr. Samantha Ward, a zoo animal welfare scientist in Nottingham Trent University's School of Animal, Rural and Environmental Sciences.

She said, "Zoo visitors are often aspects of a zoo animal's environment that animals cannot control and as such can be stressful, although some species appear to show good adaptability for the changing conditions of visitors.

"There can be a lot of variation in stimuli from visitors in terms of their behavior, the noise they make and the way they interact with the animals. We have identified that species show varied responses to people in zoos—some cope well, others not so well.

Dr. Ellen Williams, a zoo animal welfare scientist at Harper Adams University, said, "We have robust methods to measure animal welfare in zoos. Animal responses are attributed to various factors and recognizing what these may be is important to improve welfare."

"In elephants and birds it was encouraging to see a reduction in those repetitive behaviors towards something more positive in the presence of people, although the absence of change in the majority of [species](#) was also really good, because it suggests enclosure design is changing to

better support animals in responding to visitors."

Last year the researchers found that primates spent more time resting and alone, performed more sexual and dominance behaviors and ate less when zoos and safari parks were closed to the public during the first COVID-19 lockdown.

The latest study is published in the journal *Animals*.

**More information:** Ellen Williams et al, The Impact of Visitors on Non-Primate Species in Zoos: A Quantitative Review, *Animals* (2023).

[DOI: 10.3390/ani13071178](https://doi.org/10.3390/ani13071178)

Provided by Nottingham Trent University

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