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www.ufaw.org.uk

Animal Welfare 2014, 23: 11-24  
ISSN 0962-7286  
doi: 10.7120/09627286.23.1.011

## **Identification of major welfare issues for captive elephant husbandry by stakeholders**

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### **Abstract**

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*Accurate identification of key welfare issues for captive elephants could improve standards and help in the development of a welfare index. In the absence of adequate scientific information on the relative importance of key issues, the views of a range of stakeholders were sought using adaptive conjoint analysis. Fifteen key welfare issues were identified by experts, and three to six Levels of each, representing common husbandry practices. In order of declining importance, 224 stakeholders rated the issues as enclosure substrate > group size > healthcare > enrichment > chaining > enclosure type > exercise provision > enclosure size > interaction with keeper > enclosure environment > keeper knowledge/experience > diet > contact method with keeper > display duration > enclosure security. Enclosure size was considered more important by scientists and keepers than zoo directors/managers and animal welfare organisation representatives. Animal welfare organisation representatives rated enclosure security higher than scientists. Keeper husbandry methods and ability of elephants to be active were two principal components in responses. Three principal groups of respondents were identified: scientists/veterinarians focusing more on conditions for the elephants and less on interaction with the public; keepers, focusing on keeper contact method, feeding and knowledge of elephants; and a group with mainly animal welfare organisation representatives/zoo directors focusing on enclosure security. It is concluded that there are some differences between stakeholders in their recognition of the most important welfare issues for elephants in zoos. However, recognising that a diversity of informed opinion is necessary to adequately devise welfare standards, an index of elephant welfare in zoos is proposed, based on the relative merits of different husbandry practices and the importance of the different issues.*

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**Keywords:** animal welfare, attitude, elephant, sanctuary, welfare index, zoo