

# PRIMATES IN CAPTIVITY: WELFARE INDICATORS AND DESIGN OF FACILITIES

## WESTERN LOWLAND GORILLA (*Gorilla gorilla gorilla*)



Image 1. Head portrait of male silverback Western lowland gorilla (*Gorilla gorilla gorilla*) UK.  
Source: naturepl.com / T.J. Rich / WWF-Canon

## OBJECTIVES

- Objective: research how primates' welfare is evaluated and how well it is studied in order to achieve the best conditions for these animals in captivity
  - Focus: on gorillas and how variables in captivity can affect their wildlife normal behaviour
  - Purpose: to take consciousness of the actual situation and the work that is still left to do
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- Welfare: an individuals' state regarding its attempts to deal with the environment
  - The five freedoms

## INFLUENCE OF VISITORS

- Increases in aggression, abnormal behaviour and stress
- There are many variables to be considered:
  - o Crowd size and closeness to enclosure
  - o The noise people make
  - o The personality of each singular gorilla
- Conclusion: human presence and the amount of people present are not the most relevant factors, but the way these people act and behave is
- Design of facilities: occasional limiting of public viewing is necessary, as well as achieving a quiet environment (isolated constructions)

## ALTERATIONS IN GROUP COMPOSITION

- In the wild: mixed-sex groups; all-male groups have never been seen
- In captivity: if there is no contact with females and no conflict for food, all-male groups are feasible
- Introduction of young gorillas has a positive outcome: they involve in more affiliative behaviours and decrease group aggression
- Death of a silverback in captivity: it does not have major consequences to the stability of the group
- Design of facilities: gorilla circulation and visual barriers are the backbone to maintain any kind of group viable. Regarding all-male groups, stablishing them far away from mixed-sex groups is crucial

## CHANGING OF HOUSING CONDITIONS

- Variables studied: high densities; access to outdoor enclosures; space use and selectivity; travelling patterns
- High densities promote affiliative and conflict-solving behaviours, hence demonstrating **behavioural flexibility**
- Time spent outdoors when given the choice is limited and the benefits of it are still in discussion. Possible reasons:
  - o Less structural elements
  - o More noise
  - o Less comfort
- Design of facilities: 3D thinking is crucial (use of vertical space), as well as using resilient climbable elements and enrichment structures both indoors and outdoors to promote the use of the whole space available and the travelling



Image 2. Three western lowland gorillas explore their habitat for the first time.  
Source: Houston Zoo/Stephanie Adams

## CONCLUSIONS

- Further studies should be carried out to determine if all-male groups are a feasible option for long-term captivity
- The establishment of welfare indicators is necessary to perform the most objective and critic evaluation of gorilla's welfare
- The quality and complexity of space is paramount for the wellbeing of the gorillas