Using an innovative method to improve mitigation

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IAIA Washington, November 14th 2017
Frequent issue: Biodiversity data that doesn’t support mitigation hierarchy

Baseline survey data are often insufficient as they are not appropriately designed:

- Surveys not targeted to risks
- No habitat map to inform surveys
- Survey area is too small
- Doesn’t enable quantification

First use of non-invasive genetic surveys for Chimpanzees by a mining project to inform the implementation of the mitigation hierarchy
Case study

- Mining project in West Africa
- Conducted ESIA and complementary studies
- Subsequently requirement to align with IFC PS6
- Gap analysis: lack of information to implement the mitigation hierarchy for the CR Western Chimpanzee (*Pan troglodytes verus*)
Chimpanzees

• Direct impacts:
  • E.g. Habitat loss and disturbance

• Indirect impacts: +++
  • E.g Induced access and in-migration

• Chimpanzee responses?
  • Difficult to predict
  • Complex behaviour
  • Potential for intergroup encounter that can lead to mortality

• What we need to know:
  • The number and distribution of chimpanzee communities
  • Important habitats and their connectivity
Limitations of traditional survey methods

- Most widely used survey method: standing crop nest count.
- Relatively cheap and easy to do however...
- **Limitations:**
  - Additional information required to estimate population size which often isn’t collected
  - Not a precise estimate of Chimpanzee numbers
  - Doesn’t provide:
    1. Number of groups and their territories
    2. How Chimpanzees use the area

- **Other methods:** camera trapping, marked nest count, genetic survey
Survey planning

• Habitat: forest-savanna mosaic
• Interviews: potential chimpanzee distribution
• Survey plan:
  • **Survey area**: to include extent of indirect impacts and boundaries of chimpanzee territories
  • **Survey method**: non-invasive genetic survey to understand the number of communities
  • **Survey design**: sampling from forest patches used by chimpanzees
  • **Survey effort**: both wet and dry seasons, collecting enough samples for estimating abundance and population size
Survey results

- 15 different forest patches used by chimpanzees
- Population size estimate (~60 chimps) in 2 main groups
- Habitat use and ranging patterns understood

Community
- ★ = 1
- ★★ = 2
- ★★★ = 3
Informing the application of the mitigation hierarchy

- **Avoidance**: road location and set-aside

- **Mitigation**: target villages close to important chimpanzee habitats

- **Restore**: tree species used by chimps, connectivity within territories

- **Strong baseline for further monitoring and for estimating residual impacts**
Conclusion

- Ensure survey method chosen can answer the research question
- Combination of methods may be appropriate
- Important to consider local context in the design and plan the survey appropriately
Thanks!

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