

Using an innovative method to improve mitigation



Genevieve Campbell, Emma Tatum-Hume
Suzanne Livingstone and Malcolm Starkey

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



✓ A common vegetation map is developed first and then used to structure studies of other taxonomic groups



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

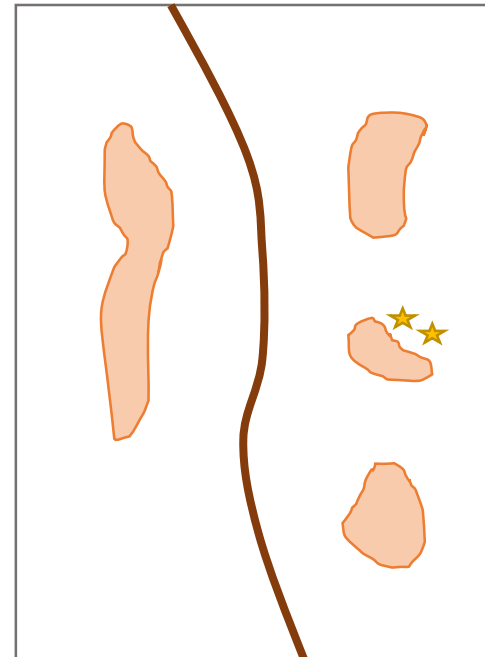
Case study

- 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**



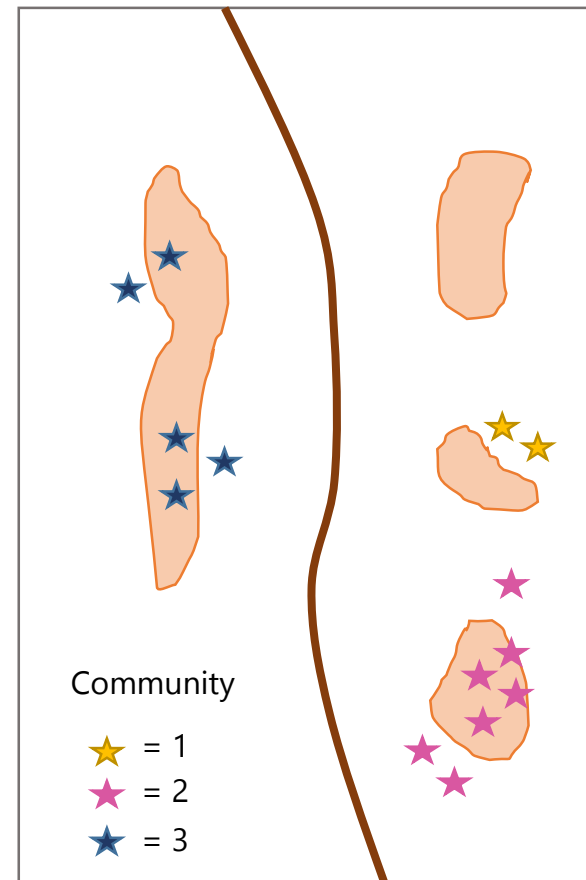
Survey planning

- 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



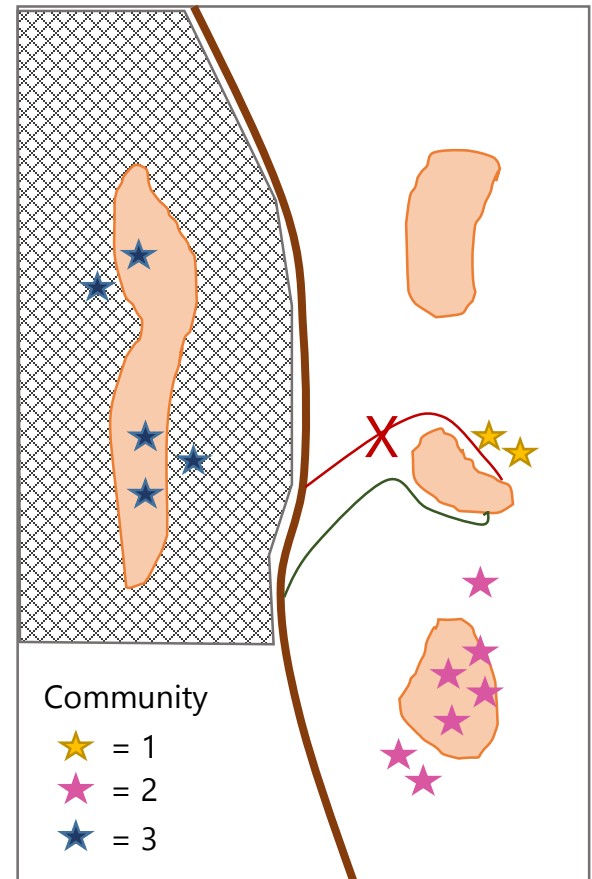
Survey results

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



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!

www.thebiodiversityconsultancy.com