Let's Talk!
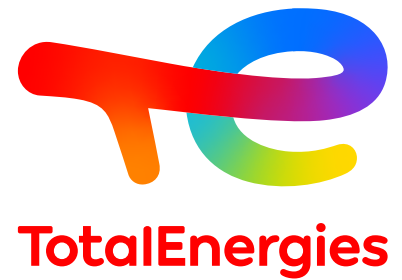
TotalEnergies

Welcome to the first issue of **Let's Talk!**

This **Let's Talk!** bulletin is a pilot initiative which is aimed at providing information to Civil Society Organisations (CSOs) and Non-Governmental Organisations (NGOs) on thematic topics relating to the oil & gas industry, for instance environment, social and human rights matters.

In line with our TotalEnergies values: Safety, Respect for each Other, Standing Together, Pioneer Spirit and Performance Minded we will aim to share information with you, our stakeholders.

The bulletin will set out information in a simple and easy to read format. For those with a greater interest it will also provide a list of key materials on TotalEnergies and TotalEnergies EP Uganda's policies and actions and related third party materials.

Each edition will focus on one key issue. For this pilot edition we are delighted to highlight the work of the TotalEnergies EP Uganda Environment & Biodiversity team in relation to Biodiversity Surveys & Monitoring. We would love to hear from you. Share your feedback, comments, and questions with us on **ep-ngo-human-rights-ugep@totalenergies.com**

Enjoy reading!

Tilenga Project Biodiversity **Surveys & Monitoring**

It is no secret that the Tilenga project is being undertaken in a highly sensitive environment. The Albertine Graben is one of Africa's most important areas for biodiversity (a biodiversity hotspot) and includes the Murchison Falls Conservation Area, Budongo Central Forest Reserve, Lake Albert ecosystem amongst others.

So how is TotalEnergies EP Uganda, as operator of the project, ensuring that biodiversity is maintained, and wildlife protected?

Given the sensitive environment, TEPU Uganda aims to undertake its activities in a way that conserves biodiversity. We are working towards achieving a net positive impact to biodiversity.

TEPU recognizes that the key steps to achieve these commitments are:

- Through understanding of the ecological context of its area of operations through long-term baseline and monitoring studies.
- Working with local and international stakeholders and partners as well industry associations to improve knowledge on biodiversity, in order to drive advances in this area.
- To promote an effective collaborative management of potential impacts at a landscape level by using a sustainable development approach.

The TEPU Environment & Biodiversity team are passionate about their role and want to go much further than minimizing impacts to wildlife in the area. Our mission and commitment is to leave the landscape in a better way than we found it.

What are Critical & Natural Habitats? Under the IFC Performance Standard 6

Critical Habitat notably includes habitat required for the survival
of critically endangered species. Endangered means a species which is in danger of extinction.

Natural habitat is land and water areas formed largely by native plant and animal species, and where human activity has not essentially modified the area's primary ecological functions.

TEPU Environment and Biodiversity team present Biodiversity Surveys and Monitoring studies to CSCO members

On Tuesday 16 November TEPU's Environment and Biodiversity team gave a presentation to members of CSCOs Environment, Land, and other Natural Resources thematic group.

The presentation highlighted work on Biodiversity Surveys and Monitoring and showed how the data generated is being used in practice to ensure that project operations does not have adverse effects.

Highlights from the presentation

Samuel Mutebi, TEPU's Biodiversity Engineer opened the presentation by highlighting TEPU's Biodiversity Commitments which are set out in the TEPU Biodiversity Charter. TEPU recognizes that adherence to the Mitigation Hierarchy is key.

What is the Mitigation Hierarchy?

- Avoiding any unnecessary impacts
- Minimizing any unavoidable impacts
- Restoring any impacted areas; and
- Offsetting any impacts that cannot be mitigated through the first three steps of the mitigation hierarchy to achieve net positive impact.

Application of the mitigation hierarchy and demonstrating Net positive impact requires systematic monitoring and evaluating the state of ecosystems and the biodiversity they support within the landscape; as well as the full range of pressures exerted on it. This is known as baseline.

The baseline allows the team to work with the project engineers and contractors as well as organizations such as the Uganda Wildlife Authority to design and implement responses to protect and improve biodiversity.

Collaborative management with private/ public stakeholders is key to the success of this approach and is a continuous process throughout development activities.

So how can these baseline studies and monitoring help?

Elephant ranging behaviour and stress level monitoring

Importance of Baseline Studies

Baseline studies provide essential information on the habitats and animals present in the area including for example the numbers of each species (abundance), behaviors, habitat preferences, as well as their ranging patterns and stress levels amongst others. Baseline information gathered at the outset of the Project was used for example to help choose the most appropriate location and schedule for conducting certain project activities and to design mitigation measures.

It was used to implement the "Avoidance" part of the Mitigation Hierarchy. For example, through sensitive features mapping, information was gathered to allow sensitive areas to be avoided (like breeding sites, wetlands, and the preferred habitats for vulnerable species).

During the implementation of project operations, data obtained from the Baseline Studies is being used by the team to for example to track population trends of animals. This information is key in assessing the effectiveness of mitigations identified in the Biodiversity Management Plans. Where animal populations decline, such negative trends can be detected early and appropriate responses designed, a technique known as adaptive management. Similarly, where positive trends in animal numbers are seen, corresponding successful measures can be scaled up.
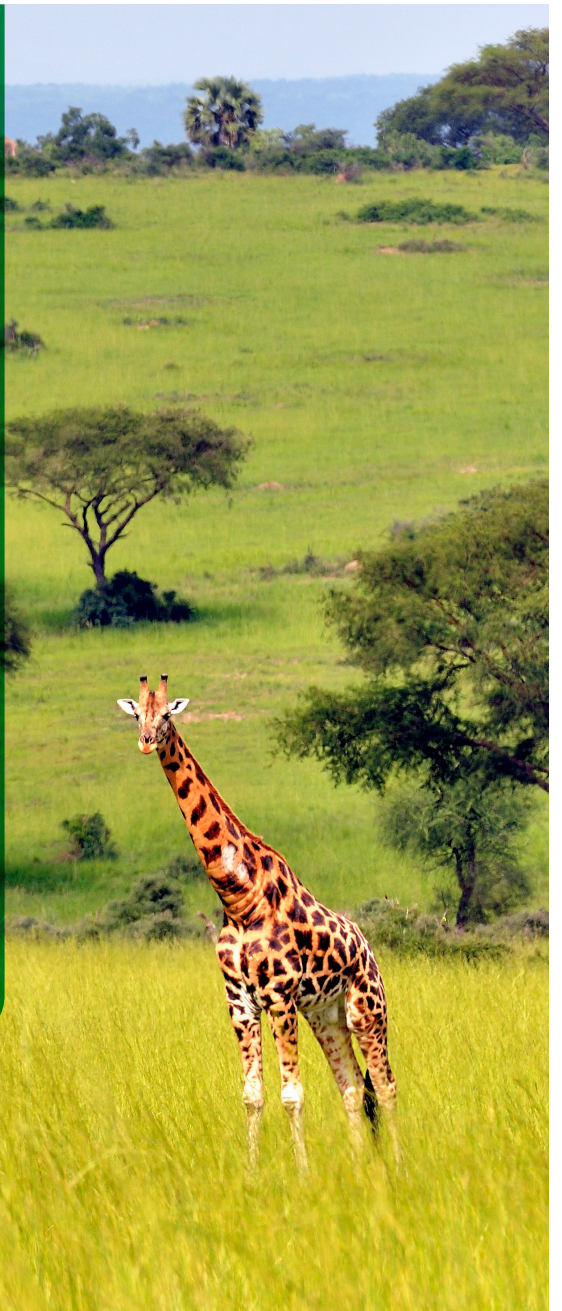
Examples of Biodiversity Baseline & Monitoring Studies conducted by TEPU

Completed Studies

- Critical Habitat Assessment
- Ecological baseline survey
- Vegetation mapping & phytosociological studies
- Aerial wildlife baseline surveys
- Elephant ranging and stress baseline
- Delta Biodiversity baseline surveys
- Animal ranging behaviour & stress assessment in selected CHQS (Lion, Giraffe and Hartebeest)
- Vulture ranging behaviour & population trends
- Human wildlife conflict & bushmeat study
- Restoration Plant sourcing project – pilot studies

Ongoing Studies

- Elephant ranging behaviour & stress assessment
- Animal Ranging Behaviour
- Vulture population and ranging behaviour

Planned Studies

- Chimpanzee surveys along critical oil roads
- Carnivore Census (lions and hyenas)
- Wetlands surveys
- Aerial wildlife surveys
- Giraffe Monitoring

Importance of Monitoring Studies

Many different types of monitoring studies are being conducted using a wide variety of techniques:
• Aerial wildlife surveys
• Satellite collars
• Fecal hormonal analysis
• Visual observations of behaviour.

By analysing and interpreting data including daily distances moved by the animals, it is possible to understand seasonal movement including breeding sites. We can also understand stress levels and potential stress causing factors.
This information can be used to see where animals are altering their behaviour as a result of Project activities. This allows for fast intervention where detrimental effects occur.

But the benefits of this type of monitoring go far beyond the activities of TotalEnergies EP Uganda. They can also be used by species specialists and UWA to predict future behaviours and needs in the park as a whole which has the potential to contribute to improved biodiversity management in the park.

It is also hoped that the findings will support species specific wildlife programmes, for instance the National Giraffe Conservation Strategy and Action Plan, National Chimpanzee Strategy and Action, Carnivore Conservation Action plan amongst others.

Examples of different types of monitoring and techniques can be seen in the pictorial examples below and some are summarized here:

• Mammal Ranging behaviour and Stress level monitoring (Elephants, Giraffe, Lions, Hyena, Hartebeest, Reedbuck and Uganda Kob): by attaching satellite collars onto these animals, we understand their movement patterns, habitat utilization and preference, and daily distances moved within (and outside) the park with variations between dry and wet seasons. Faecal samples are also collected, stress hormones extracted and analyzed to understand stress level.

Vulture population and ranging behaviour monitoring: used to identify population trends, ranging of the vultures, identify and locate breeding sites (to assess reproductive success (nest success), habitat use, and general ecological behavior.

• Wetland Surveys: presence-absence of species, population distributions are documented, habitat types defined in-line with phytosociological classifications and ecology studies.

• Aerial Wildlife Surveys: population of large and medium sized mammals, their distribution and habitat associations are documented, evidence of human pressure/ threats to wildlife also identified, UWA and TEPU staff trained on how to interpret and use aerial data.

• Chimpanzee surveys along critical oil roads - group size, structure and social cohesiveness of chimpanzees is established, the relationship and relevance of forest type and use identified; spatial population distribution considered.
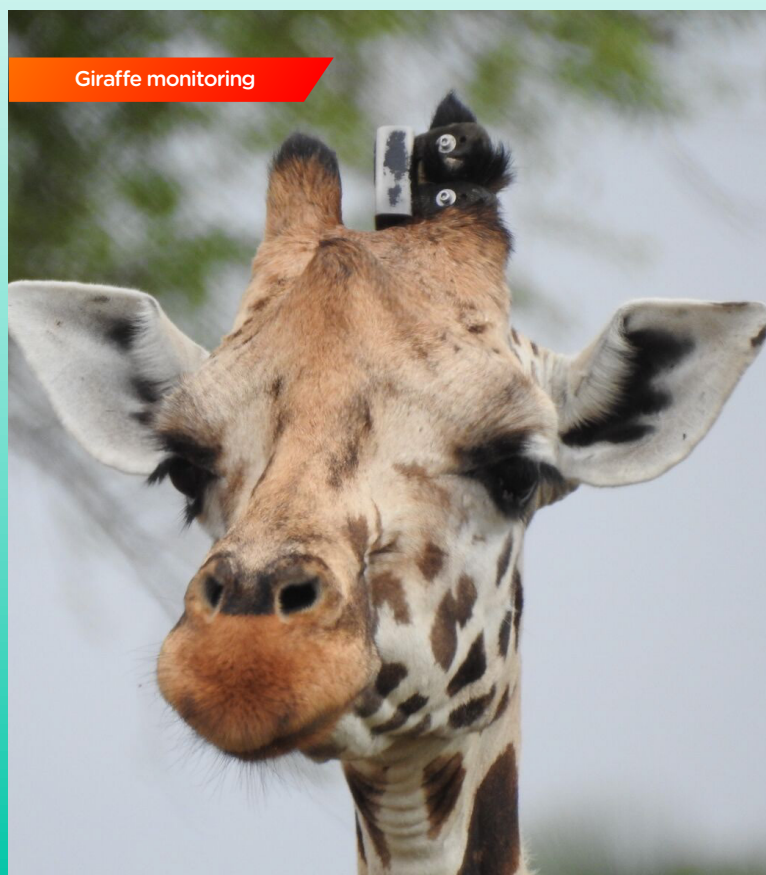
Giraffe monitoring

Q&A

1. How does Tourism and Oil and Gas activities coexist?

We do know that Pakuba-buligi area is a hotspot for tourists and also an area where Oil and Gas construction activities and development drilling will occur. TEPU is working to ensure that these two important activities can co-exist notably by implementing a Tourism Management Plan which sets out measures to deal with the issue.

TEPU will also be working on these issues alongside the Uganda Wildlife Authority (UWA) and other stakeholders such as the Uganda Tourism Board.

At the moment, a working group is considering promoting the development and use of alternative tracks within areas of the park that are currently under-utilized in terms of tourism for example, areas to the South and the East, including Chobe.

2. Provide examples of how the biodiversity data makes changes in Project specifics Biodiversity data has been used to develop the project avoidance protocol which has been consistently used in the design and placement of well pads.

At the outset it was planned to have several scattered well pads across a larger area of the park. Following the collection of biodiversity data, it was noted that the area overlapped with key sensitive features such as kobleks (kob breeding areas), lion ranging areas and thus operations could potentially have more significant negative impact.

The placement and design of well pads was therefore enhanced. Only 10 well pads are now used instead of individual well pads supporting a single well. Therefore, substantially reducing surface footprint. Another example includes the use of biodiversity monitoring data to when considering flowlines construction. Sensitivity maps and fact sheets have been shared with contractors to determine the optimum construction sequences taking into wet and dry season sensitivities.

This work shall continue throughout the construction planning phase and shall be monitored throughout.

3. So, does the TEPU Biodiversity Team work closely with the Project Engineers?

There is a strong relationship between the team and Project engineers who work together hand in hand. For mitigation to be effective, the respective experts must come together, understand one another and find common solutions.

This is something that TEPU's management takes very seriously and is why documents such as the Biodiversity Management Plans have been created and are adapted to ensure effective application of measures by the company and its contractors, not just the experts.

Click on the links below to find out more

TotalEnergies Brochure « Protecting Biodiversity Commitments and Actions »
TotalENergies Biodiversity Ambition:
https://totalenergies.com/sites/g/files/nytnzq121/files/documents/2021-10/Brochure_biodiversite_EN_BD.pdf

International Finance Corporation Performance Standard 6: Tilenga has made a clear commitment to apply international best practices on biodiversity including the IFC PS:
https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/performance-standards/ps6

Tilenga Environmental and social impact assessment (ESIA):
https://corporate.totalenergies.ug/tilenga-project-environmental-and-social-impact-assessment-report

Several independent reviews have been conducted by third-party organizations to ensure that the project is implemented in compliance with social and environmental best practices and have been made public by TotalEnergies:
https://corporate.totalenergies.ug/news/tilenga-and-eacop-total-acts-transparency-social-and-environmental-stakes-lake-albert-resources

Derek Pomeroy, Tim Dodman, Micheal Kibuule, Stephen Kigoolo, George Kaphu, Dianah Nalwanga, Michael Opige and David Ochanda: Waterbirds of the Murchison Falls–Albert Delta Wetland System, an important Ramsar site, Scopus 40(2): 50–59, July 2020. https://www.ajol.info/index.php/scopus/article/view/198324

Mathias Behangana , Richard Magala, Raymond Katumba , David Ochanda , Stephen Kigoolo , Samuel Mutebi , Daniele Dendi , Luca Luiselli and Daniel F. Hughes : HERPETOFAUNAL DIVERSITY AND COMMUNITY STRUCTURE IN THE MURCHISON FALLS-ALBERT DELTA RAMSAR SITE, UGANDA, European Journal of Ecology, 6(2), 2020, pp. 1-17 DOI https://journals.ku.edu/EuroJEcol/article/view/13792

Mathias Behangana, Richard Magala, Raymond Katumba, David Ochanda, Stephen Kigoolo, Samuel Mutebi, Daniele Dendi, Luca Luiselli, Daniel F. Hughes: Ontogenetic habitat use and seasonal activity of Nile crocodiles (Crocodylus niloticus) in the Lake Albert delta, East Africa. Journal of Great Lakes Research 46 (6), December 2020, Pages 1776-1782 https://www.sciencedirect.com/science/journal/03801330/46/6

Brown MB and Bolger DT (2020) Male-Biased Partial Migration in a Giraffe Population. Front. Ecol. Evol. 7:524. doi: 10.3389/fevo.2019.00524