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Critical Modified Habitat

Giant Otters and Underwater Logging, French Guiana

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Introduction

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Overview



Defining natural v modified habitat

Petit Saut reservoir, French Guiana

Giant otter population

Impact assessment in a modified habitat



Natural v Modified

Where do we draw the line?

Definition

 In practice, natural and modified habitats exist on a continuum that ranges from largely untouched, pristine natural habitats to intensively managed, modified habitats. – PS6 The following slides show the spectrum from highly modified to mostly natural and how this can be difficult to determine and change rapidly. This was an interactive element in the live presentation





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Key Points

- There is a high level of subjectivity in determining what is natural habitat
- Some are clearly modified. Some are clearly natural. But where we choose to draw the line in the middle is subjective
- Maybe it should be adapted to the situation?
 - For example, a hedgerow in England isn't strictly natural, but it is an important habitat and so it would be sensible to categorise it as natural
 - In Sierra Leone, how long after a forest fire should the habitat be reclassified as natural? Does it depend on how close it is to existing natural habitat?



Petit Saut Reservoir

Natural or modified?

A series of photos and satellite imagery were used to give an overview of the project location and the habitat and species that are present in or near to the project area











Who lives there?

- Jaguar
- Handroanthus serratifolius / yellow lapacho
- Anhingha
- Cayenne Stubfoot Toad
- Osprey
- Tapir









Key Points

Evidently, this is a modified ecosystem

- Building the dam dramatically changed the habitat
- The water level is regulated by the dam and no longer subject to the same seasonal fluctuations
- But it maintains several natural features and supports a wide variety of wildlife, including threatened species
- Where does it transition from modified to natural?
 - It's a spectrum, of course, but where is the threshold?
 - Is it where the water is no longer regulated by the dam?
- Can this modified habitat still be a critical habitat?



The Giant Otter Population

Why so many?



How many are there?

- We don't know for sure
 - Likely at least 75 across the reservoir
- Density estimates are quite similar to the literature for the Guianas
 - Density estimates for the Guianas range from 0.154 / km² to 1.2 / km² (Ojasti 1996)
 - A 2021 study of Petit Saut estimated a density of 0.21 to 1.24 otters per km²
- But higher than for a similar reservoir in Brazil Balbina
 - 0.063 otters per km²
- Are they a critical habitat species?
 - Global population estimate: \sim 5,171 \rightarrow CH 0.5% threshold = 26
 - EAAA ~ 1.4% of the global population, possibly higher

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How many were there before?

- We don't know for sure
- No estimates have been found
- Anecdotally, local conservationists said that the population had grown since the dam and the reservoir had become a nationally and globally important habitat for this species



Impact Assessment

How to manage an impact assessment with so many unknowns

AFD Exclusion List

- To meet AFD requirements, all impacts to critical habitat features had to be considered negligible
- AFD Exclusion List Article 17
 - (ii) Any operation leading to an adverse and irreversible residual impact on a critical habitat;
- I.e., no offsetting



The following slides give an overview of project operations





Difficult Questions

- Will modifying the modified habitat impact the giant otters?
 - What reliance do the otters have on the flooded trees?
 - Will increased noise and disturbance displace the otters?
- Would leaving it untouched ultimately lead to a degraded habitat?
 - The trees will eventually rot and collapse, potentially altering the water quality
- Again, we don't really know
 - There aren't many projects like this
 - There are knowledge gaps in how the otters are using the reservoir and the trees
- We engaged with appropriate experts to address these gaps

The Answers?

- Avoiding and minimising disturbance to giant otters
 - 500 m buffer zones around all otter dens
 - Breeding season unclear so applies to any active den
 - Pre-clearance checks and improved monitoring
- Not harvesting above the 11m depth mark
 - This leaves a significant proportion of the dead trees remaining
 - And the most ecologically relevant part
- Harvesting technology doesn't remove the roots
- Scientific committee to provide oversight
- Annual monitoring plan is important as project is unique





Do <u>you</u> have any questions?

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Making Sustainability Happen

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