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A Streamlined Critical Habitat Assessment: An Example from the O&G Sector in Argentina

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The Scenario

- IFC Equity Investment in an Oil and Gas Company in Argentina
- Concession partially overlaps with National Protected Area and Important Bird Area centered on an isolated volcano
- Endemic species and unique vegetation associations largely restricted to the upper slopes and summit of the volcano
- Concession is located on lowland area at base of the volcano
- Largely Natural Habitat, but intersected by historically Modified Habitats



Spatial Unit of Analysis

- Includes Protected Area, including both its legal and proposed boundaries, and surrounding habitats of significance to the biodiversity values and management objectives of the Protected Area.
- Represents a “discrete management unit” that contains the volcano and surrounding basalt plateaus.
- The unique biodiversity features of the area are largely found within the SUA.
- The surrounding area outside the SUA is dominated by lowland biota without the unique elements.



EN/CR Species

- No Endangered or Critically Endangered species listed by IUCN or equivalent national or regional assessments.
- Priority species for the IBA and Protected Area are NT (guanaco, lesser rhea, Andean condor) or not evaluated (plants and lizards)



Endemic Plants

- 18 endemic plant species in Protected Area Management Plan studies
- 6 species were identified as having priority species regional conservation importance based on distributional data and conservation status
- No plant species were found to be strictly endemic to the SUA.



Endemic Plants

- Based on the subcriteria for Critical Habitat Criterion 2 and given that no known plant species has a range restricted solely to the SUA (i.e., $\leq 95\%$ of global range), the SUA does not qualify as Tier 1 Critical Habitat for any plant species.
- However, the SUA does qualify as Tier 2 Critical Habitat (at least 1% but less than 95% of the global population of an endemic species) for the six priority plant species and likely various others



Restricted-range Fauna Species

- No known restricted-range mammals, birds, amphibians, or fish
- Potentially 8 endemic lizards of the genera *Liolaemus* and *Phymaturus*
- Given that the global distribution of a *Liolaemus* and a *Phymaturus* are contained within the SUA, the SUA qualifies as Tier 1 Critical Habitat for these species.
- The SUA qualifies as Tier 2 Critical Habitat for another *Liolaemus* as it includes greater than 1% of its known range. Additional species of *Liolaemus* currently in publication or under description will increase the number of species with ranges entirely restricted to the SUA.



Migratory and Congregatory Species

- No migratory or congregatory birds are noted by the information sheet for the ANPAM IBA.
- SUA is contains regionally important populations of the guanaco (a wild South American camelid)
- Taking a precautionary approach, the guanaco population was assumed to be migratory based on the above.
- Guanacos have seasonal altitudinal movements
- Regional migration corridors have been disrupted historically by settlement and road development.



Migratory and Congregatory Species

- Lower estimate for the global population of guanaco is 535,750, which means that to qualify as Tier 2 Critical Habitat, the SUA should sustain at least 5,350 individuals (i.e., 1% of the global population) on a cyclical or otherwise regular basis.
- The SUA herd size was estimated at approximately 6,000 individuals for the 2006-2007 period, which suggests that the SUA qualifies as Tier 2 Critical Habitat for migratory guanaco.
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Threatened/Unique Ecosystems

- As demonstrated above, the SUA supports a regionally significant and unique ecosystem characterized as island of Patagonian and High Andean ecosystems surrounded by lowland desert formations that have supported the evolution of endemic species of plants and animals.
- Based on the presence of unique species assemblages that can be found nowhere else, regionally, nationally, or globally, the SUA qualified as Critical Habitat based on Criterion 4.



Key Evolutionary Processes

- Based on the presence of *Liolaemus* and *Phymaturus* lizards with global ranges restricted to the SUA, the SUA qualifies as Critical Habitat due to the evolutionary processes that have lead to the speciation of these lizards.



Conclusions on Applicable PS6 Requirements

- Project located largely in Natural Habitat, with triggers requirements of Paragraphs 14 and 15.
- SUA clearly qualifies as Critical Habitat based on Criteria 2, 4, and 5, as well as Criterion 3 based on the application of the precautionary principle, which triggers requirements of Paragraphs 17 through 19.
- Project is located within Legally Protected Area and an IBA, which triggers requirements of Paragraph 20.



Conclusions on Likelihood of Project compliance with PS6 Requirements

- Given that the exploration and production of hydrocarbons in the Concession itself will be largely outside of the specific habitats required by the endemic/restricted range species, the Project, with proper application of the mitigation hierarchy and consultation with stakeholders and experts, is likely to have minimal direct, indirect, or cumulative impacts on the biodiversity values for which Critical Habitat is designated.



Path Forward

- Planned exploratory drilling will require submittal of ESIA to the IFC, which should include
 - Detailed Biodiversity Baseline for Area of Influence
 - Assessment of Impacts to Critical Habitats identified in the SUA
 - Assessment of Impacts to Protect Area management objectives
- Company will prepare Biodiversity Action Plan with comprehensive mitigation measures in accordance with the mitigation hierarchy, including offsets for any residual adverse impacts to biodiversity features qualifying for Critical Habitat.



Path Forward

- The BAP should demonstrate compliance with Paragraphs 14 and 15 of PS6 for Natural Habitats
 - No viable alternatives exist for siting project components in modified habitats
 - Stakeholder have been consulted and their views are summarized
 - Conversion of natural habitats is mitigated according to the mitigation hierarchy.
 - Efforts have been made to ensure there is no net loss of natural habitats, through means such as identification and protection of set-asides, measures to minimize habitat fragment (such as reestablishing or protecting corridors), restoring habitats, and biodiversity offsets.



Path Forward

- In regards to Critical Habitats, the BAP, should demonstrate compliance with Paragraphs 17, 18, and 19 of PS
 - No viable alternatives exist for siting project components in non-critical habitats The project will not lead to measurable adverse impacts on the biodiversity values for which critical habitat is identified
 - The BAP includes a robust long-term biodiversity Monitoring and Evaluation program
 - The BAP has been designed to achieve net gains of those biodiversity values for which critical habitats have been designated
 - If significant residual impacts are identified, that the proposed offsets will ensure compliance with the above bullets.



Path Forward

- In regards to the Protected Area, the BAP should demonstrate compliance with Paragraph 20 of PS 6:
 - Proposed activities in the ANPAM are legally permitted
 - Proposed activities are consistent with any government-recognized management plans for the ANPAM (including any buffer zones)
 - ANPAM sponsors and managers, affected communities and other stakeholders have been consulted and their perspectives have been considered
 - Additional programs, as appropriate, will be implemented to promote and enhance the aims and management of the ANPAM.