Testing the waters: Al vs. Consultants in Biodiversity Due Diligence



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Context & Rationale

- Al is increasingly promoted as a tool for faster, cheaper, and scalable impact assessments.
- But can it replace expert consultants in complex specialist domains like biodiversity due diligence?
- We tested this with a real-world ESIA case study.





Biodiversity Due Diligence

- •Biodiversity due diligence ensures projects meet international environmental and biodiversity standards:
 - Essential for project approval, especially when international financing is involved.
- •The due diligence process helps stakeholders understand:
 - Risks and opportunities associated with the project.
 - Next steps for alignment with industry standards or frameworks.
- •Comprehensive biodiversity due diligence includes:
 - Gap analysis assessments.
 - Identification of red flag issues.
 - Actions to address gaps and align with the chosen standard.





The Experiment Set-up

Purpose:

Same data \rightarrow different processors \rightarrow compare outputs.



Approach:

- Consultant A (experienced): Benchmark review.
- Consultant B (junior): Independent review.
- 'Consultant' C (AI Language Model): Simulated review using a leading LLM.

Evaluation Criteria:

- •Accuracy of findings Alignment with benchmark (Consultant A)
- •Use of PS6/GN6 logic
- Recognition of applicability
- •Specificity of Gaps
- Justification for assessment (drivers)
- Quality of recommendations



Case-Study Context

- Project Type: Internationally financed 224 km railway project.
- •Assessment Scope: A full Biodiversity Impact Assessment (within the Environmental and Social Impact Assessment -ESIA).
- •Documentation: Publicly disclosed ESIA used by all reviewers.
- •Comparison:
 - Consultant A (Experienced/Senior Specialist)
 - Consultant B (Junior)
 - Consultant C (AI/LLM)





Key Comparison Table

Evaluation Criteria	Experienced (A)	Junior (B)	AI - LLM (C)
PS6/GN6 Logic + Requirements	Applied rigorously	✓ Mostly aligned	Shallow or missing
Critical Habitat Assessment	✓ Detailed	✓ Aligned	🚫 Incomplete
Baseline, IA & Mitigation and Monitoring Plans	 Specific Critiqued in depth 	 Detailed Reasonable critique 	Seneric Repetition of ESIA claims
No Net Loss/ Net Gain	🗸 Clear	✓ Partial	X Omitted
Gap Identification Drivers	Clearly stated	✓ Thoughtful	X Missing – repeated ESIA rationale
Document Cohesion Analysis	✓ Thorough	✓ Highlights gaps	🗙 None
Overall Analytical Depth	🔶 High	↑ Strong support	Limited without expert oversight



Summary

Observed AI Limitations

- Could not generate or apply justification for gap findings it repeated what the ESIA claimed.
- Missed species-specific logic, e.g., Net Gain not tied to CH triggers.
- Did not reconcile contradictions across documents (e.g., BMP vs. ESIA).

Surprising Al Behaviours

- False Positives/Negatives: Flagged areas as gaps that weren't (e.g. sustainable management and supply chain) and missed real gaps if not explicitly mentioned.
- Lacked ability to differentiate applicability vs. non-compliance: Example: issues marked "Noncompliant" due to absence in text
- No Inference Capability: Could not deduce project conditions beyond the literal text.
- No Sense of Priority: Treated minor and major gaps with similar language/materiality.

Al Strengths in Due Diligence

- Structured, fast outputs
- Highlights content coverage gaps (e.g., missing maps and cross-references provided intext)
- Useful as triage tool or second reviewer
- Helps teams maintain consistency
- Could support QA and document harmonisation

Lessons Learned

- AI ≠ Expert Substitute (yet): Useful support tool, but not fit for primary analysis in biodiversity due diligence.
- Human oversight is essential: Expertise needed for logic, obligations, and mitigation hierarchy.
- Best use case: Accelerating routine review tasks, redflagging, or document harmonisation.



Final Thoughts

It's not AI vs Consultants - it's AI with Consultants

- Biodiversity due diligence is too high-stakes to automate fully.
- The smartest integration is hybrid:
 - Consultants use AI as a tool, not a crutch.
 - Al supports efficiency, not decision-making.
- Integrate AI as an assistant, not a replacement.
- Existing LLM tools may support faster reviews, but decisions must remain expert-led.
- Future-proof teams by blending ecological expertise + digital literacy.



Discussion & O&A

"What would you trust AI to do in your own due diligence work?"

"Where should we draw the line between augmentation and automation in IA?"





Let's continue the conversation!

Message us your questions or comments in the IAIA25 app.

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