

# Wildlife key issues and considerations - mine closure and reclamation in the North

- Closure - - Wildlife effects and residual effects
- Reclamation - language and concepts (adaptive management)
- Consultation

# Reclamation units?

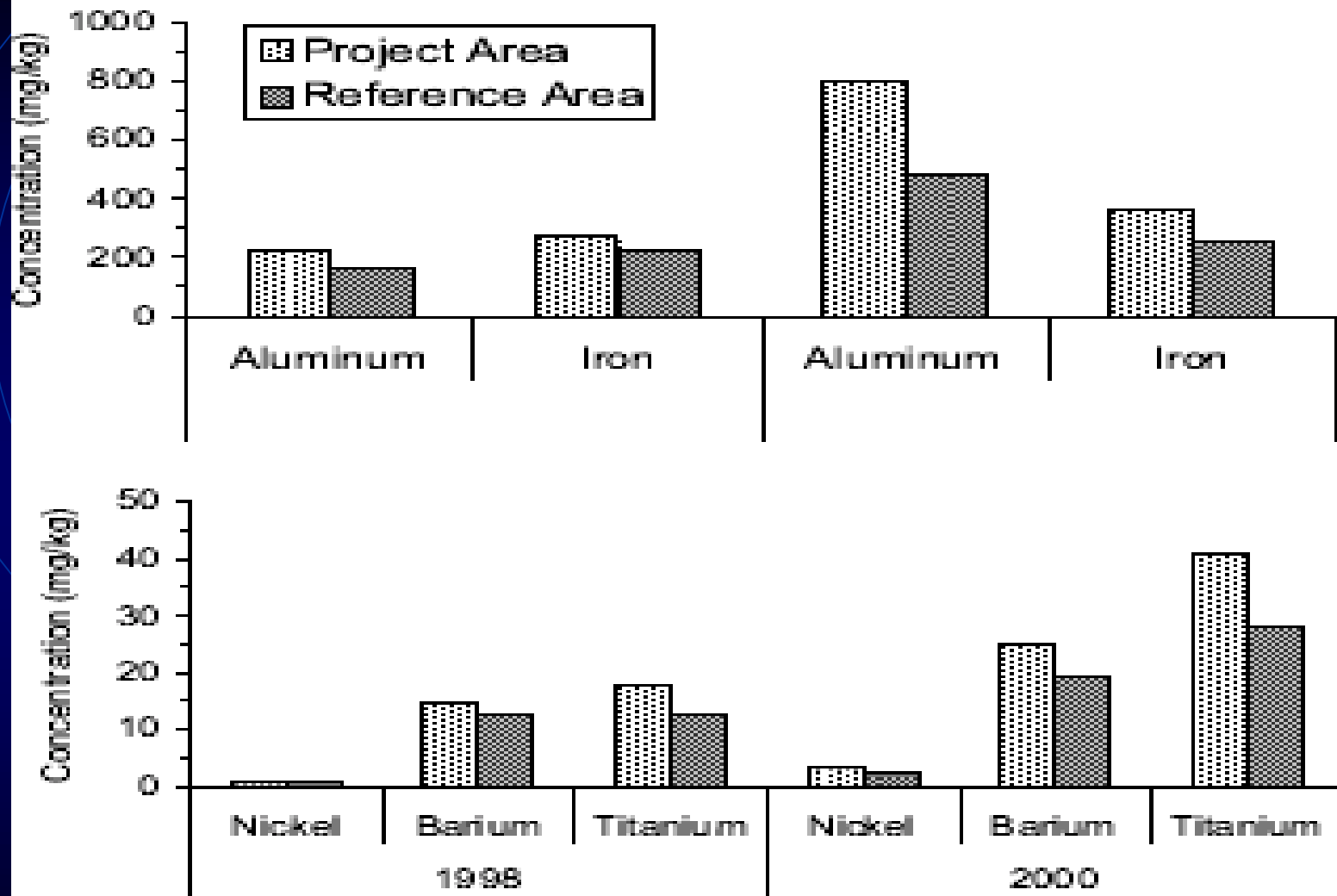
- Use of physical structures (BHP's LDUs) such as pits, waste rock piles, underground, tailings)
- But some environmental effects common to more than one structure – e.g.:dust
- Residual effects (closure vs reclamation)

# Reclamation 'units'?

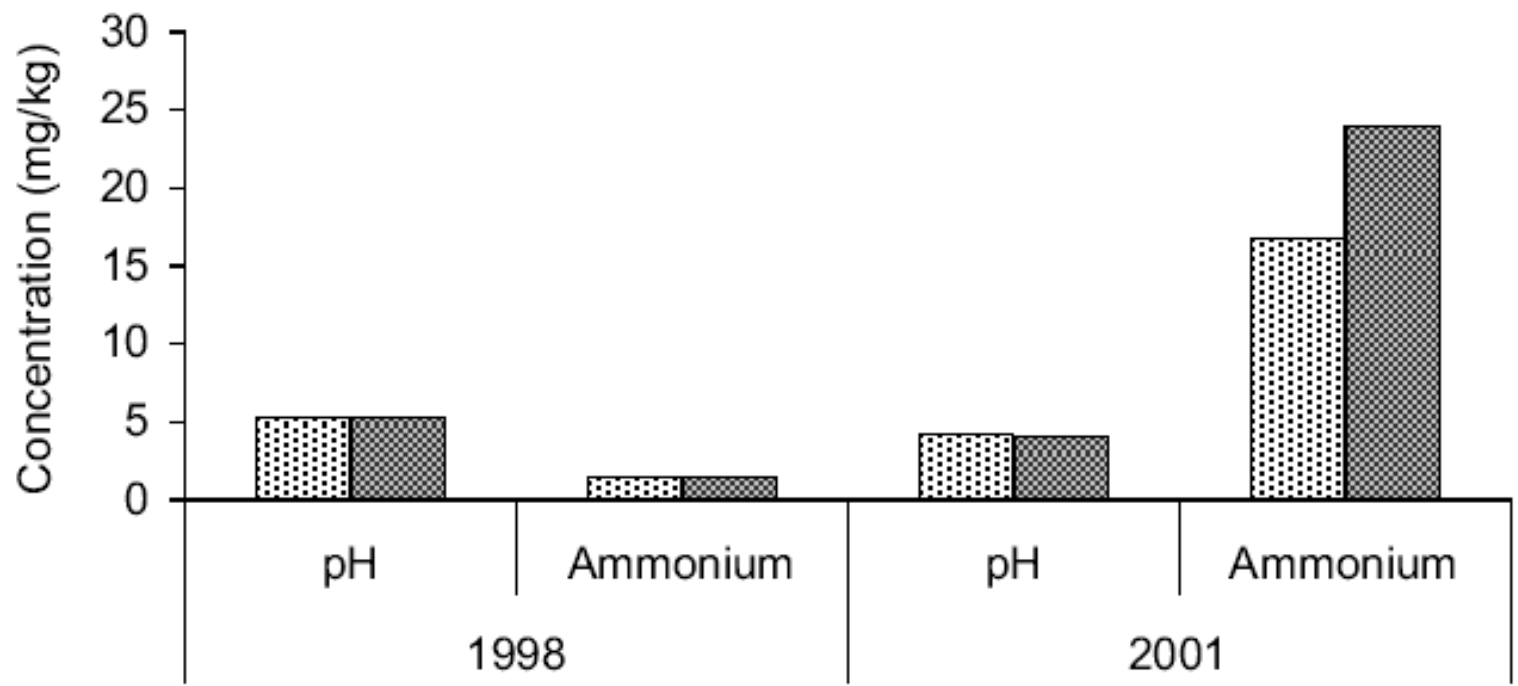
- Thus, more inclusive approach needed to define reclamation units

# Residual effects - Example 1

- Uncertain that some effects are reversible (residual effects)
- Lichens in the vicinity of Ekati have changed their chemical composition
- The chemical changes are consistent with dust fall from mine activities



( From Figure I-2. ABR 2002)



# Residual effects: Example 2



# Language

- BHP states “Move toward a performance and risk-management-based plan; executable objectives; tough choices; opportunity for inclusion TK; etc”
- Missing words are adaptive management



# Consultation

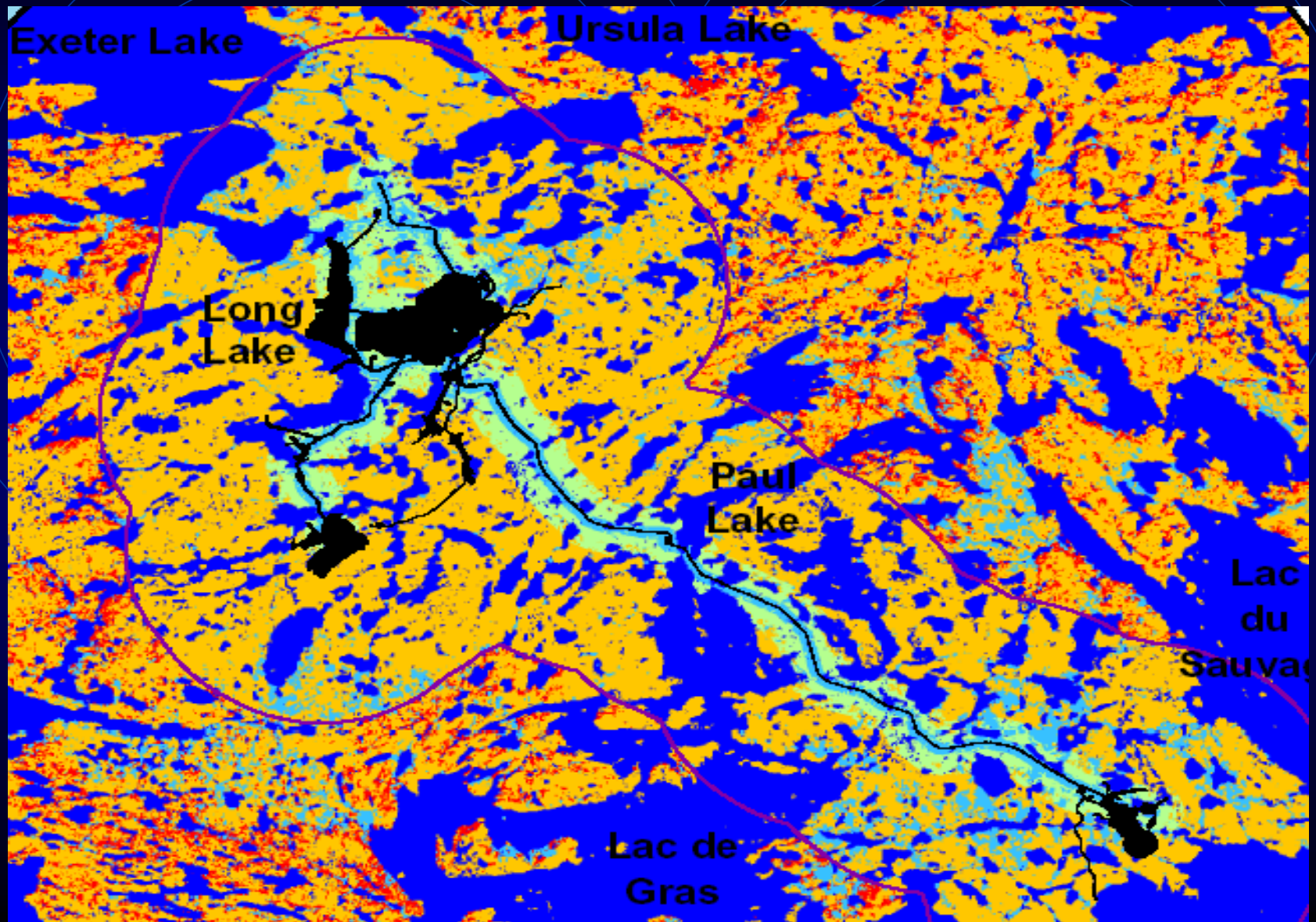
- BHP offers emphasis on consultation
- Consultation has to be extensive – complicated technical issues
- And consultation now implies accommodation

# Consultation

- Consultation should be early and on-going
- Learn from other experience – Colomac
- Community expectations

# Creating wildlife habitat?

- Fuzzy feel-good message
- But exactly what is habitat from the wildlife's point of view?
- And is it desirable to create wildlife habitat compared to re-vegetating?
- Constraints – ecosystem is a boom-bust one





# Reclamation tailings



# Adaptive Management

- Pits, for example, highly sequenced: Panda, Misery and Koala have mining completed 2004-07
- Thus, test objectives and methods (berms etc)
- But mine capacity for research?

# Adaptive management – test berm structures





# Adaptive management – climate change



# Reclamation activities could cause problems

- Need to acknowledge potential problems (part of adaptive management)
- Some activities (road reclamation, contouring rock piles) could short term generate more dust
- Uncertainties and the unexpected including human error



# Conclusion

- Rethink approach – specifically reclamation units (include effects assessment)- identify timescales
- Get the questions right through consultation then worry about methods
- Risk assessment for methods - balance
- Adaptive management – start testing objectives and techniques now