

# Systematic adaptive management can change EA

Addressing uncertainty and connecting the dots  
between EA, Permitting, Operations

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Mackenzie Valley  
Review Board



*“Uncertainty is  
an uncomfortable  
position.*

*But certainty is  
an absurd one.”*

*Voltaire*



# Conclusion: Systematic Adaptive Management Framework

- Acknowledges inherent uncertainty in impact prediction & sets framework within which project can operate
- Path forward to project approval in spite of uncertainty





# Mackenzie Valley Review Board

- Court-like tribunal in NWT
  - Co-management (50% aboriginal)
- EAs for large or controversial projects
- Makes determinations about **significant adverse impacts** on the “environment”
  - Can impose mitigation measures or reject projects





# JAY PROJECT

## The Future of the Ekati Diamond Mine

A recent  
experience  
with adaptive  
management  
in EA

The Jay Project is the cornerstone of Ekati Diamond Mine's future. Please join Dominion Diamond Ekati Corporation for a public meeting to discuss our mine-life extension plans and to answer any questions community members may have.

### Public Meeting

Date: Thursday, June 30, 2016

Time: 5:00pm

Location: Behchoko Cultural Centre

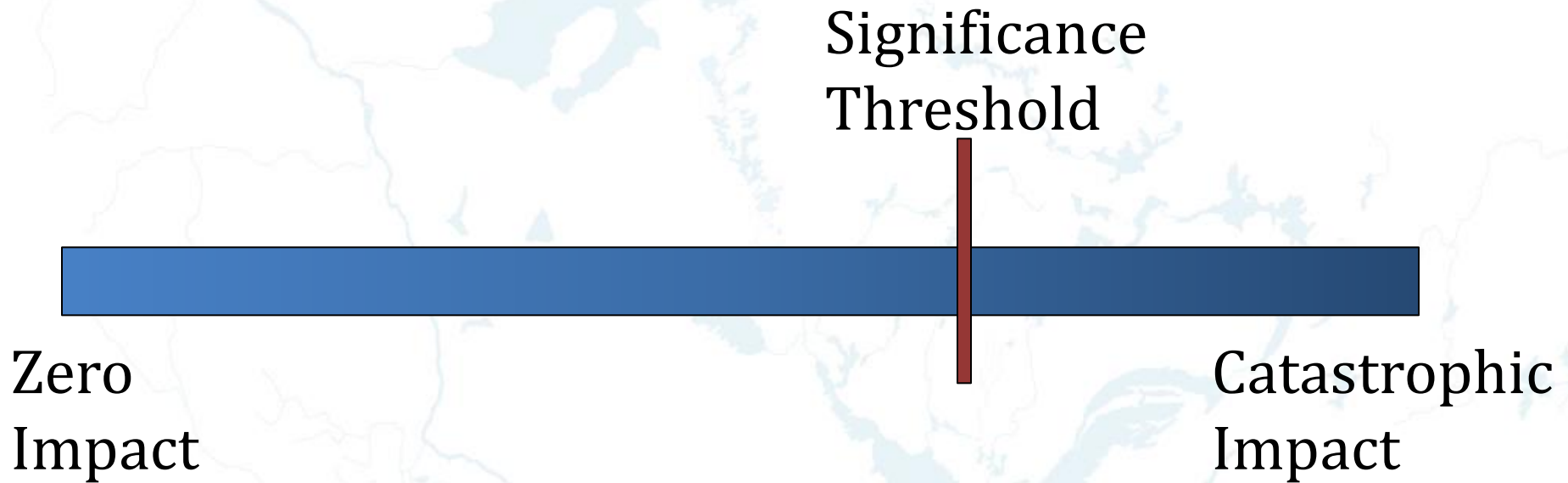




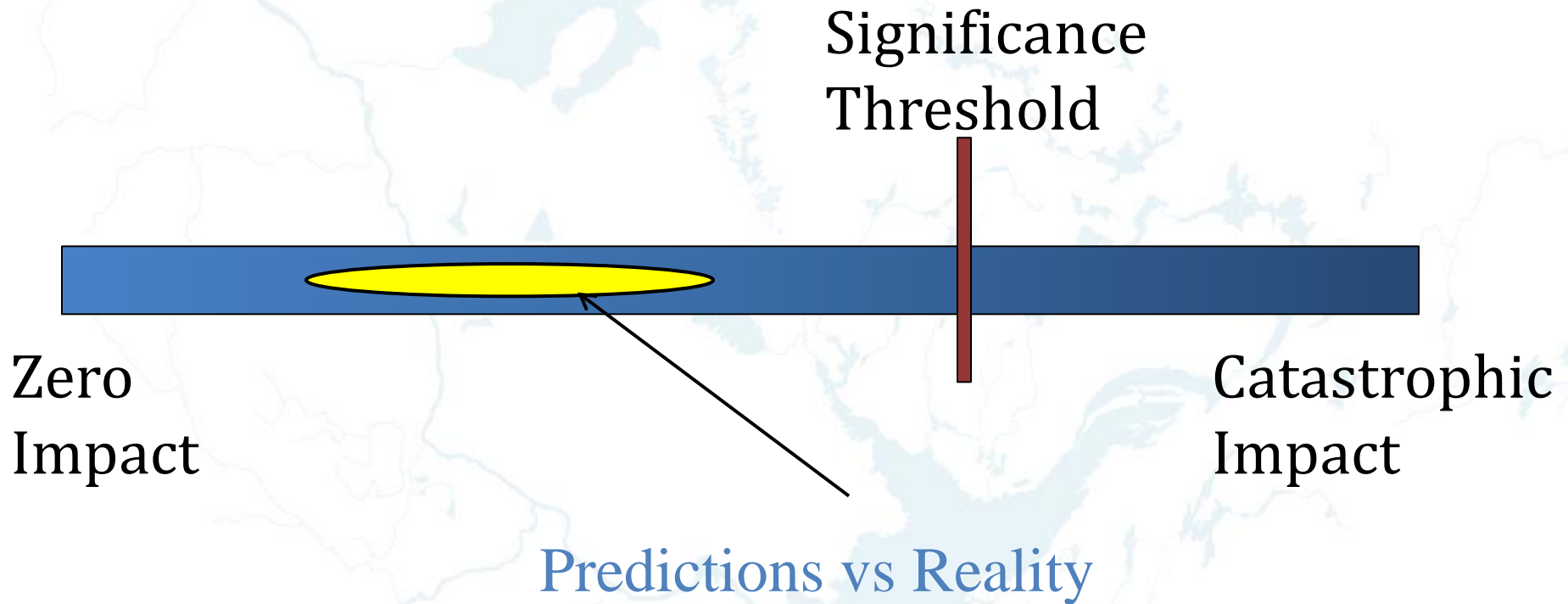


# The Significance Spectrum

Ehrlich & Ross, (2015): *The significance spectrum and EIA significance determinations*,  
Impact Assessment and Project Appraisal



# The Significance Spectrum





# Aquatic Response Frameworks\*

- Ekati, DeBeers Snap Lake, & Diavik diamond mines
- Include significance thresholds for changes to aquatic environment, e.g.
- System of low, med, high action levels beneath ST that trigger increasingly drastic management actions

\* <https://wlwb.ca/content/guidelines-adaptive-management-%E2%80%93-response-framework-aquatic-effects-monitoring>



# EA for Mine Expansion: Adaptive Management **on the Record**

- Many proponent commitments to adaptive management
- Many recommendations from parties
- Experience with response frameworks helped bring clarity to discussion





# On the Record: Two types

1. Systematic adaptive management framework with action levels, etc.
2. Improve mitigation
  - This is the generic, fuzzy version (use monitoring results to do better)



Mackenzie Valley  
**Review Board**



**Report of Environmental Assessment  
And Reasons for Decision**

**Dominion Diamond Ekati Corp.**

**Jay Project**

EA1314-01

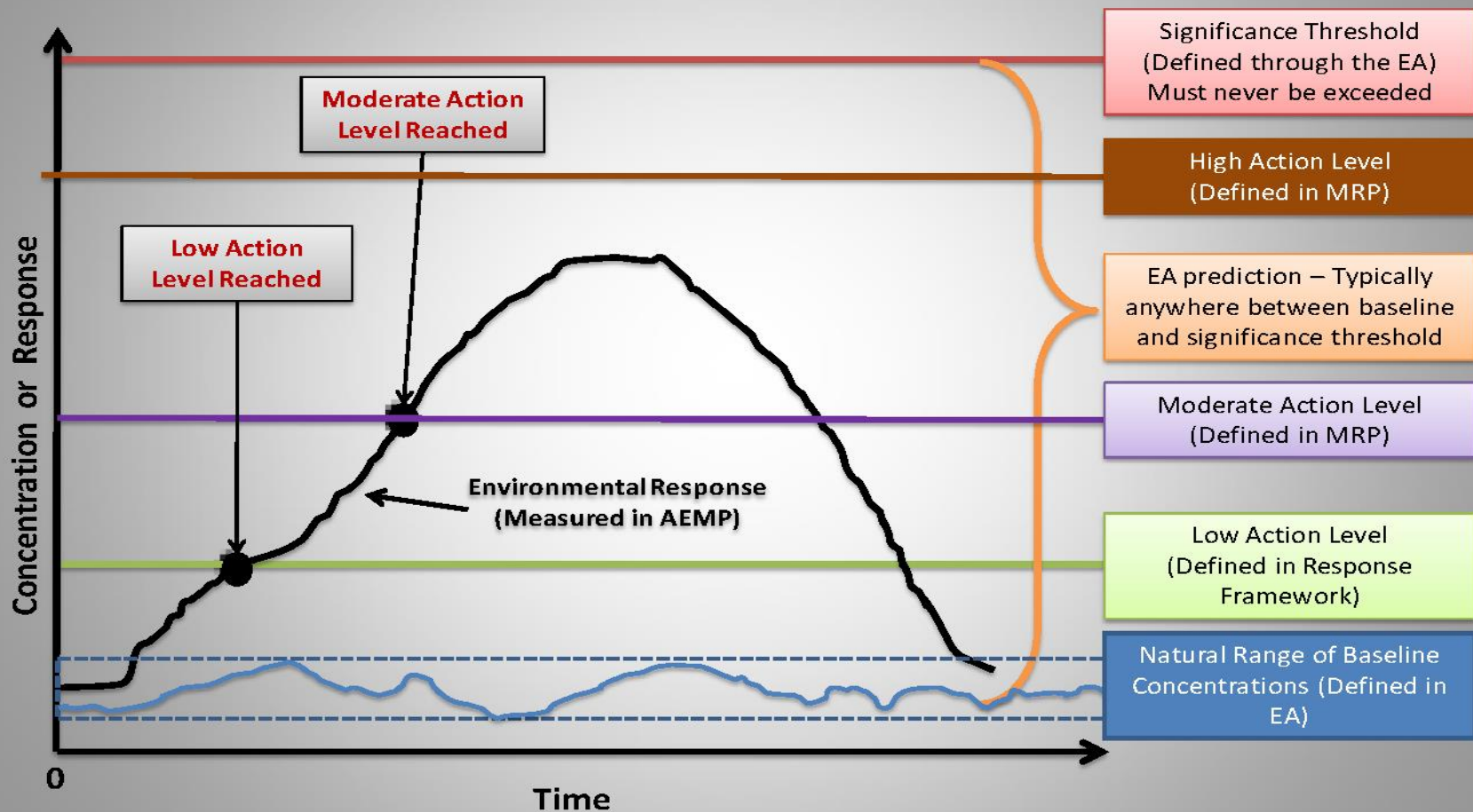
February 1, 2016



# Integrated into Approval

- Only 1<sup>st</sup> type reliably contributes measures

## Fictional Example



# Adaptive Management- Integral to Approval

- Adaptive management was fully integrated into Report of EA
  - Phrase used 81 times, throughout Report
  - Incorporated into every mitigation measure
  - Developer and regulator responsibilities





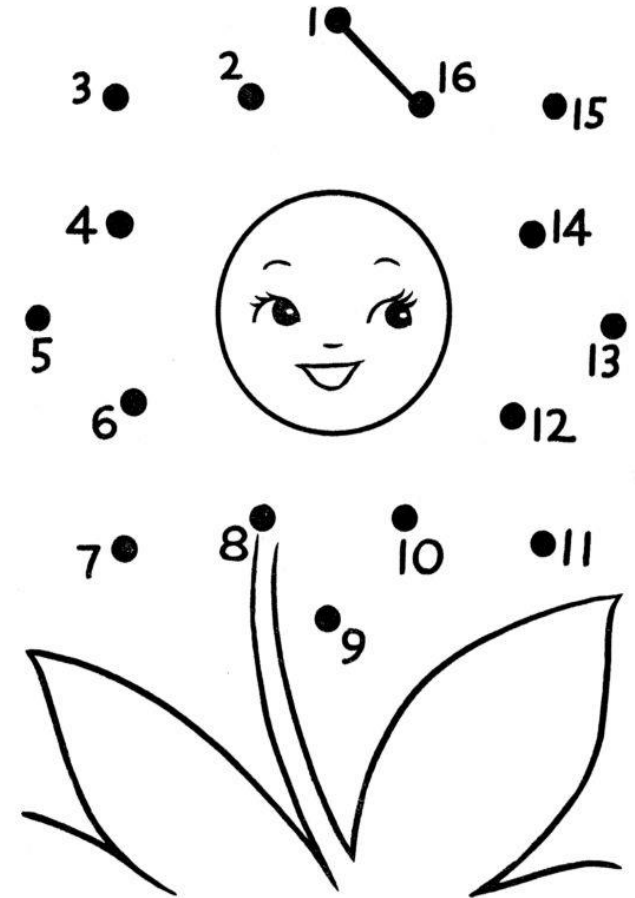
# Adaptive Management- Integral to Approval

- Entire chapter
- Requirements for monitoring and reporting:
  - Measures
  - Impacts
  - Predictions
  - Adaptive management



# Reporting to Connect the Dots

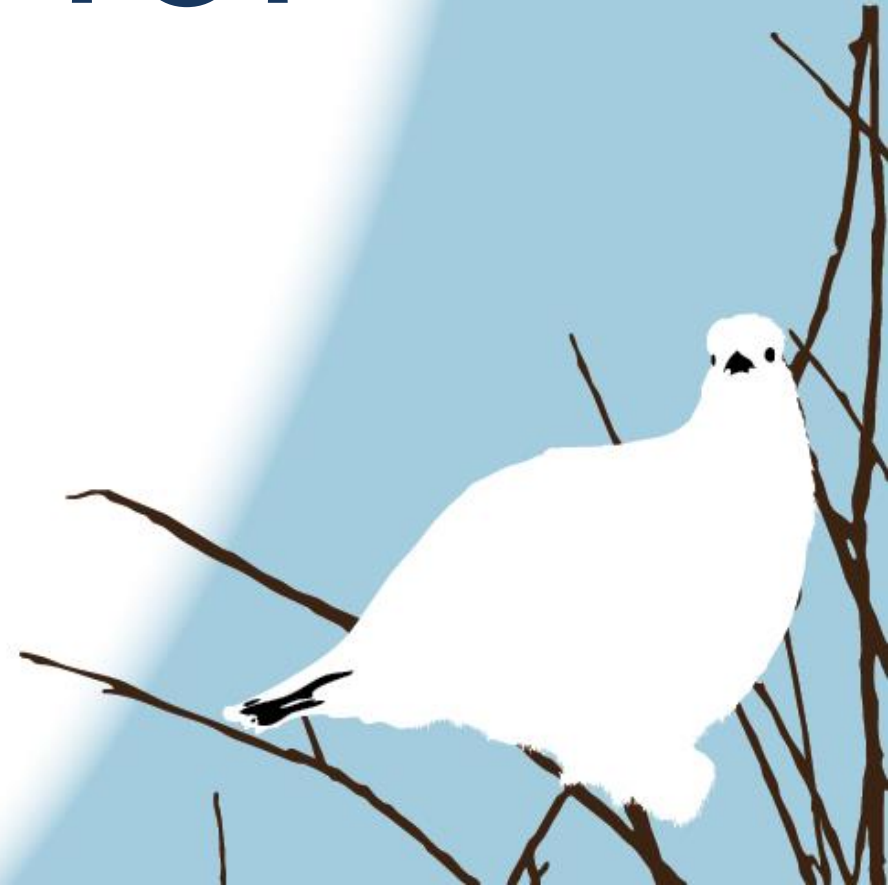
- Describe initial & adaptive actions taken to implement measures
- Demonstrate how actions fulfill intent of measures





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# Feedback for better EA





# Using Reporting to Inform Better EA

- Systematic evaluation and reporting required for Ekati Jay Project will:
  - help the Review Board **learn about practical implementation**
  - May also help inform participants
  - Give insights to the **uncertainty in impact predictions upon which significance determinations were based** in the first place...



# Systematic Adaptive Management Can Change EA

- **Writing Measures**

- Build in and rely on adaptive management
- Frame the acceptability of impacts
- Maintain flexibility in implementation

- **Information Requirements**

- Less prescriptive measures may require less detailed/advanced information
- Robust reporting further builds confidence



# Summary: Connecting the Dots

- **EA:** initial impact predictions, significance determinations, legal “measures”
- **Permitting:** refined predictions, regulatory limits and operating conditions *within significance* (e.g. response framework)
- **Operations:** implement mitigation measures, monitor, adaptively manage *within significance & regulatory framework*





# Summary: Systematic Adaptive Management Framework

- Acknowledges inherent uncertainty in impact prediction & sets framework within which project can operate
- Connect EA to permitting and operations
- Feedback for better EA

**Thank you! Masi Cho!**

