

2017 Conference
The Art and Science of Environmental Assessment

Session 5
The Art and Science of
Cumulative Effects Assessment

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What's needed for CEA?

1. CEA Mindset !

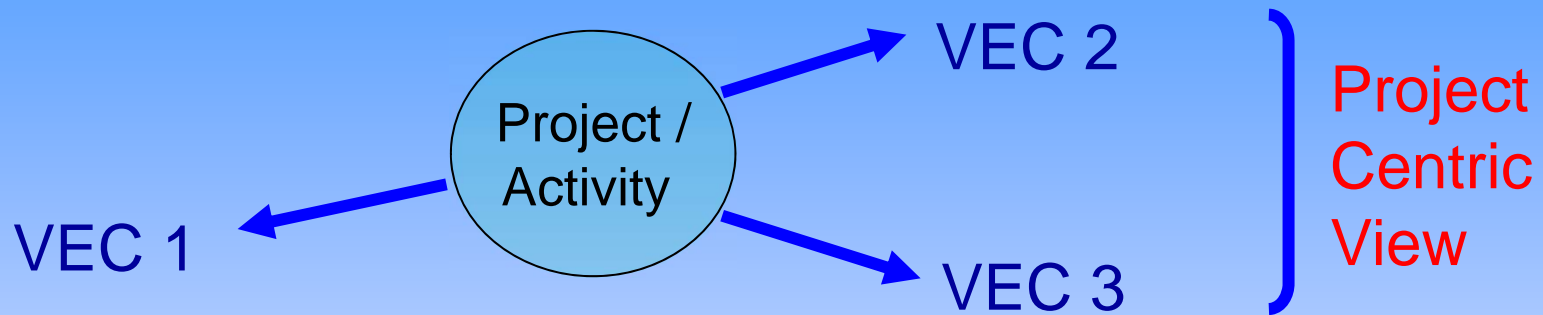
- Set the focus for assessment, guiding the approach to thinking about environmental effects.

2. Enabling Conditions

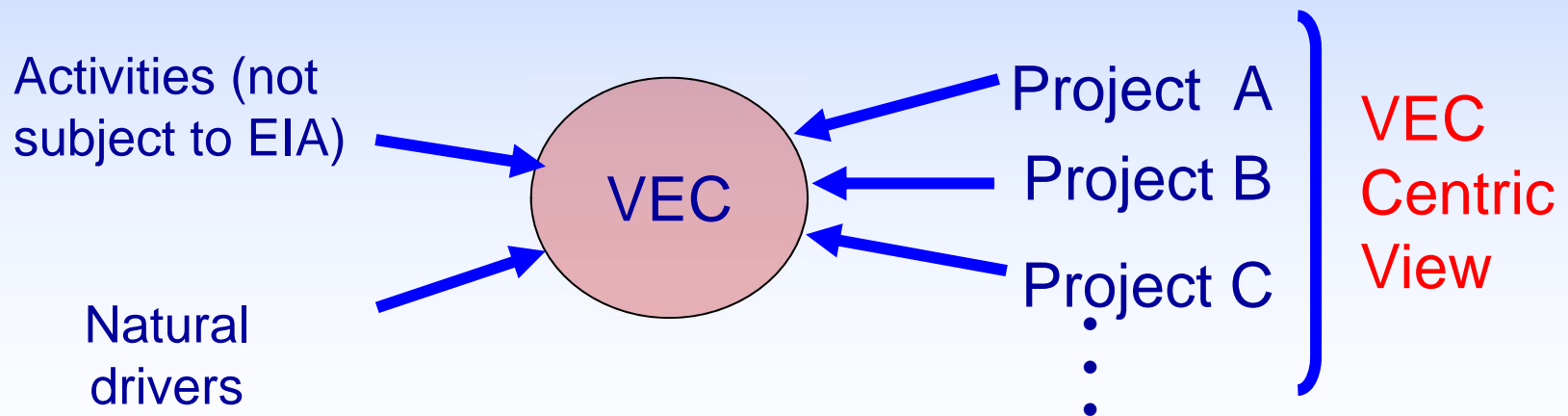
- Mandate and support CEA.

Assessment Focus

Project Environmental Effects



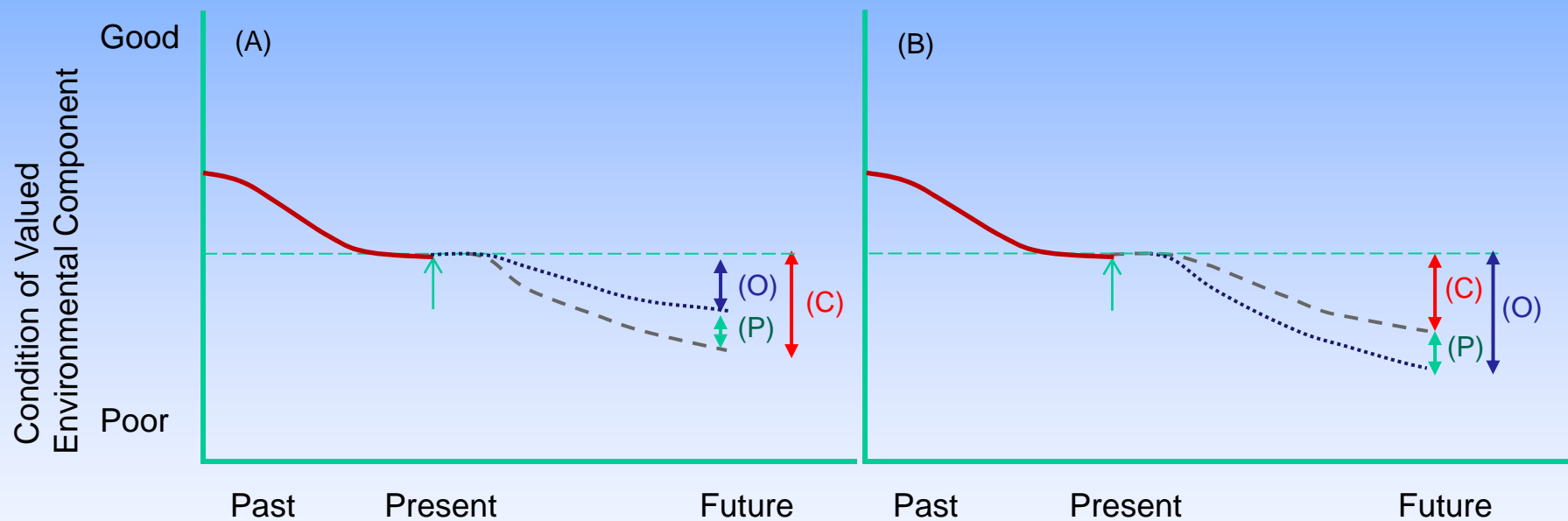
Cumulative Effects Mindset



CEA Mindset

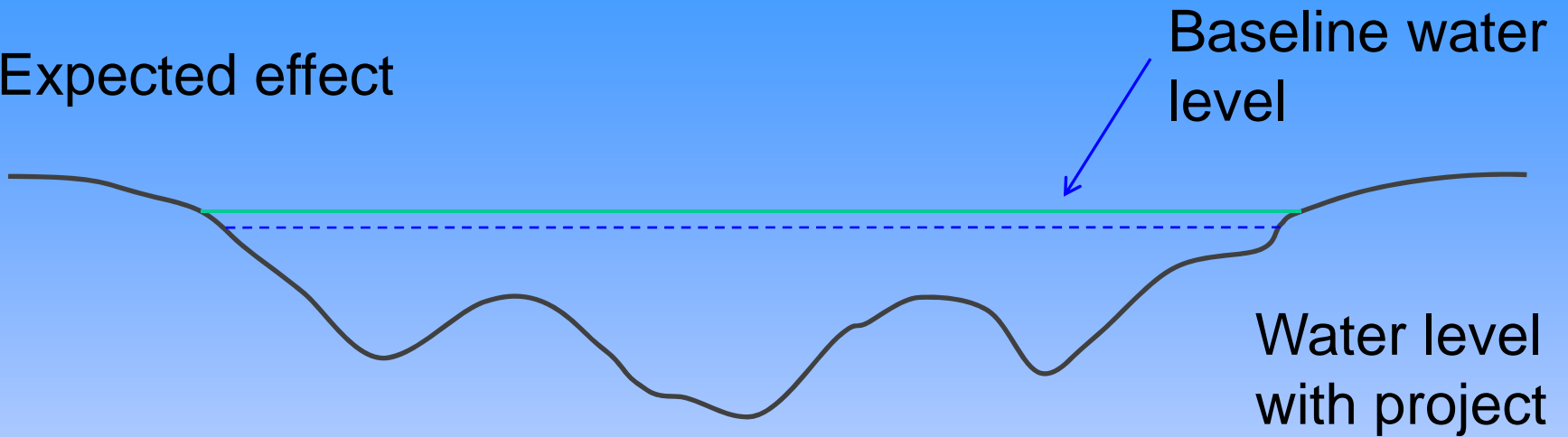
↑ = reference condition
(O) = estimated future baseline

(P) = estimated project effect
(C) = estimated cumulative effect

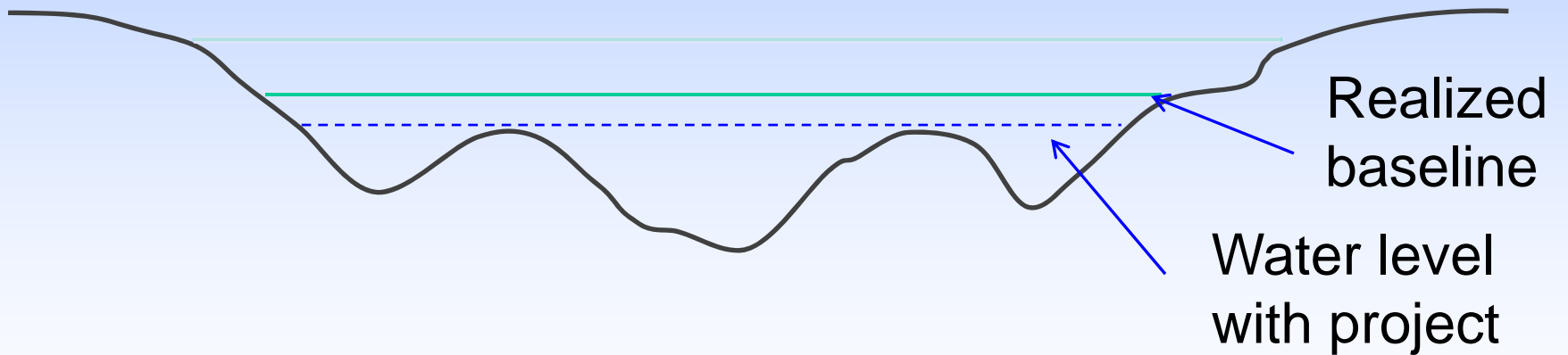


Example 1: Water Diversion

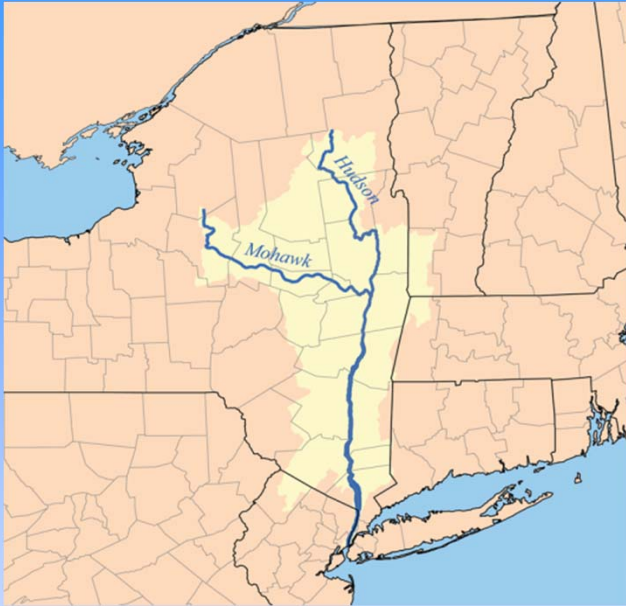
Expected effect



Realized effect



Example 2: Hudson River – Indian Point NGS & Thermal GS



EA Conclusion: Density dependent mechanisms offsets stations entrainment / impingement mortality.

EA analysis did not consider other drivers: significant improvements in water quality over decades could be offsetting station effects.

Two hypotheses: Both consistent with the available data. No way to tell which is correct without an Adaptive Management experiment

Enabling Conditions

- Enabling legislation and resources
- Decision criteria – thresholds / triggers
- Integrated environmental decision making
- CEA framework to provide information for managing cumulative effects
- Systems / tools to provide key information flows
- Consultation mechanisms to integrate knowledge from First Nations and stakeholders

