

Adopting a Cumulative Effects Mindset

Greg Radford
ESSA Technologies Ltd.
www.essa.com



Outline

- * What are cumulative effects ?
- * Types of cumulative effects ?
- * Project activities versus cumulative effects.
- * Common shortcuts.

What are Cumulative Effects?

- ❖ The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions.
(US National Environmental Policy Act)

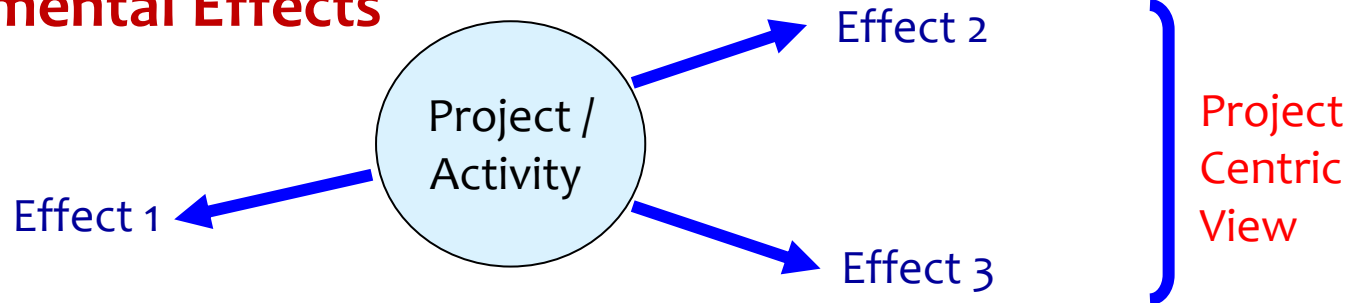
Types of Cumulative Effects

4 Functional Types

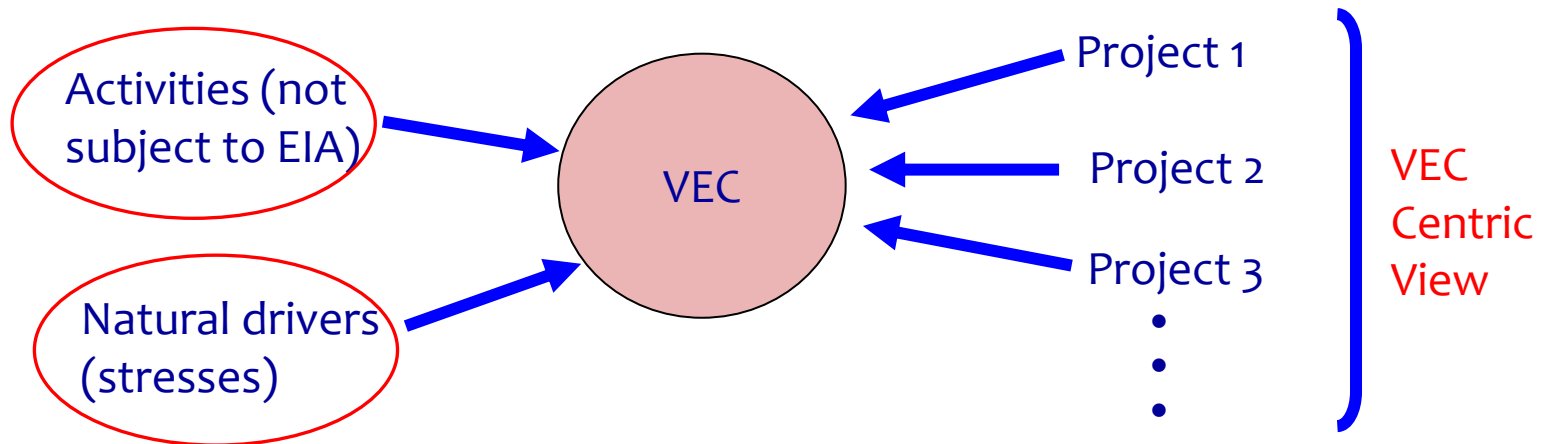
- ❖ **Additive** (Impact $A+B = A + B$)
- ❖ **Compensatory** (Impact $A+B = A - B$)
- ❖ **Masking** (Impact $A+B = A \text{ or } B$)
- ❖ **Synergistic** (Impact $A+B > A + B$)

Project / Activity & Cumulative Effects

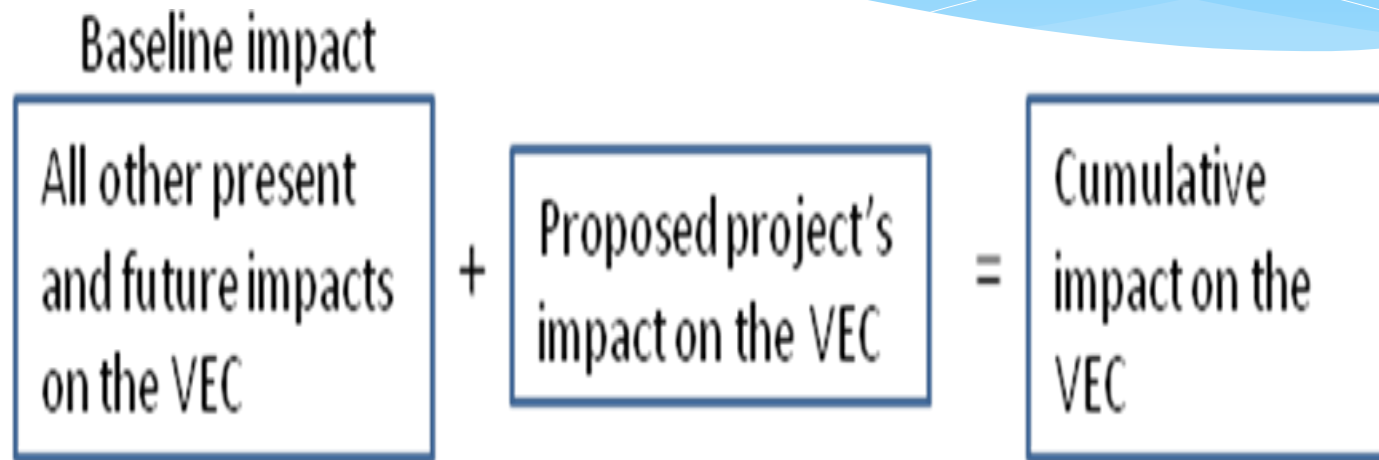
Project / Activity Environmental Effects



Cumulative Effects



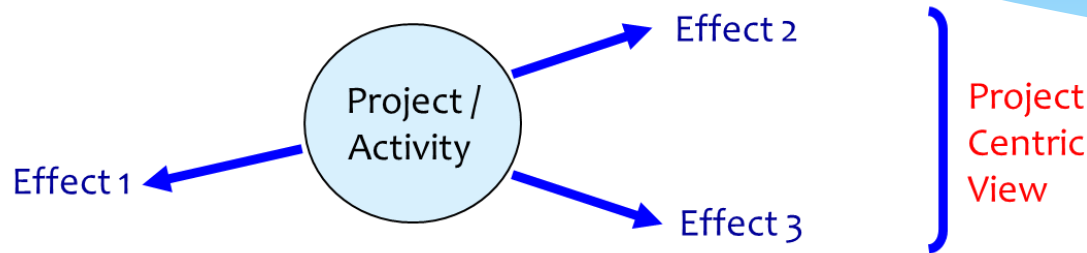
“Project / Activity” Effect from a Cumulative Effects Perspective:



(after Faris 2008)

- ❖ Focus on Sustainability of VECs.
- ❖ “Cumulative effects” aren’t different effects; they are the same effects viewed from a different perspective.

“The Residual Shortcut”



1. Take a project-centric approach.
2. Assess the potential for project effects to result in residual impacts (i.e. Effect 1, 2, 3 separately).
3. Determine that there are no residual impacts therefore there is no need to assess cumulative effects!
4. Do not assess the sustainability of VECs nor how multiple interactions can have cumulative effects.

“The Linear Shortcut”



1. Propose a +1,000 km greenfield gas pipeline.
2. Define the “Regional Study Area” for the biophysical assessment for the project as 30 km on either side of the pipeline.
3. Define the “Regional Study Area” for the socio-economic as significantly larger (essentially the NWT).
4. Limit the potential for biophysical cumulative effects due to the limited study corridor.
5. Identify the potential for significant positive cumulative socio-economic effects due to the very large study area.

“The Linear Shortcut”

Cumulative impacts to Woodland Caribou and Grizzly Bear habitat for example are missed or significantly under-assessed.



Adopting a Cumulative Effects Mindset

CEA - What's the Big Deal?

"CEA is just EIA done right CEA is what EIA was meant to be!"

(Dr. Peter Duinker)