

Land Use 2021

A Place for Biodiversity Offsets

Session #3: Multipliers and Beyond:

Restoration Unit	Description (Project ROW)	Restoration Measure	ROW Alignment	Direct Project Disturbance (ha)	Inherent Effect	Delivery Risk Multiplier	Spatial Risk Multiplier	Temporal Risk Multiplier	IOV (ha)
Upland	Seedling	Planting	Parallel	34.16	0.2	1.25	1	1.2	2.28
			New	1.8	1	1.25	1	1.2	0.60
Upland	Tree	Felling/CWD	Parallel	3.8	0.2	3.3	1	1	0.53
			New	0.2	1	1.6	1	1	0.08
Lowland	Seedling	Planting	Parallel	51.25	0.2	1.25	1	2.8	7.32
			New	2.7	1	1.25	1	2.8	1.93
			Lowland	5.69	0.2	3.3	1	1	0.79
Operational	Natural	Regeneration	Parallel	0.3	1	1.6	1	1	0.11
			New	38.1	0.2	NA	NA	NA	7.62
Access (10 m Ditchline)	Regeneration	New		2	1	NA	NA	NA	2.00
Indirect	NA	NA	NA	NA	NA	NA	NA	NA	11.20
Total Project Residual Effect (ha) [excludes Indirect Disturbance]									23.20
Initial Offset Value (ha)									34.40

Reflections on Practice and Theory

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The Wetland Replacement Matrix

		Value of Replacement Wetland			
		D	C	B	A
Value of Lost Wetland	A	8:1	4:1	2:1	1:1
	B	4:1	2:1	1:1	0.5:1
	C	2:1	1:1	0.5:1	0.25:1
	D	1:1	0.5:1	0.25:1	0.125:1

ratios are expressed as hectares of wetland

Ex., & Context

- Who, What, Where, When, Why and How
- Methodology: Survey to derive multipliers



Restoration options



Multiplier Framework example

Method	Habitat	Delivery (1-5)	Temporal (1-5)	Spatial (1-5)	Total (1-125)
Mounding	Lowland	3.3	1	1	3.3
Tree felling & CWD	Upland	1.6	1	1	1.6
Seedling planting	Lowland	1.25	2.8	1	3.5
Seedling planting	Upland	1.25	1.2	1	1.5

- Other Approaches:
 - Simple Fixed Ratio
 - Hybrids

Multipliers as Incentives:

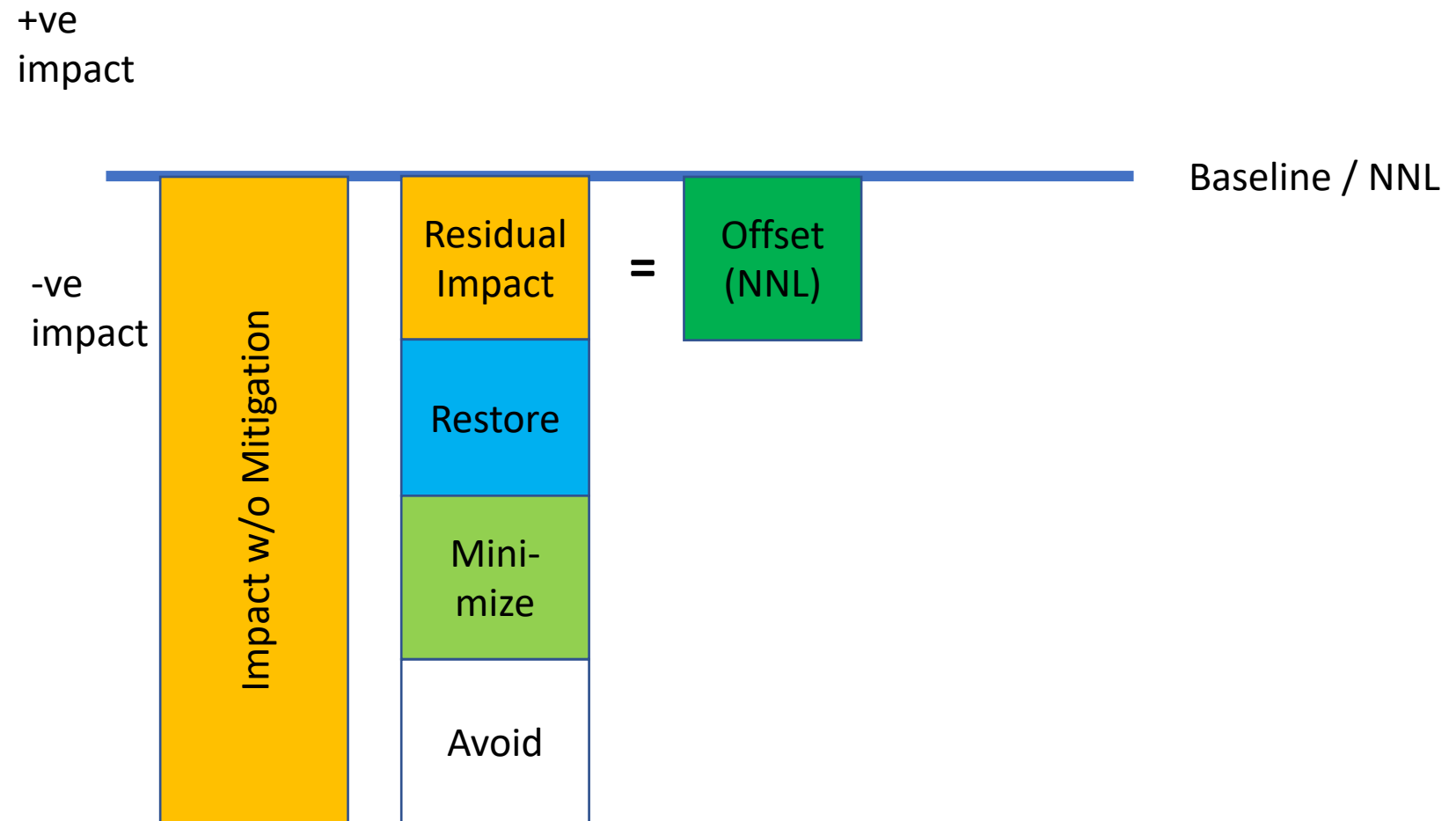
Potential proponent responses & outcomes

- The Good - Compliance and overall reduced impacts
- The Bad - Non-Compliant proponent
 - Intentional cost cutting
 - Unintentional ignorance or neglect
- The Ugly – Unintended, undesirable outcomes
 - Legally compliant proponent, but
 - Leakage, or
 - Perverse outcomes
 - Resulting in possibly greater environmental impact
- Public sector...

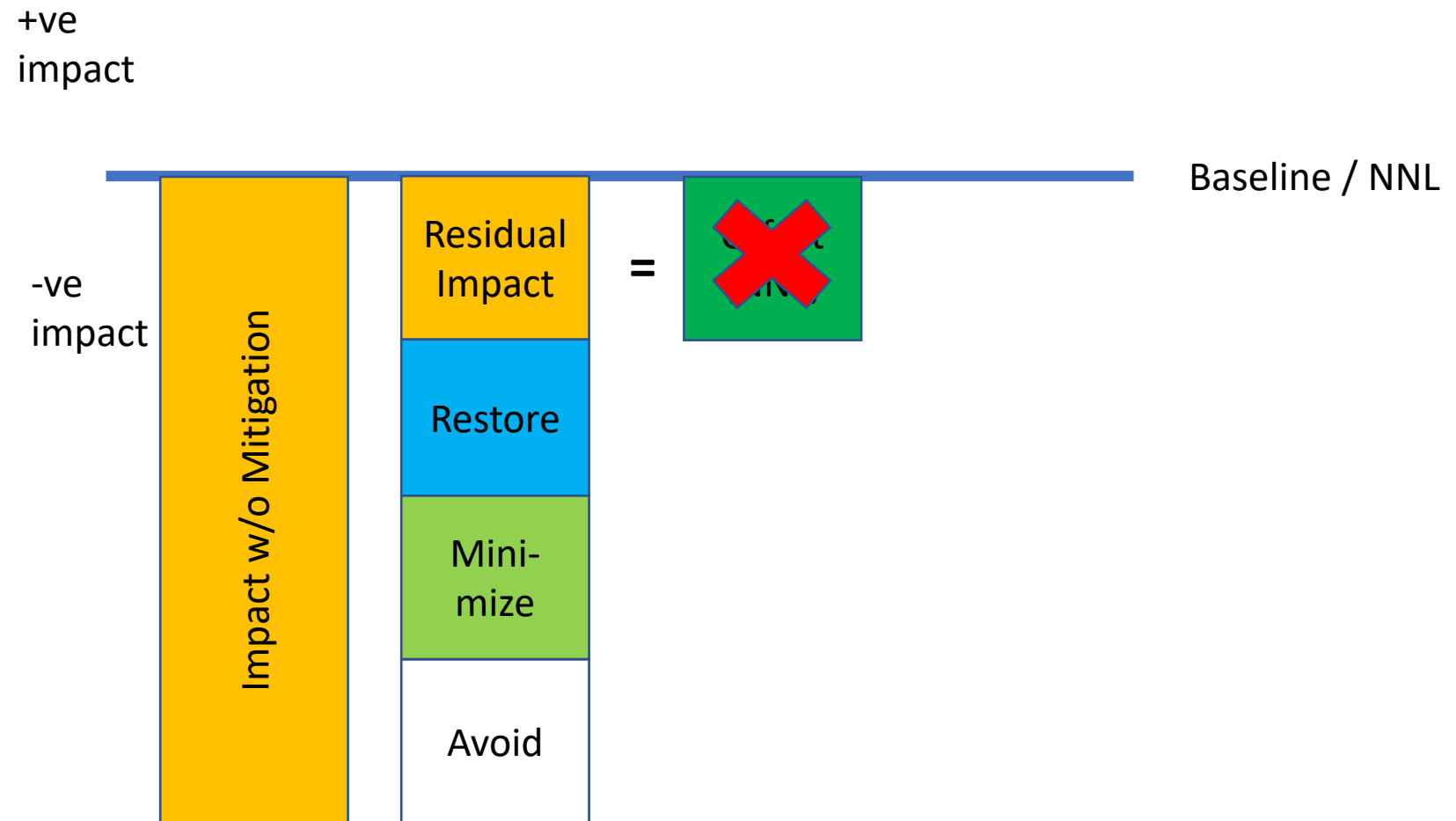
Reasons for Offsets

- The Ecological Intent
 - actions to compensate for project impacts after prevention and mitigation measures, in order to achieve No Net Loss
- Other reasons for offsets
 - Address specific stakeholder demands
 - Avoid lawsuits
 - “Optics”: be seen to be doing something
 - Compromise between governments
 - Etc...

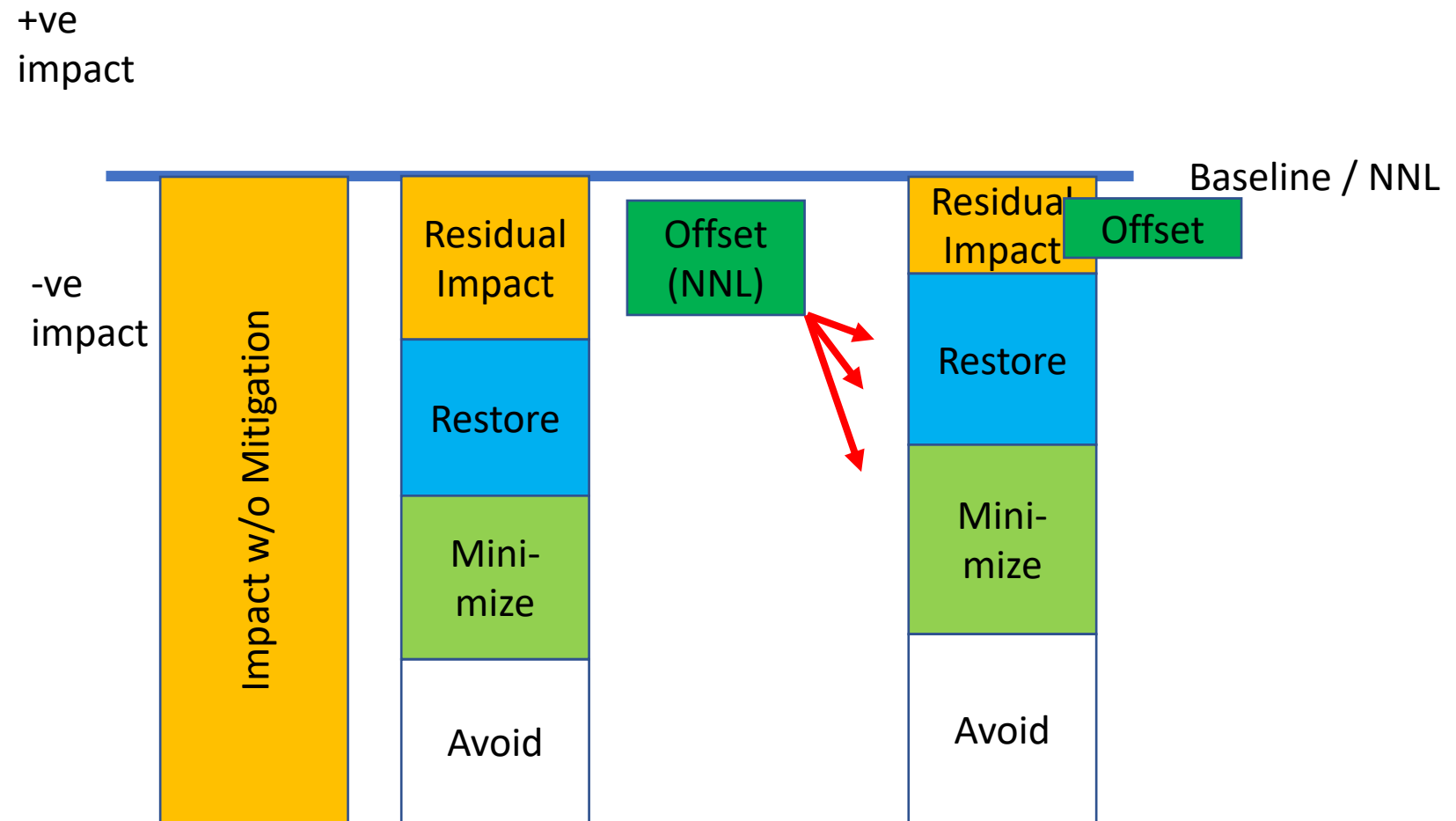
Mitigation Hierarchy & NNL Offsets



Mitigation Hierarchy & Reality



Mitigation Hierarchy & Offsets as a catalyst for improved mitigation



Final Thoughts

- Offsets are a **tool with potential for greater use**
- A rigorous and comprehensive multipliers framework is a **necessary system pre-requisite** for optimal and effective offsets
- It is useful to consider a multipliers framework as a **Model** and to adjust it as appropriate over time
- A well-designed multiplier framework is not only about achieving sufficient ecological offsets but is also about **influencing behaviour to further reduce project impacts**