Guidelines for Reducing the Impact of Linear Infrastructure on Migratory Mammals in Central Asia

Convention on Migratory Species

Bishkek, 2014

OUTLINE

Central Asia and affected migratory mammals

Linear infrastructure and its impacts

What the Guidelines say

Policy and legislation for governments

Conclusion

Central Asia

- Many large migratory mammals
- Large intact habitats
- Rapid growth of industries
- Ensuing infrastructure development

The Central Asian species in the Guidelines

1. Khulan (Asiatic wild ass)
2. Kiang (Tibetan wild ass)
3. Mongolian gazelle
4. Tibetan gazelle
5. Przewalski's gazelle
6. Goitered gazelle
7. Saiga antelope
8. Tibetan antelope
9. Bactrian camel
10. Argali
11. Snow leopard
12. Wild yak

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Linear infrastructure that can affect wildlife

- Rail lines
- Roads
- Canals & irrigation ditches
- Fences

- Oil & natural gas distribution lines
- Power & communication lines

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General impacts of linear infrastructure

- Habitat fragmentation
  - Habitat dissection
  - Habitat conversion or loss
  - Compression
  - Sedentarization
- Partial barriers
- Alteration of natural processes
- Indirect and cumulative impacts

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LINEAR INFRASTRUCTURE AND ITS IMPACTS

Potential Impact	Roads	Rail Lines	Pipelines	Fencing
Wildlife strikes	high	medium	low	not applicable
Entanglement/trap mortality	not applicable	not applicable	low	high
Habitat fragmentation	high	high	low	high
Altering behavior	high	high	low	high
Barrier to movement	high	high	low	high
Altering use of habitat	high	high	low	high
Increased human presence	high	medium	medium	not applicable
Increased hunting	high	low	low	not applicable
Conduits for invasive alien species	high	high	low	not applicable
Effects on population genetics	high	high	low	high
Air pollution	high	low	not applicable	not applicable
Altering natural processes	low	low	low	high
Changed discharges in water bodies	high	high	medium	not applicable

Relationship rating: high - medium - low - not applicable –

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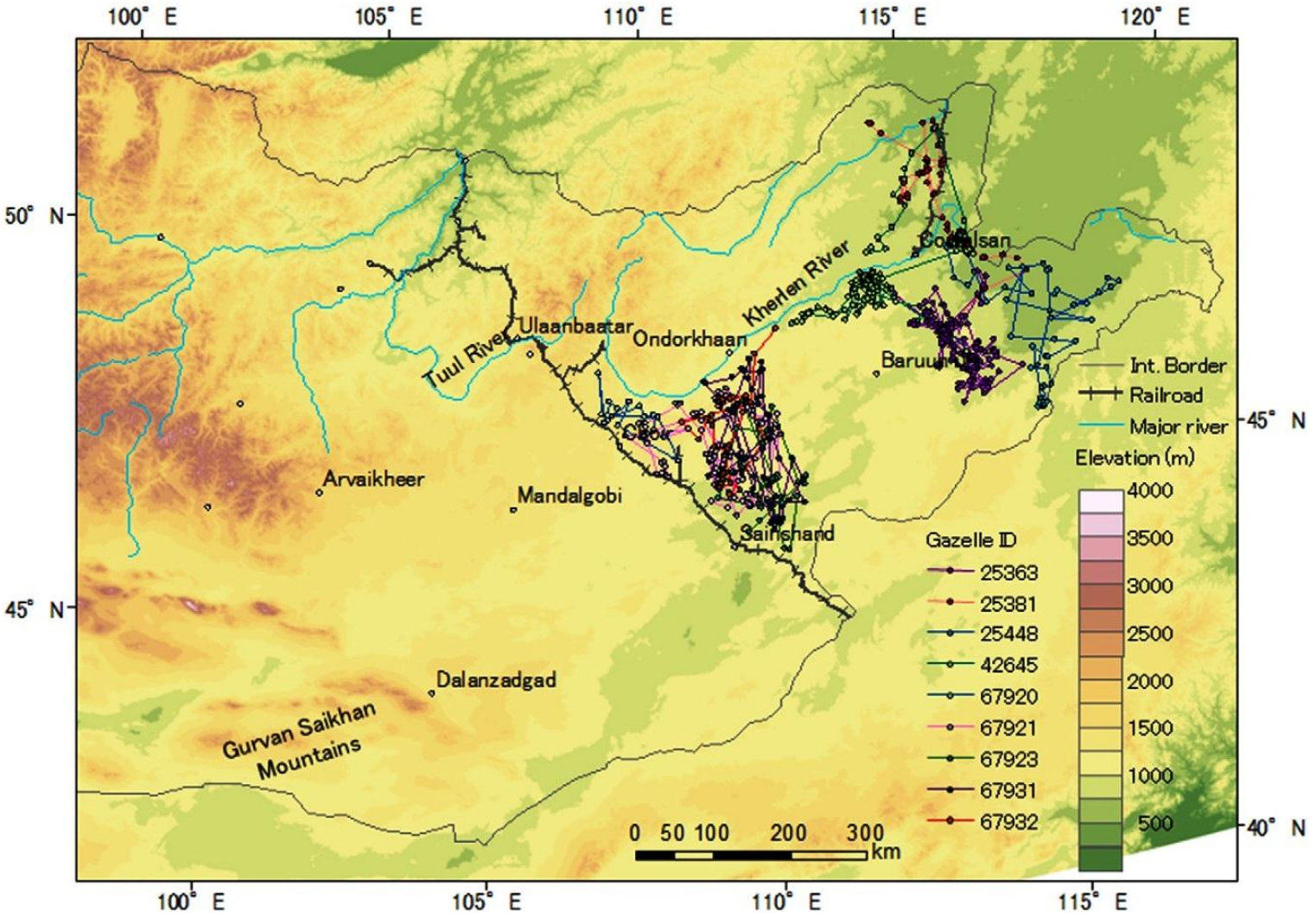
The Mongolian Gazelle Example



Split populations **Cause genetic isolation** **Alter behavior** **Cut off access to resources**

Guideline Principles

- **Mitigation**
  - Mitigation hierarchy
  - Species specific
  - Place specific
  - Durability
- **Planning and design**
  - General Principles
  - Inter-agency coordination
  - Landscape view
  - Strategic planning processes
  - Species of interest and movement identification
- **Assessments**
  - Multi-stakeholder participation
  - Screening, scoping
  - Cumulative and secondary effects
  - Climate change
- **Construction standards & solutions**
  - Construction practices
  - Wildlife fencing
  - Overpasses and underpasses
  - Influencing driver behavior
  - Influencing animal behavior
- **Monitoring and Evaluation**

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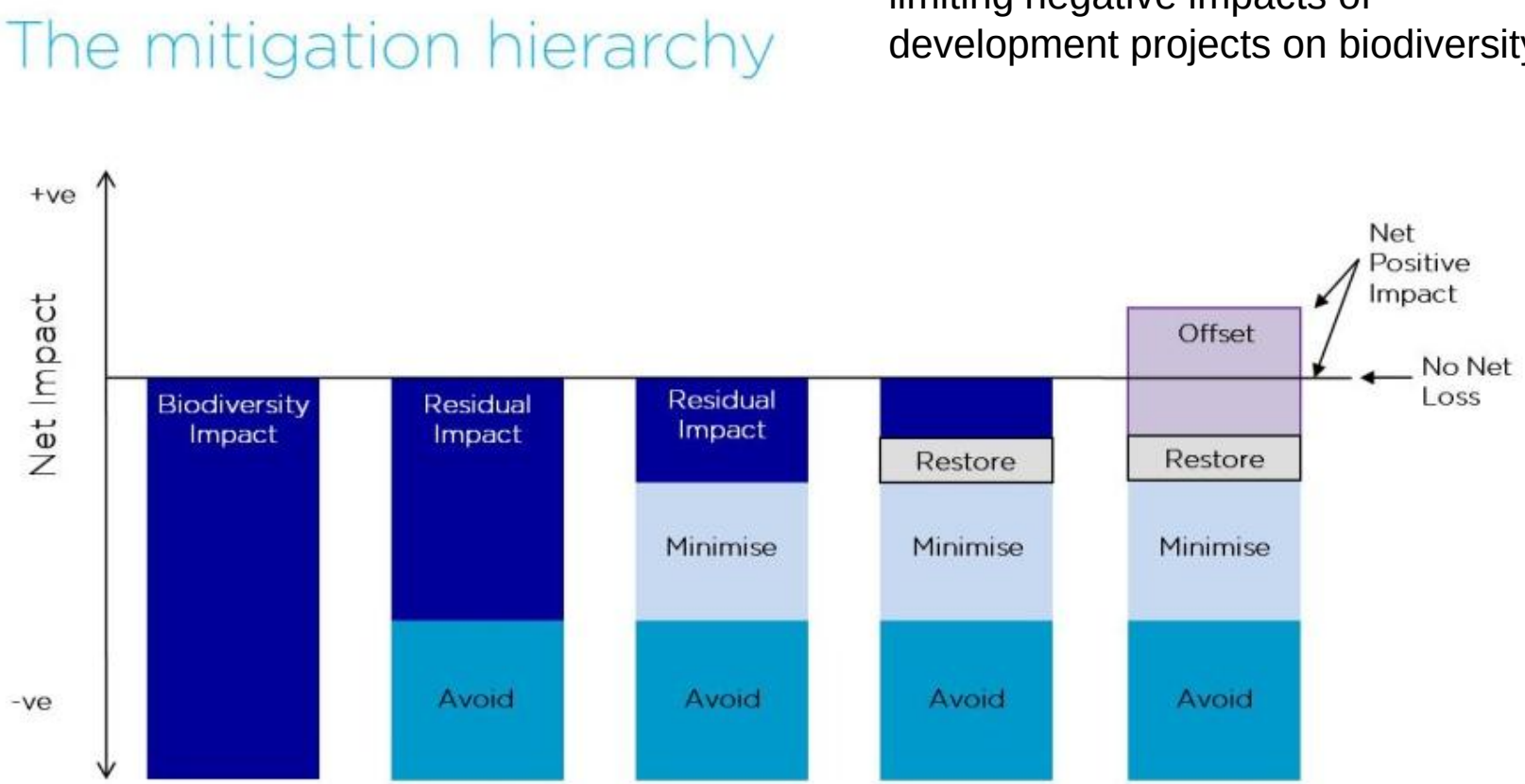
Mitigation Hierarchy

a tool that guides users towards limiting negative impacts of development projects on biodiversity



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Key Considerations from the Guidelines

HIGHLY RECOMMENDED STEPS:

- Early use of mitigation hierarchy
- High-level of understanding of species affected
- All forms of impact taken into account
- Same alignment for more than one linear infrastructure plans
- Engagement of all **relevant stakeholders**
- Use of **geospatial information** to determine location of wildlife crossing structures

PROHIBIT LINEAR INFRASTRUCTURE WHEN:

- **Alternative locations** have not been explored or considered in the design and planning process
- **Wildlife-friendly** designs are not incorporated
- **Mitigation** and **compensation** plans are not well considered

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Wildlife-friendly fence

Overpasses and underpasses

INTERNATIONAL LEVEL:

Lenders' standards & International agreements

- International Finance Corporation (IFC) **Performance Standards***
- World Bank (WB) **EIA Policy**
- European Bank for Reconstruction and Development (EBRD) **Environmental and Social Policy**
- Asian Development Bank (ADB) **Safeguard Policy Statement**

- Espoo Convention
- Kiev Protocol
- European Agreement on Main International Traffic Arteries

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NATIONAL-LEVEL:

SEA-s and EIA-s as tools for planning

These instruments examine potential impacts caused by proposed actions and ensure enough data & analysis are available to support sound decision-making.

Strategic environmental assessments: require the review of 'strategic' processes such as policies, plans, and programs.

Environmental impact assessments: most common legally mandated tool for reviewing **individual projects** and identifying mitigation measures. Entirely process-oriented, and not outcome-oriented

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Strategic Environmental Assessment components by country

Component Type		Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Mongolia	China	Russia
Impact-Centered									
1	**Plans** (including feasibility studies, mapping, and zoning)								
2	**Programs** (referencing development of any type)								
3	**Policies** (including international agreements, laws, regulations, standards, and guidelines)								
4	Mentions **linear infrastructure** (including any specific reference to roads, rail lines, pipelines, or fences)								
5	Mentions **natural resources**								
6	Mentions **wildlife** (using the term fauna, wildlife, animal, or other equivalent)								

Legend: referenced | not referenced | unclear

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Environmental Impact Assessment components by country

	Component Type	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Mongolia	China	Russia
1	Includes **trans-boundary Impacts**								
2	Mentions roads (referencing any type such as motorways, highways, transportation corridors, etc)								
3	Mentions **rail lines** (using terms such as railways, railroads, rail corridors, transportation corridors, etc)								
4	Mentions **pipelines** (in reference to oil, gas, and water pipelines)								
5	Mentions fences (whether border, livestock, or used in connection with transportation corridors)								
6	Mentions **wildlife** (using terms such as wildlife, animal(s) or animal resources, fauna, etc)								
7	Mentions **migratory species**								
8	Expressly requires consideration of migratory species during the construction of **linear infrastructure.**								

Legend: referenced not referenced

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Recommendations

- Considerations of the impact on migratory species into both EIA and SEA processes is urgent. More specificity on avoidance and mitigation plans.
- Need to formalize and harmonize practices to ensure that migratory species are considered at appropriate stages of planning & development.

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Thank you for your attention