

Material based indicators

- Need to more fully account for some impacts?
- Physical disturbance indicates harm?
- Harm in relation to ecosystems
- **Is physical disturbance an indicator of harm to ecosystems?**
- Renewable versus non-renewable resources

The Environmental Impact of Producing Non-renewable Resources: the Case for Mining Wastes

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Renewable resources

- Replenishable, i.e. most active ecosystems (MAE) dependent
- Physical disturbance is focused in MAE
- More demand means more disturbance to MAE
- More disturbance leads to more impact on MAE

Non-renewable resources: mining

- Outside MAE
- Most physical disturbance takes place outside MAE, for
 - mining and
 - piling
- Assumes containment
- Does more lead to more impact on MAE?

Mining and impact on MAE

- Remediation
- Moving material for harm?
- Return to stable ecological role
- Partial or complete restoration
- Amount of service or value to society per unit of MAE affected

Conclusion

- All harm may be related to disturbance but
- All disturbance is not necessarily harm
- Differences: renewables vs non-renewables
- Impact of mining: function of management of material not amount
- NRTEE study
- Boundaries of models and indicators