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Baseline and Existing Environment Studies

Impact Assessment: A Process not a Product

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Scoping Existing Environment Studies

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Risk Based Approach

- Two key factors
 - Likely impacts from project
 - Environmental conditions and values at project site and surrounding areas
- More detailed studies and in-depth data collection/analysis where risk of impact is higher:
 - Likely impacts are of a large scale/magnitude
 - Environmental values are high

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Environmental Values?

- Clues from the site and surrounding environment:
 - Land use – eg industrial, residential, agricultural
 - Native vegetation on site or nearby
 - Conservation areas adjacent or nearby
 - Streams and lakes on or near site
 - High visual/scenic amenity
 - Poor road network, high congestion
 - Low socio-economic area
 - Level of previous disturbance

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Likely Impacts?

- Clues from the type of development:
 - Discharge to air, water
 - Loud noises
 - Large numbers of trucks
 - Extensive earthworks
 - Vegetation needs to be cleared
 - Large construction or operation workforce
 - Displaced human population

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Study Area Considerations

- Site only
- Immediate environs – adjacent lands
- Downstream
- Catchment
- Local government area
- Airshed
- Region
- Viewshed
- Ecosystem
- Biophysical unit

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Study Area Considerations

- Study area will vary for each element
- Scale of impacts (including temporal)
- Direct versus indirect impacts often require different baseline survey techniques
- Characteristics of impact influence how far away you need to collect information – ie how far impacts may be experienced

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Study Area Considerations - Examples

- Flora and Fauna – industrial development on previously undisturbed land:
 - Species level flora and fauna assessment for direct (on-site) impacts such as clearing
 - Habitat level assessment for off-site (indirect) impacts
- Social Impact Assessment – dam in populated area
 - Household level socio-economic survey for resettlement population
 - Village level socio-economic survey for surrounding areas

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Elements of Baseline Studies

- Soils
- Topography
- Geology
- Geomorphology
- Coastal processes
- Hydrodynamics
- Hydrology
- Surface water
- Groundwater
- Geochemistry
- Geotechnical
- Habitat
- Biodiversity
- Landscape
- Visual amenity
- Noise
- Air quality
- Cultural heritage
- Demographics
- Socio-economics
- Economics
- Traffic and transport
- Flora
- Fauna (marine, terrestrial, coastal, aquatic etc)
- Hazard and risk
- Climate
- Natural hazards
- Land use
- Infrastructure
- Conservation estate

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Case Studies

- Three different Case Studies
- Please prepare scope for existing environment studies for your case study
- Have regard to:
 - Likely extent and severity of impacts
 - Existing environmental values that may need to be protected or managed
- For each element, report on:
 - Study area
 - Scope and methodology of baseline studies

