



Impact Tracing™

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Abstract

The workshop expresses graphically how the impacts are likely (or thought) to arise from the proposed action, and thus facilitates the construction, understanding, and verification of the causal argument in environmental impact statements in comparison to the classic text option.

1 Professional value



Impact Maps™ (RBP or DCD) provide a diagrammatic means to study and understand the dynamics of impacts as mechanisms or pathways. Impact Maps™ are particularly advantageous during the visualisation, sharing, examination, and verification of individual and team reasoning, as well as in the correction and strengthening of reasoning (e.g. argument), impact mitigation (e.g. acting on ‘causes’), and identification of monitoring needs (e.g. indicator mark-up).



Impact Tracing™ sets the foundation for an EIA Light™. If drafted at the scoping phase, Impact Maps™ function as ‘storyboards’ for the EIS in a way similar to the visual arts (e.g. cinema), before proceeding with the investment in the full production — in the case of EIA, the full (and expensive) EIS. If prepared during EIS review or revision, Impact Maps™ seek the essence of the impact argument and turn the EIS leaner and more effective.

2 Workflow

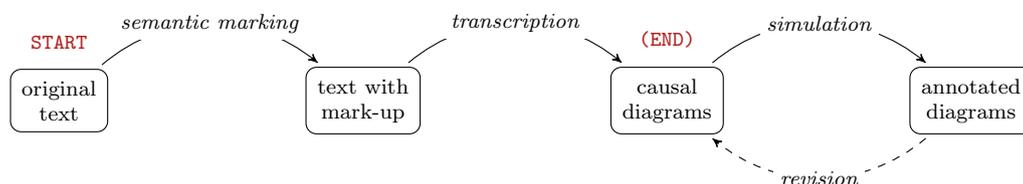


FIGURE 1 The work to be carried out over four (4) hours; a number of ‘loop’ iterations may be necessary to achieve satisfactory diagrams



3 Programme

INTRODUCTION (1.5H)

- Methodological overview — DCA_[M] (Figure 2)
- From text to diagram — DCD_[T]/ RBP_[T] (Figure 2)
- Qualitative simulation of the project proposal — QSM_[M] (Figure 3)

WORK SESSION (4H)

- Work in groups (2–4 people)
- Interactive assistance

PRESENTATION, DISCUSSION, AND CONCLUSION (2H)

- Shared experiences
- Applicability issues

4 Technical notes

AUDIENCE

- *Authorities*: environmental impact assessment (EIA) statutory reviewers
- *Consultants*: environmental impact statement (EIS) authors
- *Researchers*: impact assessment; EIA
- *Stakeholders*: project proponents; community representatives; NGOs

COMPETENCES

- Explain (and discuss/ verify) the genesis and propagation of impacts in causal diagrams
- Develop sensitivity and appreciation for cause-and-effect relations
- Become familiar with the methods and techniques used in impact tracing
- Think clearly how impacts are likely to arise from the proposed action
- Register and communicate this efficiently
- Elaborate solid causal arguments and verify them efficiently
- Think of acceptable causal explanations to be found in the technical reports
- Identify information in the technical reports, essential for the causal explanations

METHODS^a

- Diagrammatic causal analysis — DCA_[M] (Figure 2)
- Qualitative simulation — QSM_[M] (Figure 3)

TECHNIQUES^b

- Text mark-up — TMU_[T]
- Reverse blueprints — RBP_[T]
- Descriptive causal diagrams — DCD_[T]

^av. Perdicoulis, 2014b

^bv. Perdicoulis, 2014a

5 Protocols

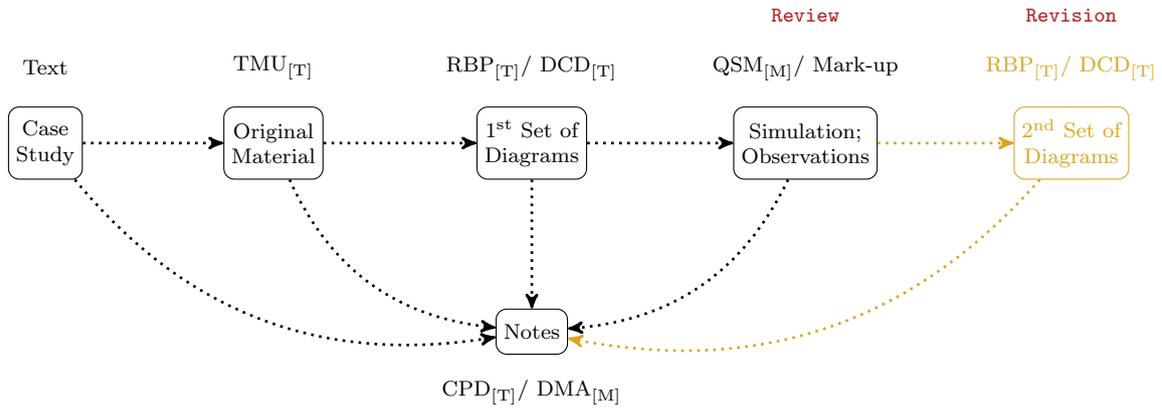


FIGURE 2 Information-flow view of the DCA method; the right side (in Gold) is optional in this workshop

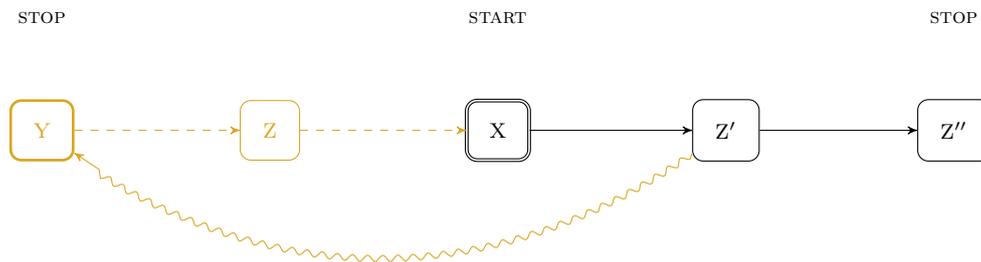


FIGURE 3 Qualitative simulation of the project proposal; parts in Gold represent information beyond the scope of this workshop

6 Materials and preparation

STUDY/ WORK MATERIAL Participants are welcome to bring their own material — e.g. complete EISs or extracts, in digital or printed form.

SOFTWARE Diagramming can be carried out manually, with pencil and paper. Optionally, participants are welcome to use their own diagramming software, such as *Graphviz*, *LibreOffice Draw*, *OmniGraffle*, or *Visio*.

STENCILS

- Perdicóúlis, A. (2011c) *OmniGraffle* stencil for RBP [[.graffle](#)]
- Perdicóúlis, A. (2011b) *OmniGraffle* stencil for DCD [[.graffle](#)]
- Perdicóúlis, A. (2011a) *Graphviz* node-and-edge starter file [[.dot](#)]

References

- Perdicoulis, A. (2014b) *Methodology*. Perdicoulis Publishing: Folio Division, Technical Collection.
- Perdicoulis, A. (2014a) *Language*. Perdicoulis Publishing: Folio Division, Technical Collection.
- Perdicoulis, A., L.E. Sánchez, and J. Jesus (2014) Registering cumulative effects in DCDs. *Systems Planner*, **28**.
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- Perdicoulis, A. (2010) *Systems Thinking and Decision Making in Urban and Environmental Planning*, Cheltenham: Edward Elgar.
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- Perdicoulis, A., and J. Piper (2008) Network and system diagrams revisited: satisfying CEA requirements for causality analysis. *Environmental Impact Assessment Review*, **28**:455–468.

