



Thames Water Utilities Limited Water Resources Management Plan 2019 (WRMP19)

Approach to Environmental Assessment

Purpose

This briefing note sets out the approach to the environmental assessment that Thames Water is undertaking to inform the development of its next Water Resources Management Plan 2019 (WRMP19).

Approach

Strategic Environmental Assessment (SEA) forms the core of the assessment approach, supported by the statutory assessment processes relating to the Habitats Directive (Habitats Regulations Assessment (HRA) process) and Water Framework Directive (WFD). Compliance with the statutory requirements of the SEA Directive, HRA and WFD processes are the key outputs of the assessment process.

The assessment approach covers all stages of the development of the WRMP including coarse screening of options, fine screening of feasible options, the assessment of the constrained options, and development of the programme. This ensures end-to-end consistency of approach in the appraisal process.

Detailed environmental assessment is carried out for:

- each option element included in the Constrained List
- each of the options selected for inclusion in the alternative programmes for each Water Resource Zone (WRZ)
- each of the alternative programmes for a WRZ
- the overall 'best value' programme for each WRZ
- the WRMP as a whole.

The constrained options are considered in terms of their component parts, called elements, for example the resource, conveyance and treatment. All option elements are assessed to the same level of detail involving an advanced level of qualitative assessment which is informed by detailed quantitative data within the boundaries of the SEA process, but which importantly does not stray into the statutory EIA process. The analysis draw on a detailed suite of environmental and social datasets that are available at a consistent quality across the wide geographical setting of all the option elements under consideration.

The overall approach is summarised in Figures 1 and 2.

To date, assessment has been carried out an **option element** level: the concept of option elements is illustrated in Figure 3. The SEA, HRA and WFD assessments of each option element have been set out in an SEA assessment table. Assessment is carried out of the **residual** environmental and social effects of each option element after consideration of the mitigation measures and opportunities for environmental enhancement that have been included in the conceptual designs for each element.

Two environmental metrics (one for beneficial effects and one for adverse effects) have also been produced to provide an “environmental grading” for each assessed option element such that this information can be input and considered in the programme appraisal models to select the preferred programmes. The metrics are based on a scale of +1 to +10 (for characterising beneficial effects) and -1 to -10 (to characterise adverse effects), with 0 characterising negligible effects (see Figure 4). The environmental metrics are derived directly from the SEA, HRA and WFD assessments to ensure consistency, as illustrated in the example in Figure 5.

By inputting environmental grades into the programme appraisal model, the relative environmental performance of each option element can be taken explicitly into account within the model optimisation process to select a range of alternative programmes for each WRZ.

It is important to note that these environmental metrics are only used to inform programme appraisal model (this is a numerical model requiring numerical values to represent the environmental effects) and enables the model to hold information on the environmental effects of each option element alongside other optimisation criteria (e.g. cost, resilience of each option element, etc.). Full SEA, HRA and WFD assessments will still be carried out on the options that are determined from the programme modelling as well as the alternative programmes. These detailed assessments will inform the decision-making to determine the “best value” programme of options – not the Environmental Metrics.

The findings of the environmental assessment and associated environmental metrics will be discussed in further detail at the Technical Stakeholder Meeting on 19 June 2017.

Figure 1. Integration of Environmental Assessment within the Thames Water WRMP19 Process

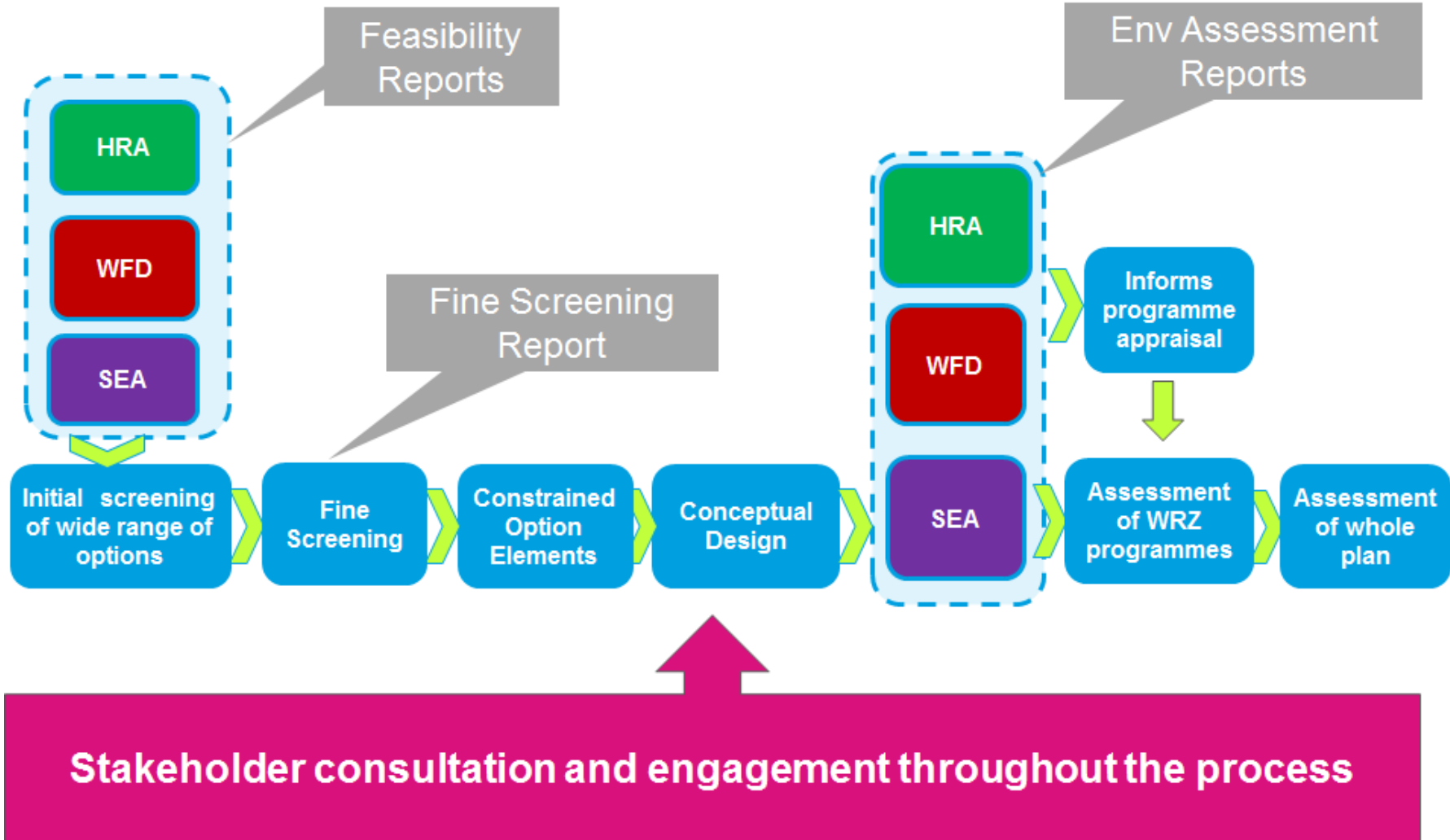


Figure 2. Key components of the environmental assessment of option elements

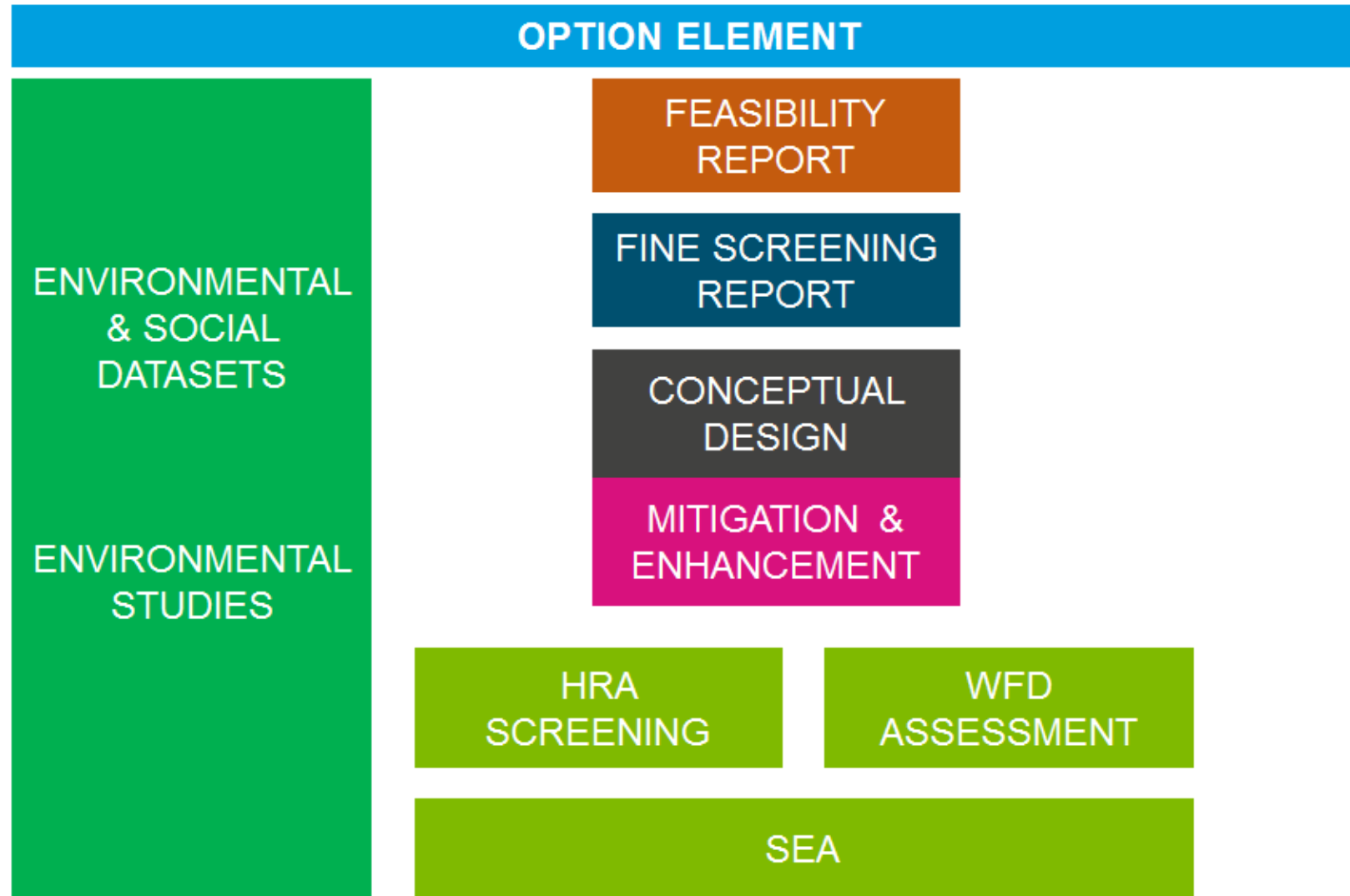


Figure 3. Illustration of Option Elements Approach

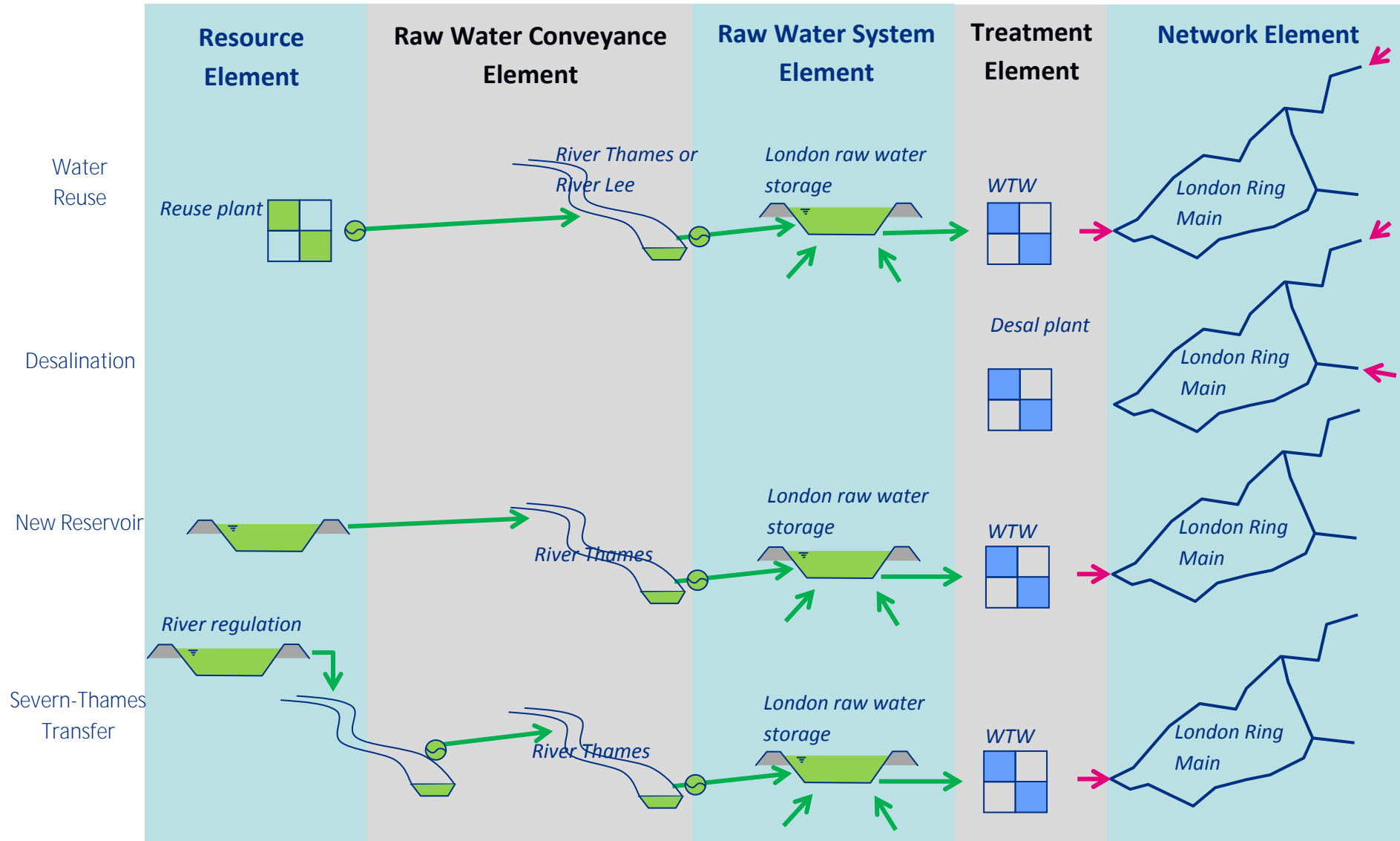


Figure 4. Environmental Metric: Grading of Effects

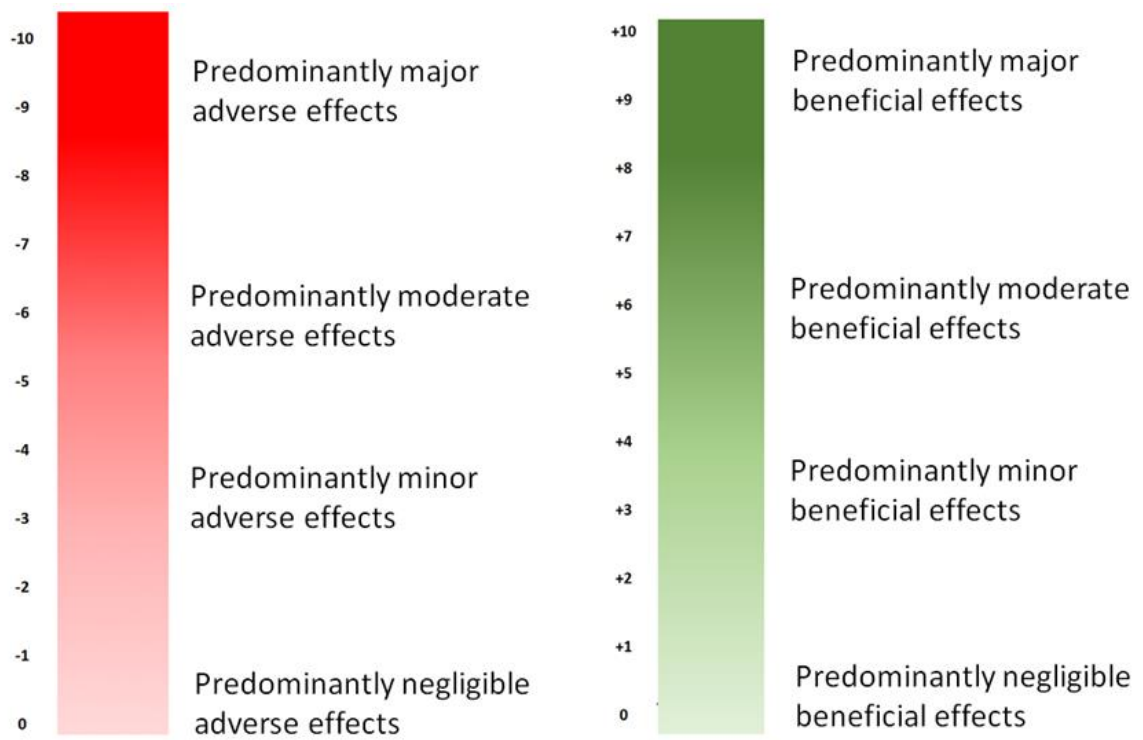


Figure 5. Deriving environmental metrics from SEA, HRA and WFD assessment: example

WRMP19 option	OPTION B - Small scale borehole development												
Summary commentary of scheme adverse effects:	Minor adverse effects are identified for three SEA objectives with the remainder negligible. There are no WFD or HRA compliance risks, and no other national or international designations that may be adversely affected. Given the effects assessment, the overall grading is -1 reflecting the three minor adverse effects.												
SEA Objectives Adverse Effects Assessment Summary												HRA	WFD
Overall environmental metric for adverse effects	-1												
Summary commentary of scheme beneficial effects	All beneficial effects are negligible and therefore a grade of 0 is appropriate.												
SEA Objectives Beneficial Effects Assessment Summary													
Overall environmental metric for beneficial effects	0												