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| Valuation Approach | Valuation Methodology | Advantages and Disadvantages of Valuation Techniques |
| Market Cost | Avoided Cost: ES valued on the basis of costs avoided i.e. prohibiting the degradation or damage of environmental benefits  Production Function: value of ecological function with regards to economic output effects. Changes in ES quality and quantity on human-wellbeing | Mismatches can arise between the likely benefits of intervention compared to original benefits leading to misleading WTP results. Applies the precautionary principle. Can estimate indirect-use benefits  Not able to assess non-use values. Difficult to derive data about changes in ES. Widely employed in the contexts of coastal and wetland ecosystems |
| Market Price | Market: based on Willingness to Pay (WTP) | Requires market data (questionable reliability), and policies may distort market prices. However, market prices reflect personal WTP and market price data is relatively easy to obtain |
| Revealed Preference | Travel Cost: survey method valuing site-based facilities. WTP for environmental benefits at particular locations  Hedonic Pricing: valuations based on implied WTP via purchases in related markets – mainly labour and property | The method is data intensive, it does not estimate non-use values and complex journeys are problematical. However, it is widely used and used in developing countries for assessing ecotourism  The method is data intensive, it does not estimate non-use values, and income-level restricts choices whilst surrogate markets must be a good reflection of values. However it can value the impact of some ES on land values |
| Stated Preference | Contingent Valuation: WTP or WTA compensation for alterations in ES. Respondents can name an amount they would pay (classical CV), or are asked to say whether they would pay a specific amount (di/polychotomous choice) or select an amount from several options (Choice Modelling).  Choice modelling: involves more elaborate sets of scenarios (or choices) from which participant select their preferred alternatives based on a set of choice attributes. Choices are constructed to reveal the marginal rate of substitution between a specific attribute and the trade-off item. | *Contingent Valuation*: this method suffers from several sources of bias, inconsistent preferences, it is costly and labour intensive to develop and implement and can miss non-trivial information. However, it is able to estimate option and existence values.  *Choice Modelling*: hypothetical bias and the choices can be complex where attribute numbers are high. However, compared to standard CV the experimenter has much more control, the statistics are more robust, attribute range is greater and the method suffers less from respondent strategic behaviour. |
| Value Transfer | Benefit Transfer: transference of values at one location (study site) to another location (policy site) of which there are four types: unit BT, adjusted BT, value function transfer and meta-analytic transfer | Large number of uncertainties not wholly accounted for between study and policy locations. Transfer of values from one context to another is difficult. Nevertheless, it is a quick and cheap method. |
| Participatory Valuation | Deliberative valuation: combines states preference methods with deliberative processes from political science, involving small groups of participants in reflective iterative dialogues. | Less bias encountered compared to standard stated preference methods. Values are constructed in a social process. Inclusive of all stakeholder groups, but depending on the power-relations of stakeholders involved some value preferences may be articulated more forcefully than others. |
| Non-monetary Deliberative and Participatory Approaches | Focus groups, Participatory Action Research (PAR), Health-based, Q-methodology: These are a set of group-based methods that are both participatory and deliberative, and seek to obtain information regarding human-nature relationships. PARs were developed specifically for use in developing countries to elicit local knowledge and enable local people to participate in decision-making. Health-based measures relate valuations to factors that affect quality of life and human-wellbeing. Q-methodology is a means of assessing the subjectivity of people’s views and values. | Overall, these methods are able to provide values regarding biodiversity, provisioning, regulating and cultural services, and they enrich the qualitative components of value. Although they require literate participants, new data collection, trained individuals and can be affected by local nuances. However, protocols can be adjusted to illiterate individuals; values can be aggregated to the scale required and in some cases they can be relatively straightforward to undertake. Furthermore, they engage a wide-range of stakeholders and are conveyable to policy makers. |

Adapted from Mendelsohn and Olmstead (2009), Lui et al. (2010), Pascual and Muradian et al. (2010), Turner et al. (2010), Christie et al. (2012) and Liekens et al. (2014)