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B3: Soil Health

Ecosystem Service Definition

Soil health is the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans.

Baseline Methods & Rationale

A non-relational dataset was produced to map the soil health ecosystem service baseline within Gloucestershire. The rationale for not selecting a modification layer for the soil health baseline was the absence of an available dataset that could be used as a spatial modifier for the ecosystem service, whilst accounting for localised variation in soils.

Opportunity Methods & Rationale

Similar to water quality, an opportunity dataset was not produced for the soil health ecosystem service due to the absence of a meaningful dataset that can be used to assess where the ecosystem service of soil health currently being delivered by natural capital assets is not meeting demand for delivery of the ecosystem service.

Limitations and Further Development

Due to imitations in available data containing soil chemistry parameters on a county scale for Gloucestershire, this dataset assumes that habitat is the only determinant of soil health. Whereas soil health is dependent on a complex series of additional factors: land management regimes, topography, and climate, for example.

Concentrations of phosphorous in soils may provide a useful indicator of soil health that could be applied as a modifier layer, should an appropriate dataset be identified.

An opportunity layer for soil health has not been developed due to the current lack of soil quality data which can be used at the scale required by natural capital mapping. Datasets which may allow the development of an opportunity layer may include point and diffuse sources of pollution. This data would allow an assessment of current areas of demand for improved soil health, in a similar manner to analysis undertaken for air pollution regulation in this project.

Figure B3.1: Soil Health Baseline (non-relational)

B3: Soil Health
(baseline)

Ecosystem service provision

Low   High