

Air Purification occurs where habitats help to intercept or absorb airborne pollutants produced from road traffic.

METHODS: Air Purification values per habitat are inferred from available literature. Values are estimates of potential Air Purification ability per habitat type. High values represent areas where habitats have a predicted higher capacity to intercept or absorb airborne pollutants. This is based on habitat type and structure. Habitat age and management are not included. Values are calculated within a local search neighbourhood (Default = 200 m). Habitat capacity is assumed to be cummulative, scores are summed within the neighbourhood. Both higher scoring habitats, and wider / larger areas of habitat lead to larger mapped capacity scores.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Air Purification Capacity







Air Purification occurs where habitats help to intercept or absorb airborne pollutants produced from road traffic.

METHODS: High values represent areas where there is a combination of higher population density, higher health deprivation scores and higher predicted air pollution levels based on proximity to roads. Threshold and search neighourhood values can be modified by the user. Default values are: Maximum air pollution occurrence distance from roads = 400 m, Manmade surface cover = 400 m radius, Population density = 300 m, Health scores = 300 m

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Air Purification occurs where habitats help to intercept or absorb airborne pollutants produced from road traffic.

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Air Purification Management Zones





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Date: 18/04/2017



Carbon storage occurs in vegetation and soil.

METHOD: This toolkit maps the estimated amount of carbon stored in different ecosystem or habitat types. Carbon storage values are taken from available literature. Values are estimates of typical storage levels per habitat type. Soil type is assumed to be typical of the mapped habitat. Soil types are not separately mapped from soil data. Habitat age and management is not considered. High values represent high carbon storage levels per unit area. Carbon storage values are calculated from the data used within the attribute link table in the BaseMap models. Carbon storage values may link to mapped habitat types at different hierarchy levels (Phase 1 Habitat, Broad Habitat or Habitat Class)

LIMITATIONS: Care should be taken in map interpretation for certain habitats where it is known that certain soil types occur, such as deep peat, or where plantation woodlands or improved grasslands occur on deep peat. In such situations the capacity will reflect the current dominant habitat type. Running an alternative scenario analysis with such habitat restored or converted to blanket bog or marshy grassland would show the higher storage capacity in such habitats. EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Carbon Storage Capacity







Carbon storage occurs in vegetation and soil.

METHODS: This toolkit maps the estimated amount of carbon stored in different ecosystem or habitat types. Because the benefits of carbon storage are global, all areas are mapped as high demand. LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Carbon Storage Demand







Areas where people benefit from carbon storage in vegetation and soil.

METHODS: Capacity and Demand quintiles are overlaid to estimate the management interventions that could maintain or increase the benefits delivered to people. Not all categories are always present.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.





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Carbon Storage Management Zones







Noise regulation capacity reflects the ability of different ecosystems and habitats to absorb noise pollution.

METHODS: Noise regulation values per ecosystem / habitat are inferred from available literature. These are estimated typical values. Habitat age and management is not considered. Analysis is conducted at short and local scales to give capacity scores based on habitat type and patch size. Default short scale distance = 30 m. Default local scale distance = 100 m

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Noise Regulation Capacity







Noise regulation demand reflects the predicted need for noise regulation. This is based on modelled noise levels, population density and health data.

METHODS: Local search distance (population size) = 300 m, Minimum population size (local scale) = 50, Local search distance health scores = 300 m, Max noise distance from airports = 1500 m, Max noise distance from motorways = 800 m, Max noise distance from railways = 650 m, Max noise distance from A roads = 600 m, Max noise distance from B roads = 550 m. Thresholds are applied to limit the area of mapped Demand. Defaults are applied, but can be varied with custom settings.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.

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Noise Regulation Demand







Areas where people benefit from the noise reducing impact of semi-natural habitats and ecosystems.





Noise Regulation Management Zones







Pollination capacity reflects the ability of different ecosystems to support wild pollinators, using an estimate of likely visitation by pollinators.

METHODS: Habitat types such as grassland and linear and edge habitats are identified that are likely to support wild pollinators. Distance from pollinator habitat is used to indicate the potential visitation likelihood by wild pollinators. A maximum travel distance of ~700 m is used within the mapping. Beyond this distance from a pollinator source habitat there is expected to be no capacity for pollination. Edge habitat is identified as 20 m into woodland habitats.

LIMITATIONS: The method used only considers habitat type and distance. No information on habitat area or habitat quality is included. The presence of any large areas of "unknown" or "unclassified" habitats in the BaseMap will have low capacity in this map. EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Pollination Capacity







Pollination demand indicates areas of land that are expected to benefit from wild pollinators.

METHODS: Pollination demand is mapped from the locations of arable land, allotments and orchards.

LIMITATIONS: Often, depending on the input data used, arable land may be poorly mapped. Not all crops grown within areas of arable land will require pollination. If alternative data sources are available, they can be used to map the location of pollination demand. EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Pollination Demand







Areas where crops in farmland, allotments or orchards are likely to benefit from wild pollinators from nearby semi-habitats.

METHODS: Capacity and Demand quintiles are overlaid to estimate the management interventions that could maintain or increase the benefits delivered to people. Not all categories are always present.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Pollination Management Zones







Areas where vegetation may help to purify water and reduce pollution impacts before reaching watercourses.

METHODS: Water Purification values per ecosystem are inferred from available literature, based on surface roughness and slope type. Habitat age and management is not considered.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Water Purification Capacity







METHODS: Demand is mapped based on a modified USLE equation, further adapted from a method presented in Sivertun and Prange (2003). Thresholds are applied to limit the area of mapped Demand. Defaults are applied, but can be varied with custom settings. Maximum risk distance from watercourses = 250 m. Potentially polluting land use types = Arable land, improved grassland, urban areas. Flow accumulation threshold used to identify streams, from which to map watersheds (catchments) = 20,000

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.



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Areas where people may be benefiting from the water purification effects of vegetation near streams





Water Purification Management Zones







Green Travel routes are linear travel networks with a high cover of green infrastructure where people may benefit from a safer, calmer or more aesthetically pleasing travel route.

METHODS: This map reflects how "natural" habitat types are along linear travel networks. The model uses perceived naturalness scores. Routes are identified from Sustrans cycle routes, Public footpaths /Core paths and all pavements and paths mapped by OS MasterMap data. Informal footpaths and any paths not digitised within these data will not be idenified on the map. In rare cases paths and pavements will be mapped within private estates or industrial areas where no public access is permitted. Thresholds are applied to limit the area of mapped capacity. Defaults are applied, but can be varied with custom settings. Defaults are: Minimum linear route length = 2,000 m, Minimum area of travel route and buffer = 1,000 m (0.1 ha), Focal search distance for "local" scale mean naturalness score = 300 m.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.

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Green Travel Capacity





Green Travel routes are linear travel networks with a high cover of green infrastructure where people may benefit from a safer, calmer or more aesthetically pleasing travel route.

Demand for Green Travel routes is mapped using a least-cost analysis, along the linear travel network. Travel destinations used are rail stations, town centre locations and schools. The maximum travel distance used can be altered by users. The default maximum travel distance is 4,500 m.

LIMITATIONS: EcoServ-GIS relies on indicators to predict levels of capacity and demand. Results are relative to the study area and cannot be compared to other areas. Local knowledge must be used to interpret what the values mean in absolute terms.

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Green Travel Demand





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Green Travel Management Zones

