

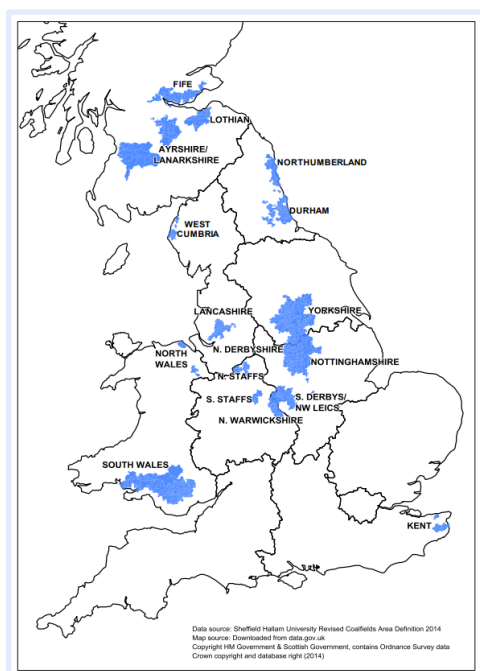
# Colliery Spoil Tips as Accessible Green Space



Statue on summit of Silverhill Spoil Heap<sup>1</sup>

Many people live within 1km, or 15 minutes from a former spoil heap, or pit tip. Most tips have been redeveloped and offer a variety of private and public green space. Some are developed for housing and light industrial spaces while others are owned by local authorities and managed by bodies including Forestry England, Woodland Trust, National Trust and the RSPB. This PhDnote summarises the evidence for the physical and mental health benefits of utilising pit tips for ecological restoration (to support biodiversity net gain<sup>2</sup>), protection of unique biodiverse spaces and access to green space, and considers the timeliness of such action.

Fig.1 (below) UK Former Coalfields, 2014<sup>3</sup>



## Overview

- There are more than 5,000 colliery tips in the UK<sup>4</sup>
- 5.75 million people live in the former coalfields – 1 in 11 of the UK population<sup>5</sup>
- Pit tip re-development into accessible greenspace will help meet the 15 min green space target<sup>6</sup>
- 44% of coalfield neighbourhoods in England are in the most deprived 30% in the country. This is replicated in South Wales, and Fife/Ayrshire/Lanarkshire<sup>5</sup>
- Heath problems are widespread. 7% of former coalfield residents report 'bad or very bad' health. More than 10% claim disability benefits<sup>5</sup>
- Tips provide rich and unique habitats for diverse wildlife established over decades of natural colonisation and succession<sup>7</sup>
- Protection and public engagement will help to deliver the Environmental Improvement Plan (EIP) and halt the decline in species by 2030<sup>8</sup>. POSTnote 728 (Sept 2024) highlights the mandatory BNG as a planning requirement.<sup>2</sup>

**Background – NCA 38 (as example). The combined areas of Nottinghamshire, North Derbyshire and Yorkshire have a population of 2,170,000. Natural England (NE) note that<sup>9</sup>**

- A strong cultural identity arising from a history of coal mining...which resulted from the close relationship between underlying geology and resource availability, notably...coal
- Features of industrial heritage such as mills, goits, voids, tips, old railway lines, canals and bridges are evident, along with former mining villages
- Green belt areas are often under pressure for development, land renewal and regeneration.

## Environmental Opportunities

Very little of the coalfield in NCA 38 is designated for geology or nature conservation, however pockets of species often find refuge on land that was once worked for minerals, including coal. NE highlight the opportunity to create new landscapes, suggesting 'links to past use will continue to provide a strong sense of place for local people' in order they engage further with the landscape. (SEO 1,2,3) <sup>10</sup>

## Biodiversity Opportunities

*Sarcoleotia globosa* has a black cap the size of a pin. It is only discovered on coal spoil and was found in England for the first time at Rufford Colliery in 2023.<sup>11</sup> The complex chemistry and topography of spoil encourages diverse micro-habitats for many species as well as fossils and minerals. Pit tip areas include grassland, heathland, woodland, bare ground, ponds, hedges and deep grass. A survey of invertebrates discovered on pit tips in South Wales between 2015 - 2018 found a total of 901 invertebrate species.<sup>12</sup> Colliery spoil habitats are under threat from an 'aesthetic drive' to 'green' an already green landscape by planting forestry or redesigned for recreational use using non-native plants and pathways. Several SSSIs in Ashfield are on coal spoil.<sup>13</sup>



Photo credit: Leics and Rutland Wildlife Trust 2023.

## Mental and Physical Health Opportunities

Creating new access to green spaces across former coalfields can offer a better quality of life, which in turn may help people and wildlife adapt to climate change.<sup>14</sup> Low-income areas are associated with less access to good quality green space and life expectancy.<sup>15</sup> Men in the least deprived areas live 10 years longer than men in the most deprived (8 years longer for women).<sup>16</sup> Average life expectancy in the former coalfields is around three years less than South East England.<sup>17</sup>

### 2024-2025 Natural England Action Plan

*We increase the number and representation of people engaged with nature and nature recovery in a way that supports socio-economic and health benefits for local communities.*

**5.3 KPI C**

## A Tale of Two Tips:

### Bentinck Colliery



Pit tip at Bentinck Colliery, Ashfield, Notts.

Early 1980s, photo credit Coal Authority<sup>18</sup>

Greenwood Community Forest staff planting trees



on the same Bentinck South Pit Tip, 2021<sup>19,20</sup>.

### Thoresby Colliery



In 2015, when it closed<sup>21</sup>



In 2022, developed into housing and green space



## Levelling-Up Opportunities and Inequality

There are marked differences in accessible greenspace and mental / physical health and outcomes both between and within England, Scotland and Wales. It is necessary to look closely at all scales – country, county, Middle Layer Super Output Areas (MSOAs) and Lower Layer Super Output Areas (LSOAs) for accuracy and relevancy.

## CASE STUDY - Nottinghamshire

Within the county of Nottinghamshire there is a four-year difference in life expectancy between the coalfield and non-coalfield district.<sup>22</sup>

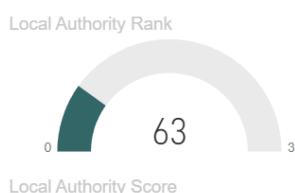
### CASE STUDY

**Ashfield, North Nottinghamshire** 126,300 pop. compared with **Rushcliffe, South Nottinghamshire** 119,000 pop. (2021 Census figures).

Indicator 2020 - 2022	Ashfield had 33 pits	Rushcliffe had 1 pit
Life Expect. from birth MALE	77.09	81.63
Life Expect. from birth FEMALE	81.64	85.02

## Indices of Deprivation 2019 – ranking / 317<sup>23</sup>

### Ashfield



### Rushcliffe



**Health Index<sup>24</sup>** There are stark differences in similarly population-sized local government districts (where 100 is 2015 UK average. 100+ is better -100 is worse):

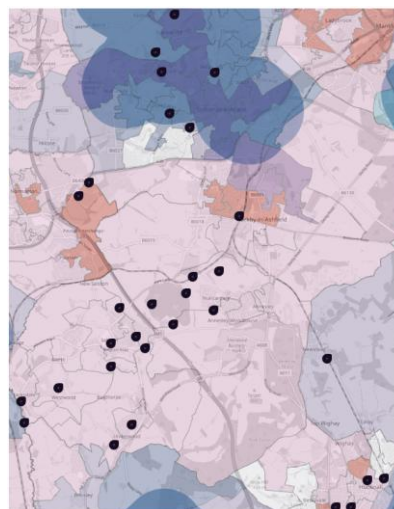
	Ashfield	Rushcliffe
Life Satisfaction	78.9	88.6
Healthy Lives	97.6	127
Physiological Factors	91	117
Overweight/Obese adults	82.6	109.5
Overweight/Obese Children	92.7	115

## CASE STUDY – Ashfield District, Nottinghamshire.

### N.B. Data anomaly

Access to **private** greenspace is recorded as very high in the coalfield, as many properties were built as part of a model village with gardens.

This can obscure the 'quality green space' data. Flats and apartments are rare.



**Ashfield:** Accessible Natural Greenspace Standards (ANGSt) plotted against Lower Socio-Economic Areas<sup>25</sup>

Of the thirty former pits in Ashfield,<sup>26</sup> twenty-five do not meet the ANGSt Neighbourhood Standard. These also have a LOW score on the Inequality and Deprivation index.<sup>27</sup>

Of the five that meet the Neighbourhood ANGSt, only two meet the Local ANGSt. These are **Silverhill<sup>28</sup>** and **Brierley Forest<sup>29</sup>**, both abandoned pits where vast spoil heaps have been developed into Country Parks. As a result the local community can step into accessible green space extremely locally.

### Timeliness of action

Climate change caused extreme rainfall in February 2020, initiating a coal tip landslide in Rhondda Cynon Taf.<sup>30</sup> The Coal Authority published a map of Welsh tips (Nov 2023)<sup>31</sup> and inspect the most dangerous twice a year.<sup>32</sup> A Senedd Committee has identified the closure of Ffos-y-Fran coalmine (Nov 2023) as 'epic mismanagement' as the owners claim they cannot afford the restoration costs, leaving a 'loose steep-sided valley with a lake at the bottom.'<sup>33</sup>

A White Paper on coal tip safety was issued for consultation by the Welsh Government in May 2022 and a Written Statement in March 2024.<sup>34,35</sup> The Independent Assessment of UK Climate Risk (CCRA3) notes extreme rainfall events and mean rainfall will result in 'damaging water flows, slope or embankment failure'.<sup>36</sup> Cohesive and prompt action to manage pit tips will benefit communities, address academic researchers' concerns about most habitat creation being projected to occur on development sites and prove financially favourable.



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\*PhDNOTE: written in the style of a government POSTnote Briefing paper for a successful application to the UKRI 2025 Policy Internship Programme. Placement undertaken with Natural England / Department for Environment, Food and Rural Affairs (DEFRA) about Ancient & Veteran Trees. lucy.grace@naturalengland.org.uk