Image: Derbyshire Wildlife Trust

A summary report of the four Wildlife Trust projects funded by Cadent

Report authors:

Dr Caroline Harvey, Dr Fiona Holland and Rhys Furlong

Nature Connectedness Research Group

Derbyshire Wildlife Trust

The Wildlife Trust for **Lancashire Manchester & North Merseyside**

Sheffield & Rotherham Wildlife Trust

Birmingham & Black Country Wildlife Trust

Table of Contents

Executive Summary

Four Wildlife Trusts received funding from the Cadent Foundation who seek to make lasting, positive differences in local communities (Cadent Foundation, 2020) via running interventions to improve wellbeing through nature connectedness. This funding was used to develop initiatives within each Wildlife Trust including:

- Derbyshire Wildlife Trust's *Wild Wellbeing Hub*
- Birmingham and the Black Country Wildlife Trust's *Natural Connections*
- Sheffield and Rotherham Wildlife Trust's *Wild at Heart*
- Lancashire, Manchester and North Merseyside Wildlife Trust's *Nature Networks*

Each trust implemented a bespoke programme of activities and initiatives with the overall aim of engaging local people from socioeconomically deprived areas, giving them opportunities to spend more time in nature and ideally gain benefits from this.

To find out if these programmes of activities had an impact on nature connectedness, wellbeing and loneliness, data was collected at two time points- at the start and end of the sessions, then these were compared statistically. Participants also responded to several open questions which explored the impact of the project in more depth from a qualitative perspective.

In summary, the data indicates that the Wildlife Trust initiatives had a positive impact for the people who engaged with the project and took part in this evaluation.

The quantitative data indicates the positive impact of the various Wildlife Trust initiatives. We found:

- A significant increase in nature connectedness* occurred for participants with the Lancashire, Manchester and North Merseyside Wildlife Trust
- Inclusion of Nature in Self** increased for participants from Derbyshire Wildlife Trust and Birmingham and the Black Country Wildlife Trust.
- Mental Wellbeing increased for participants from three Wildlife Trusts namely Derbyshire, Lancashire, Manchester and North Merseyside, and Sheffield and Rotherham.
- Loneliness decreased significantly for participants in the Lancashire, Manchester and North Merseyside Wildlife Trust's initiative.

Whilst not all the results show statistically significant changes for all Trusts, where differences were observed, they all showed improved outcomes compared to baseline and thus supported the important work undertaken by the Wildlife Trusts.

* Nature connectedness refers to the relationship we have with nature, including emotions, attitudes and behaviour and can be seen in the way we might enjoy spending time in nature or caring for nature.

** Inclusion of nature in self refers to the extent to which a person feels that nature is a part of them, and they are a part of nature.

Responses to the open questions provides additional support for the positive impact of the Wildlife Trusts initiatives.

- Feedback from participants was overwhelmingly positive, with participants reporting a range of benefits including improved mood and mental wellbeing, increased feelings of resilience and ability to cope.
- Participants highlighted the impact that time in nature through the initiatives had on their sense of relaxation, feeling more a part of nature and being able to notice nature around them more. Participants also noted the impact that the initiatives had for them socially, enabling them to engage with others and make new friends.

Overall, it is concluded that the Wildlife Trust initiatives funded by the Cadent Foundation had a substantial positive impact for those who took part. This is particularly important given the focus of these initiatives in socioeconomically deprived areas, where people might have fewer opportunities to connect with nature. The positive findings lend support to the continuation of these initiatives into the future, so that they may provide enduring opportunities for people to experience psychological, social and wellbeing benefits from spending time in nature. Indeed, Derbyshire; Sheffield and Rotherham; and Lancashire, Manchester and North Merseyside Wildlife Trusts are key partners in the Government's Green Prescribing for Mental Health pilot programme, and through it, continue their work of connecting local people to natural places and beneficial activities. Birmingham and the Black Country Wildlife Trust has recently been awarded a grant from the National Lottery Heritage Fund to deliver their Natural Prospects programme, which has been specifically designed to challenge the barriers that exclude some people from working in the environmental conservation sector. They will deliver work-based practical training and qualifications to young trainees, improving their wellbeing, health and prospects.

Acknowledgements

The report authors would like to thank the Wildlife Trust staff for their support in the production of this report.

All images used in this report are reproduced courtesy of the Derbyshire Wildlife Trust. Birmingham and the Black Country Wildlife Trust, Sheffield and Rotherham Wildlife Trust and the Wildlife Trust for Lancashire, Manchester and North Merseyside.

Individual Reports

Individual reports have been produced for each Wildlife Trust and these contain additional information beyond this summary document. For detailed reports on each initiative please refer to the separate reports.

1. Introduction to the evaluation context

Mental Health and Wellbeing
Increased rates of mental ill-health during recent years (Baker, 2020) are of great concern. Good mental health is not just the absence of mental ill-health, but the presence of wellbeing (Richardson, et al., 2021), with wellbeing being defined as the state of optimal human functioning (Pritchard et al., 2019). Recent UK data reveals previous trends for increased wellbeing have been negatively impacted due to the coronavirus pandemic (ONS, 2021) with higher levels of anxiety and reduced levels of happiness evident in adults. Concerns about the effects of the pandemic on mental health (e.g., Cullen, Glati & Kelly, 2020) and wellbeing (e.g. De Pue et al., 2021) have been well established. Other factors have also been shown to influence wellbeing, with higher levels of loneliness in older adults being linked to reduced wellbeing (Golden et al., 2019). Similarly, for younger people who are not in education, employment or training, lower levels of wellbeing are also observed (Goldman-Mellor et al., 2016). During the recent Covid-19 pandemic, people were placed under a range of restrictions which limited social interactions and resulted in high levels of loneliness (Groarke et al., 2020), which may also have negatively influenced wellbeing. Therefore, initiatives which might enhance wellbeing and reduce loneliness are of interest and timely.

The Impact of Nature Connectedness
One approach that may help to support wellbeing is improving our relationship with nature. Increased levels of Nature Connectedness have been linked to wellbeing gains (Capaldi, Dopko & Zelenski, 2014; Pritchard et al., 2019), therefore interventions which increase nature connectedness have the potential to improve wellbeing.

The Interventions
Each of the four Wildlife Trusts received funding from the Cadent Foundation, who seek to make lasting, positive differences in local communities (Cadent Foundation, 2020), to run intervention programmes to improve wellbeing through nature connectedness.

Each Wildlife Trust developed initiatives appropriate to their local areas as follows:

Derbyshire Wildlife Trust's *Wild Wellbeing Hub*
The funding was used to develop the *Wild Wellbeing Hub* programme of initiatives. These aimed to engage local people, encourage them to spend more time in nature, and explore the 'five ways to wild wellbeing' through a range of activities. The intervention was delivered in Derby City in a socioeconomically deprived area. The Cadent Foundation funding was also used to support two further elements to the programme, i) providing nature-based taster sessions for Derbyshire Community Health Services staff and ii) developing a Wildscapes film project with Derby Royal Hospital, although these two elements were subject to a separate evaluation.

Birmingham and the Black Country Wildlife Trust's *Natural Connections*
Cadent funding was used to develop the Natural Connections programme of initiatives which aimed to engage local people from socioeconomically deprived areas in Birmingham and the Black Country. The objectives were to engage local people in health and wellbeing programmes, establish training programmes for young people, and support people into volunteering with the Birmingham and Black Country Wildlife Trust.

Sheffield and Rotherham Wildlife Trust's *Wild at Heart*
Within this Wildlife Trust, funding was used to develop the *Wild at Heart* programme of initiatives. The aims of the programme were to engage local people who were struggling with mental health issues and offer a range of activities designed to help them spend more time in nature and support them in becoming more connected to nature.

Lancashire, Manchester and North Merseyside Wildlife Trust's *Nature Networks*
Funding was used to develop the North Manchester Nature Network, a biodiversity project which aimed to deliver a neighbourhood nature network to increase wild species numbers whilst also connecting local people to the natural environment, wild plants, and animals. The intervention took place in North Manchester, one of the most urban cities in the UK, which provided a suitable setting for the Wildlife Trust to explore and deliver opportunities for local people to connect with and take action for local nature.

Impact of the Pandemic
Across all four Wildlife Trusts the Covid-19 pandemic led to delays in delivery of some of the initiatives. Where appropriate, some materials were delivered online which helped to engage participants before restrictions started to be lifted. Once guidelines allowed, the trusts were able to commence delivery of their projects in compliance with social distancing requirements etc.

Image: Derbyshire Wildlife Trust

2. The Evaluation Methodology

The Wildlife Trusts commissioned the University of Derby to evaluate four intervention projects across the individual Wildlife Trusts to evidence outcomes on nature connectedness, wellbeing and loneliness.

Study Design
To establish if the initiatives had an impact on levels of nature connectedness, wellbeing and loneliness, data was collected at the start of the series of sessions and again at the end of the final session. This allowed the comparison of scores across the two time points to establish if there had been any changes in the measures taken.

In addition, participants were also asked to respond to a number of open questions and a mixture of content and thematic analysis was used to present key findings summarised from the responses to the questions.

Questionnaires

So that we could assess the impact of the initiatives on the key measures of Nature Connectedness, Wellbeing and Loneliness, the people taking part were asked to complete four questionnaires.

Nature Connectedness
The Nature Connectedness Index (Richardson et al., 2019) includes six questions that are suitable for use with both adults and children. Questions include things like "Being in nature makes me very happy" and responses are scored from 1 (Completely disagree) to 7 (Completely agree).

The Inclusion of Nature in Self scale (Schultz, 2001) measures how much an individual feels they are a part of nature through a series of seven sets of overlapping circles reflecting increasing degrees of inclusion of self in nature. *(Note: This measure was not used with participants from the Lancashire, Manchester and North Merseyside Wildlife Trust).*

Mental Wellbeing
Mental Wellbeing was measured by the Edinburgh-Warwick Mental Wellbeing Scale (Tennant et al., 2007) and this short measure contains seven questions which are scored on a five-point scale ranging from 1 (None of the time) through to 5 (All of the time). An example of the questions from the scale is "I've been dealing with problems well".

Loneliness
The three item UCLA Loneliness Measure was used to assess loneliness. Questions are scored on a three-point scale, ranging from "Hardly ever or never", "Some of the time", "Often". An example question is "How often do you feel left out?"

Open Questions

When the questionnaire was completed for the second time, a number ofFOR open-ended questions developed by the Wildlife Trusts were asked:

1. Tell me about your life since you joined the activity/group. Has anything changed?
2. How did you feel about yourself before you came to the activity/group?
3. How do you feel now since taking part in the activity/group?

Qualitative Questions

Some Wildlife Trusts also asked for additional feedback from participants through the use of qualitative questions, which enable further exploration of their experience and the impact the initiative might have had for them.

Data collection

Information about the evaluation was given to the people taking part in the Wildlife Trust initiatives and if they were happy to take part, they completed a consent form to show they understood what they were being asked to do, how their data would be used and how they could stop taking part if they decided they would prefer not to continue with the evaluation. Once people were happy to take part, they completed a questionnaire at the start of the first session and completed another questionnaire at the end of the final session.

Image: Lancashire, Manchester and North Merseyside Wildlife Trust

Participant details

In total, 238 people completed questionnaires at the start of the projects. Completion of questionnaires at the second time point was lower and full details regarding sample sizes for each Wildlife Trust are shown in table 1.

Wildlife Trust	Completion at time 1	Completion at times 1 and 2
Derbyshire	74	30
Birmingham and the Black Country	41	14
Sheffield and Rotherham	28	10
Lancashire, Manchester and North Merseyside	95	58
Total	**238**	**112**

Across the initiatives some participants experienced difficulties in completing the questionnaire due to vulnerabilities e.g., language barriers, learning differences and anxiety, therefore staff supported them where possible.

Table 2 shows information about the gender and ethnicity breakdown of the people who took part and provided this data.

Table 2. Details about the people who took part in the evaluation as a percentage

	Derbyshire WT	Birmingham and Black Country WT	Sheffield and Rotherham WT	Lancashire, Manchester and North Merseyside WT
Gender				
Female	42.4	46.3	52.9	58.1
Male	36.5	46.3	11.8	32.4
Prefer to self-define	03.5	02.4	02.9	01.9
Prefer not to say	17.7	04.9	32.4	07.6
Ethnicity				
White	37.7	48.8	50.0	85.7
Mixed/multiple	03.5	02.4	05.9	02.9
Black	08.2	00.0	11.8	01.0
Asian	20.0	31.7	03.2	01.0
Other	01.2	07.3	00.0	01.9
Prefer not to say	29.4	09.8	29.4	07.6

Image: Derbyshire Wildlife Trust

3. Results

3.1 Quantitative data

For each Wildlife Trust, average scores for each of the key measures of nature connectedness, inclusion of nature in self, loneliness and wellbeing were calculated. The average scores (means) and the spread of these scores (the standard deviations) were developed. The change in these means over time (the T-value) was calculated and the strength of this change was measured statistically to develop a confidence in the change being significant or not. These details are all shown in table 3, however, a summary of the findings is presented first.

Nature connectedness
A significant increase in nature connectedness was seen for participants with Lancashire, Manchester and North Merseyside Wildlife Trust's *Nature Networks* initiative, but not for any of the other Wildlife Trusts' programme.

A significant increase for the inclusion of nature in self was seen for participants involved in programmes led by Derbyshire Wildlife Trust and Birmingham and the Black Country Wildlife Trust.

Mental Wellbeing
Mental wellbeing increased significantly from time 1 to time 2 for participants in the programmes offered by Derbyshire Wildlife Trust, Lancashire, Manchester and North Merseyside Wildlife Trust and Sheffield and Rotherham Wildlife Trust indicating that the initiatives improved mental wellbeing.

Loneliness
Loneliness levels decreased for participants involved with the Lancashire, Manchester and North Merseyside Wildlife Trust's initiative, but not for participants in any of the other Wildlife Trusts.

Please see table 3 for details of each analysis across the Wildlife Trusts including the means, standard deviations (sd) across the two time points, along with associated statistical information.

Images: Sheffield and Rotherham Wildlife Trust

Table 3: Means (sd), T values (or z values where data did not meet parametric assumptions) and significance for variables across the time points

Derbyshire Wildlife Trust	Mean (sd) Time 1	Mean (sd) Time 2	t value	Significant
Nature Connectedness	2.30 (1.03)	2.07 (0.10)	1.34	No
Inclusion of Nature in Self	3.57 (1.40)	4.54 (1.69)	-3.58	Yes
Mental Wellbeing	20.93 (4.14)	24.00 (4.53)	-3.58	Yes
Loneliness	7.00 (1.73)	6.15 (1.82)	1.47	No
Birmingham and the Black Country Wildlife Trust	**Mean (sd) Time 1**	**Mean (sd) Time 2**	**t value**	**Significant**
Nature Connectedness	2.69 (1.38)	2.90 (1.78)	-0.50	No
Inclusion of Nature in Self	3.75 1.36)	5.00 (1.54)	-2.06	Yes
Mental Wellbeing	24.73 (5.37)	25.46 (7.17)	-0.25	No
Loneliness	5.00 (1.88)	4.42 (1.56)	1.77	No
Sheffield and Rotherham Wildlife Trust	**Mean (sd) Time 1**	**Mean (sd) Time 2**	**Z value* (p value)**	**Significant**
Nature Connectedness	6.77 (4.73)	6.80 (0.13)	-1.069 (0.285)	No
Inclusion of Nature in Self	6.10 (1.10)	5.80 (1.23)	-0.736 (0.461)	No
Mental Wellbeing	20.90 (9.95)	23.70 (5.58)	-2.201 (0.028)	Yes
Loneliness	5.70 (2.06)	5.80 (2.25)	-0.447 (0.655)	No
Lancashire, Manchester and North Merseyside Wildlife Trust	**Mean (sd) Time 1**	**Mean (sd) Time 2**	**t value**	**Significant**
Nature Connectedness	6.29 (0.83)	6.82 (0.32)	-5.288	Yes
Inclusion of Nature in Self	NA	NA	NA	NA
Mental Wellbeing	26.02 (4.60)	29.20 (4.44)	-5.983	Yes
Loneliness	4.70 (1.60)	4.13 (1.57)	-4.906	Yes

* An alternative analysis was used with the Sheffield and Rotherham Wildlife Trust, due to issues with data not meeting parametric assumptions.

3.2 Qualitative Data

Open Questions

Qualitative analyses were used to summarise the responses to the open questions. In some Wildlife Trusts, we employed content analysis, in others we used thematic analysis as the questions and richness of the data varied. In this summary document, we have presented the key findings across all projects in alignment with a content analysis.

Participants from all four Wildlife Trusts responded to these questions.

Tell me about your life since you joined with the activity/group. Has anything changed?

Across the Wildlife Trusts, participants emphasised the positive impact joining the activity/group had on their lives.   For example, participants with Derbyshire Wildlife Trust noted a greater awareness of nature and appreciation for the natural environment. Some participants revealed that being in nature had an impact on their mental wellbeing with "more peace", "more confidence" and a greater improvement in mood being commonly reported. This improvement in mental health was suggested to be a result of embedding themselves within nature, with them stating they were more able to "take in much more" and "listen to nature". They also suggested that the programme had a positive impact on how they viewed the world and themselves, for example, one participant stated that they could "listen to my inner self" and another felt "more comfortable under my own skin".

Image: Birmingham and Black Country Wildlife Trust

This was also supported by participants from Birmingham and the Black Country Wildlife Trust who reported that the *Natural Connections* programme inspired them to be more involved in nature in their "own time", e.g., spending more time in their own gardens, and helping others with gardening. The positive impact on mental health and wellbeing was also noted. By allowing them to take "time to notice nature" the participants reported feeling "calmer" through understanding the "importance of being in nature", more confident both "in general" and with "using tools", with one participant claiming they have become "more independent and resilient" from the experience.

Joining the activities also appears to have benefited the Sheffield and Rotherham Wildlife Trust participants' wellbeing through improving feelings of low mood, grief and depression and providing opportunities for social interaction with old and new friends. Several mentioned the group enhanced their motivation to go out of their homes. One participant suggested their low mood was improved through feeling "motivated" to take up nature-based activities, something which they stated, "helped me very much". The benefit this individual gained from their activities with *Wild at Heart* motivated them to create their own garden, which suggests the intervention had a lasting influence for them in their everyday life. Another participant reported that they "learned new skills about crafts and nature" and "improved confidence, [had] less depression and feel much happier". The social interaction of the group supported wellbeing, with another participant stating that "people talk to me" which they reported was something that "rarely happens" for them.

For some participants involved in the Lancashire, Manchester and North Merseyside Wildlife Trust's *Nature Networks* initiative, a new relationship with nature was apparent after joining the group. Learning about nature was highlighted by several participants, with some being inspired by the group to have a deeper relationship with nature and enhanced motivation to access nature more frequently in the future. Additionally, joining the group fostered a new perspective for some participants as they reported being more aware of the natural world due to the information they learnt. For example, one participant discussed their changed perspective as a real awakening:

"I have learnt so much about nature in this group. It has really opened my eyes, I never walk around a park in the same way now."

Through noticing nature more, participants described a greater sense of being present in their surroundings. This sense of mindfulness was shown through them taking greater time to observe and connect with individual aspects of nature, leading to a sense of peace and restoration:

"Spending time connecting to each aspect of being in nature "one at a time". Having the time to focus rather than passing through quickly."

"Feel a bit more calm. Can rush around a lot…..so seeing nature helps to calm me."

> **Across the Wildlife Trusts, participants experienced changes in their lives through new relationships with nature with some noting that they had started to access nature more frequently, and/or were actively noticing different aspects in nature. This appeared to support some people in developing a new appreciation of and connection to their local natural environments. From this awareness, participants also reported benefits to their mental health and wellbeing, such as feeling calmer, and/or experiencing restorative effects of spending time in nature.**

How did you feel about yourself before you got involved with the activity/group?

Several participants with Derbyshire Wildlife Trust's *Wild Wellbeing Hub* initiative reported a lack of confidence and heightened levels of anxiety and depression prior to joining the programme. Being able "fit in" was a concern for some. This sense of anxiety was a motivating factor to join the programme for one participant as they wanted to "find new ways of coping with my anxiety". Others had more optimistic feelings prior to attending the group and joined to gain a greater appreciation of nature.

Lack of confidence was also highlighted by some participants of the Birmingham and Black Country Wildlife Trust's *Natural Connections* programme where participants reported feeling apprehension towards taking part in the group activities stemming for some from "not knowing what to do". For one participant, the "new culture" they found themselves in as a foreign national contributed to this lack of confidence. However, through connecting with others in the group, the participants felt less isolated, with one individual stating, "I thought my need to be close to nature was only me". From connecting with nature in a group, this particular individual gained a new perspective, as they were no longer alone in this appreciation of nature, and recognized that they could even appreciate nature within cities, stating that the urban environment was one of "endless opportunities"

Some participants in the Sheffield and Rotherham Wildlife Trust's *Wild at Heart* initiative felt isolated from others and "depressed about the future" following the pandemic. Lockdowns meant they were unable to "mix with people in real life". The feelings of uncertainty, loneliness, and negative mood were apparent in their responses, suggesting that prior to joining the group they had fewer people to connect with. In contrast, participating in the *Wild at Heart* sessions, and having people to "share thoughts with outside of the family" was described positively.

For many participants with the Lancashire, Manchester and North Merseyside Wildlife Trust's *Nature Networks initiative*, limited interaction with others prior to joining the group had a significant impact on their mental health. For example, some participants spoke of their isolation prior to joining the group noting that found it difficult to make new friends following retirement. Some participants noted mental health problems, (e.g., high anxiety levels and low mood) from a lack of meaning and direction in their lives.

> **Overall participants expressed a low sense of wellbeing prior to joining the group, referring to feelings of anxiety, depression, low mood, and isolation from others. Some participants reported a lack of resilience following the pandemic and isolation brought about by the lockdowns.**

How do you feel now since taking part in the activity/group?

Across all four Wildlife Trusts, participants identified the positive impact taking part in the projects had for them. Participants with Derbyshire Wildlife Trust's *Wild Wellbeing Hub* reported meeting "like-minded people" and being able to socialise with like-minded others as the main positive outcome gained from the group. Some participants reported improved confidence and happiness after taking part in the activities, with one participant stating that the group had given them reassurance in their skills. This led them to want to pass this confidence onto others having "consolidated some ideas" about connecting others with nature.

For some participants with the Birmingham and Black Country Wildlife Trust's *Natural Connections* programme, participants reported feeling closer to nature. The programme provided a new relationship with nature for some participants, with one person reporting feeling closer to the wildlife of the UK (their adopted new country), and another participant stating they were looking forward to having more "explorations" in the future, signaling that this had created a prompt to create further nature-based activities.

A sense of optimism was experienced among the participants in the Sheffield and Rotherham Wildlife Trust's *Wild at Heart* activities, with individuals reporting feeling "optimistic, energetic and clear about the future". Meeting "like-minded people" and having the opportunity to share interests with individuals of similar backgrounds appeared to support a sense of happiness, enthusiasm and energy.

Through joining the *Nature Networks* programme with Lancashire, Manchester and North Merseyside Wildlife Trust, many of the participants experienced positive changes to their wellbeing and quality of life. To combat the sense of isolation some participants reported, meeting new people with similar interests allowed for a greater sense of community.

Image: Lancashire, Manchester and North Merseyside Wildlife Trust

Nature-based activities offered through the programme acted as a catalyst to allow individuals in the group to get to know each other and share common ground. Being in nature produced a calming environment for the participants with some participants noting that they felt more relaxed when spending time in nature. One participant shared that they felt able to deal with problems as they arose through being able to take time away from stressful environments;

 "I look forward to getting to the park as I feel like I can switch off there. I don't think about my problems, I just enjoy the park. When I get back home, I am then in a more positive place to deal with my problems"

Following the activities in the group, many participants also experienced improvements in mood, reduced nervousness surrounding social situations and a greater sense of meaning and purpose which contributed to more positive mental health and greater resilience. For example, one participant report that they felt;

"Much brighter. The walks gave me purpose and routine on my Fridays and I felt I had something to look forward to in the week."

Participants acknowledged that they felt better equipped to deal with difficulties in life and attributed this to their direct engagement with nature.

Overall, participants across the four Wildlife Trusts highlighted the positive impact that the initiatives had for them. They reported improvements in mood, enhanced wellbeing, feelings of optimism and positivity. They felt able to relax and experienced restorative effects of spending time in nature. Some participants felt better able to overcome mental health challenges, indicating increased resilience. They also had greater opportunities for social interaction and meeting and working alongside other people on the programme was often highlighted as a positive experience.

Image: Derbyshire Wildlife Trust

4. Conclusions and next steps

The quantitative data indicates the positive impact of the various Wildlife Trust initiatives. A significant increase in nature connectedness levels occurred for participants with the Lancashire, Manchester and North Merseyside Wildlife Trust, whilst the Inclusion of Nature in Self increased for participants from Derbyshire Wildlife Trust and Birmingham and the Black Country Wildlife Trust. Mental Wellbeing increased for participants from three Wildlife Trusts including Derbyshire; Lancashire, Manchester and North Merseyside; and Sheffield and Rotherham. Finally, Loneliness decreased significantly for participants with Lancashire, Manchester and North Merseyside Wildlife Trust.

Whilst not all the results show significant changes for all Trusts, where differences were observed, they all supported the beneficial impact of the important work undertaken by the Wildlife Trusts.

Responses to the open questions provides additional support for the positive impact of the Wildlife Trusts initiatives. Feedback from participants was overwhelmingly positive, with participants reporting a range of positive benefits including improved mood and mental wellbeing, increased feelings of resilience and ability to cope. Participants highlighted the impact nature had for relaxation and feeling more a part of nature and being able to notice nature around them more as a result of the projects. Participants also noted the impact that the initiatives had for them socially, enabling them to engage with others and make new friends.

Overall, it is concluded that the Wildlife Trust initiatives funded by the Cadent Foundation had a substantial positive impact for those who took part, which is particularly important given the focus of these initiatives in socio-economically deprived areas, where people might have fewer opportunities to connect with nature. The positive findings lend support to the continuation of these initiatives into the future, so that they may provide enduring opportunities for people to experience benefits from spending time in nature.

Image: Lancashire, Manchester and North Merseyside Wildlife Trust

5. References

Baker, C. (2020). Mental Health Statistics for England: Prevalence, services and funding. House of Commons Briefing Paper Number 6988. https://dera.ioe.ac.uk/34934/1/SN06988%20(redacted).pdf

Cullen, W., Gulati, G. & Kelly, B. D. (2020). Mental health in the COVID-19 pandemic, *QJM: An International Journal of Medicine*, *113*, 5, 311–312, https://doi.org/10.1093/qjmed/hcaa110

De Pue, S., Gillebert, C., Dierckx, E. *et al.,* (2021). The impact of the COVID-19 pandemic on wellbeing and cognitive functioning of older adults. *Scientific Reports, 11*, 4636. https://doi.org/10.1038/s41598-021-84127-7

Golden, J., Conroy, R. M., Bruce, I., Deniham, A., Greene, E., Kirby, M. & Lawlor, B. A. (2009). Loneliness, social support networks, mood, and wellbeing in community-dwelling elderly*. International Journal of Geriatric Psychiatry, 24*, 694-700. Doi: 10.1002/gps.2181

Goldman-Mellor, S., Caspi, A., Arseneault, L., Ajala, N., Ambler, A., Danese, A., Fisher, H., Hucker, A., Odgers, C., Williams, T., Wong, C., & Moffitt, T. E. (2016). Committed to work but vulnerable: self perceptions and mental health in NEET 18-year olds from a contemporary British cohort. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 57(*2), 196–203. https://doi.org/10.1111/jcpp.12459

Groarke, J. M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P. E., McGlinchey, E. et al. (2020) Loneliness in the UK during the COVID-19 pandemic: Cross-sectional results from the COVID-19 Psychological Wellbeing Study. *PLOS ONE 15*(9): e0239698. https://doi.org/10.1371/journal.pone.0239698

 ONS (2021) Personal wellbeing in the UK, quarterly https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalwellbeingintheukquarterly/april2011toseptember2021

Pritchard, A., Richardson, M., Sheffield, D., & McEwan, K. (2019). The relationship between nature connectedness and eudemonic well-being: A meta-analysis. *Journal of Happiness Studies, 21*, 1145-1167 https://doi.org/10.1007/s10902-019-00118-6

Richardson, M., Hunt, A., Hinds, J., Bragg, R., Fido, D., Petronzi, D. Barbett, L., Clitherow, T. and White, M. (2019). A Measure of Nature Connectedness for Children and Adults: Validation, Performance, and Insights. *Sustainability. 11*(12), 3250; https://doi.org/10.3390/su11123250

Richardson, M., Passmore, H-A., Lumber, R., Thomas, R. & Hunt, A. (2021). Moments, not minutes: The nature—well-being relationship. *Journal of Happiness Studies, 11*,1.
https://doi.org/10.5502/ijw.v11i1.1267.

Schultz, P. W. (2001). The structure of environmental concern: Concern for self, other people, and the biosphere. *Journal of Environmental Psychology, 21*, 327-339.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J. & Stweart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health Qual Life Outcomes 5*, 63 https://doi.org/10.1186/1477-7525-Page Break

Appendices

Example questionnaire (excluding information given to participants at the start of the project and consent questions)

This evaluation seeks to understand any effect taking part in the Wildlife Trust project has on your wellbeing and relationship with nature (as covered in the information sheet you just read). Thank you for agreeing to take part.

First, we would like to ask a little more about you.

Age: How old are you (in years) _____

Your gender (Please circle)
Male
Female
Prefer to self-define
Prefer not to say

Ethnicity (please circle)
White
Mixed or Multiple Ethnic Group
Black, African, Caribbean or Black British
Asian or Asian British
Other ethnic group

The following questions are about you and nature. By nature we mean all types of natural environment and all the plants and animals living in them. Nature can be close to where you live in towns, the countryside or wilderness areas further away.

Please tell us how much you agree or disagree with each of the following statements, by putting a tick in the relevant box.

	Completely disagree						Completely agree
1. I always find beauty in nature	1	2	3	4	5	6	7
2. I always treat nature with respect	1	2	3	4	5	6	7
3. Being in nature makes me very happy	1	2	3	4	5	6	7
4. Spending time in nature is very important to me	1	2	3	4	5	6	7
5. I find being in nature really amazing	1	2	3	4	5	6	7
6. I feel part of nature	1	2	3	4	5	6	7

Please select the picture below which best describes your relationship with the natural environment. How interconnected are you with nature right now?
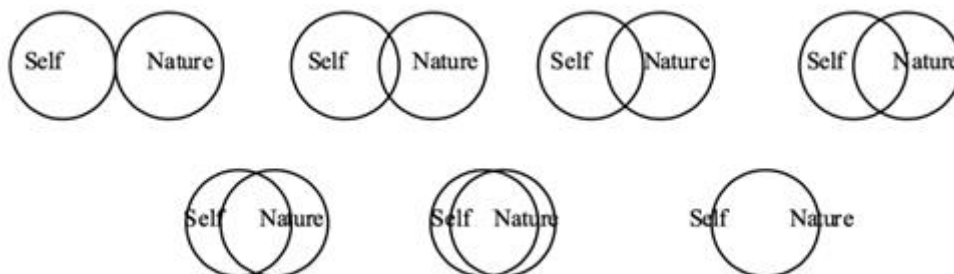
Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks.

	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future					
I've been feeling useful					
I've been feeling relaxed					
I've been dealing with problems well					
I've been thinking clearly					
I've been feeling close to other people					
I've been able to make up my own mind about things					

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks.

	Hardly ever or never	Some of the time	Often
How often do you feel that you lack companionship?			
How often do you feel left out?			
How often do you feel isolated from others?			

Tell me about your life since you joined in with the activity / group. Has anything changed?

_____

_____

_____

_____

_____

How did you feel about yourself before you got involved with the activity / group?

_____

_____

_____

_____

_____

How do you feel now since taking part in the activity/group?

_____

_____

_____

_____

_____

This is the end of the survey. Thank you very much for taking part. There is more information about the study on the next page. Please read this or take this page away with you.