

Sidney De Haan

Research Centre for Arts and Health (SDHRC)

# Evaluation Report, 2023

# Ecology Island

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## Executive Summary

- Ecology Island is an open-ended nature-based intervention programme which has been running in Dartford, Kent since 2017. It is funded by Kent County Council Suicide Prevention Programme and managed by NorthWest Kent Countryside Partnership with support from North Kent Mind.
- The Ecology Island initiative, evaluated in this report, has demonstrated significant positive impacts on the mental health and wellbeing of respondents facing mental health struggles. Through a comprehensive assessment involving questionnaires and artistic expression, the findings reveal a range of emotional and psychological benefits, including heightened relaxation, cheerfulness, confidence, and a sense of usefulness, among participants. The artistic expression pieces provide unique perspectives, illustrating experience of Ecology Island as a space for reflection, nature connection, and social interaction.
- Furthermore, the evaluation demonstrates the cost-effectiveness of Ecology Island when compared to traditional clinical interventions. The programme has shown promise in addressing diverse wellbeing needs, offering participants a structured routine, and contributing to the alleviation of social isolation.
- The evaluation process found certain limitations, including staff changes, resulting in limited access to historical evaluation materials, and the long-term nature of the intervention, meaning no available baseline data. Nonetheless, Ecology Island was found to be a valuable and accessible nature-based intervention, highlighting potential to positively impact the mental health landscape. The positive reported outcomes, coupled with the programme's cost-effectiveness, underscore its significance in providing accessible support and engagement for mental health and wellbeing. Continued support for and investment in this and similar initiatives is beneficial in fostering a holistic and inclusive approach to mental health care.

## Acknowledgements

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## Introduction

### *Background*

Ecology Island is an open-ended nature-based intervention programme which has been running in Dartford, Kent since 2017. It holds ongoing, weekly sessions on Mondays from 10 am until 1 pm, and is currently based at Darenth Country Park, but has previously been held at Dartford Central Park. It works with participants experiencing mental health struggles who attend sessions working outdoors in nature, fully supported by the staff from North Kent Mind. The project now takes place in an old Victorian walled garden, where volunteers work to restore and develop the garden and undertake other related seasonal activities in the space, (see below). Participants can be referred to the project through social prescribing or via North Kent Mind. The programme is managed by North West Kent Countryside Partnership with support from North Kent Mind.

There are a range of activities within the programme, such as listed below:

- Exercise activities: including walks in nature, tai chi, and disc golf.
- Nature crafting: such as pumpkin carving, wreath making, whittling, and making structures with living willow.
- Maintenance: including fence mending and painting, making benches, weeding and dead heading plants.
- Supporting nature: such as making hibernacula and bug hotels, wading in rivers to pick litter, growing vegetables, and making a pond.
- Cooking on open fires.
- Foraging.
- Visit to Hall Place in Bexley.

### *Literature*

We have reviewed the existing literature exploring the effect that green spaces have on wellbeing, going back to 1987. Ecotherapy, also referred to as horticulture therapy, green space intervention, outdoor intervention, or nature-based rehabilitation, involves a range of practices and activities which foster the mutual healing between human mental health and the natural environment Chalquist (2009). Participation in these ecotherapy interventions is found to have demonstrated benefits in several aspects of health and wellbeing, which include:

- Relief from stress (Ibes, Hirama and Schuyer 2018; Marselle, Warber and Irvine 2019; Choe, Jorgensen and Sheffield 2020; Matisse and Price-Howard 2020)
- Improvements in reported self-esteem (Cornille, Rohrer and Mosier 1987; Schell, Cotton and Luxmoore 2012)
- Reported reduction in anxiety (Vujcic *et al.* 2017)
- Reported reduction in depression (Vujciv *et al.* 2017; Marselle, Warber and Irvine 2019)
- Benefits for emotional regulation (Richardson *et al.* 2020)
- Reduction in reported feelings of burnout (Vujciv *et al.* 2017)
- Increase in reported feelings of happiness (Buckley 2020)

Ecotherapy engagement was also demonstrated as improving non-mental health outcomes including:

- Physical health (Burls 2007; Wilson *et al.* 2009; Adams and Morgan 2016)
- Contribution to skills and knowledge (Williams and Mattson 1988; Wilson *et al.* 2009; Crone *et al.* 2022)
- Social benefits (Burls 2007; Wilson *et al.* 2009; Schell, Cotton and Luxmoore 2012; Tucker *et al.* 2013; Bowen and Neill; Richardson *et al.* 2020; Crone *et al.* 2022)
- Benefits to the natural environment (Cornille, Rohrer and Mosier 1987; Burls 2007)
- Benefits to the wider community (Tristan, Nguyen-Hong-Nhiem and Tristan 1989; Kamitsis and Simmonds 2017; Richardson *et al.* 2020)

However, not all research has reported beneficial outcomes in all elements of data. An example of this is 'The Wild Skills, Wild Spaces' ecotherapy project, Wales which aimed to deliver an ecotherapy programme to improve the health, skills, and wellbeing of local communities in Montgomeryshire, Wales. They reported no significant changes in the quantitative element, which looked at connectedness to nature, wellbeing, and physical activity levels. However, they did report that in the qualitative component, 100% of the 40 participants reported wishing to continue with the programme, demonstrating the participant view that the project was beneficial for them (Crone *et al.* 2022). It is not unknown in research for qualitative and quantitative results within the same study to not concur (e.g. Tonkin-Crine *et al.*, 2015).

## Aims and Objectives

This report provides a full record of the commissioned evaluation of the Ecology Island initiative. The objectives as outlined by The Kent County Council (KCC) Suicide Prevention Programme (Funder) were:

- To assess the impact that the Ecology Island programme has on individual mental health and wellbeing, including where possible evaluation data previously collected by the services delivering the programme (This latter was not fully possible. See below in discussion section).
- To identify the enablers and barriers within the programme which can impact outcomes.
- To consider whether the programme offers a good return on investment for health commissioners.

## Methods

### *Developing the questionnaire*

Following initial consideration of the existing literature on the topic, a series of questions were devised which follow the trends and findings in contemporary research. From these suggested initial questions, a group of six participants of an earlier local ecotherapy programme were consulted on 19<sup>th</sup> July 2023. Their feedback on the suggested questionnaire was recorded, and the questions were adapted, based on this consultation.

### *Ethics*

Formal approval for this evaluation was granted by Canterbury Christ Church University's Faculty of Medicine, Health, and Social Care Ethics Panel under the reference ETH2223-0315, on 14 August 2023. Participants were notified both verbally and in an information sheet of details of the evaluation and given opportunities to ask questions. Informed consent was obtained from all participants before completing the questionnaire.

A total of eight of the current 11 participants of Ecology Island completed the questionnaire. Whilst percentages are not very meaningful with small numbers, it may be helpful to note that this represents 73% of participants.

## Results

### *Return on Investment*

The cost of running Ecology Island for one year is £13,163.07, which accounts for the staff cost of both the North West Kent Countryside officer and the North Kent Mind officer (subcontracted), as well as materials for the project (Mary Tate, per comms, 2023). The project currently has 11 participants who attend. Therefore, the cost to run each Monday session is £286.15, considering Bank Holiday Mondays, when the sessions do not run. This equates to £26.0 per person per session, and £8.70 per hour per person per session. This is compared in Figure 1 using data from the *Unit costs of health and social care* (Curtis 2014; Curtis and Burns 2017; Jones *et al.* 2022).

| Intervention   | Cost per session (£) | Cost per person, per session (£) | Cost per hour, per person, per session (£) | Reference                           |
|--|----------------------|----------------------------------|--|-------------------------------------|
| <b>NHS behavioural activation</b>                    | 240                  | 20                               | 20   | Jones <i>et al.</i> 2022            |
| <b>NHS counselling/ psychotherapy</b>                | --                   | --                               | 50   | Curtis 2014                         |
| <b>NHS group mindfulness-based cognitive therapy</b> | 175                  | 15                               | 7.5  | Curtis and Burns 2017               |
| <b>Ecology Island</b>                                | 286.15               | 26.0                             | 8.7  | Based on Mary Tate, per comms, 2023 |

Figure 1. Table of cost of clinical interventions based on *Unit costs of health and social care of mental health* compared against Ecology Island.

Looking at the typical costs of intervention, Ecology Island is much cheaper per hour, per person when compared to NHS (National Health Service) behavioural activation as well as counselling/ psychotherapy. But it is slightly more costly than NHS group mindfulness-based cognitive therapy by £1.20 per person, per hour. However, the waiting times for accessing mental health services through the NHS can be as long as 18 weeks (NHS England 2015; Punton, Dodd and McNeil 2022). Therefore, ecotherapy projects such as Ecology Island represent an opportunity to provide mental health intervention at a cost that is typically cheaper than most NHS clinical interventions, whilst taking pressure off the considerable waiting times for NHS services, particularly post Covid.

### Questionnaire

While the total number of responses to the questionnaire is low, it does represent a significant number of the experiences of those within the Ecology Island programme (73%). Data was collected across two dates during the programme, Monday 23 October and Monday 06 November 2023. The results are presented below.

Please note that with small numbers, percentages may be misleading, so please do refer to the actual numbers when reading these statistics.

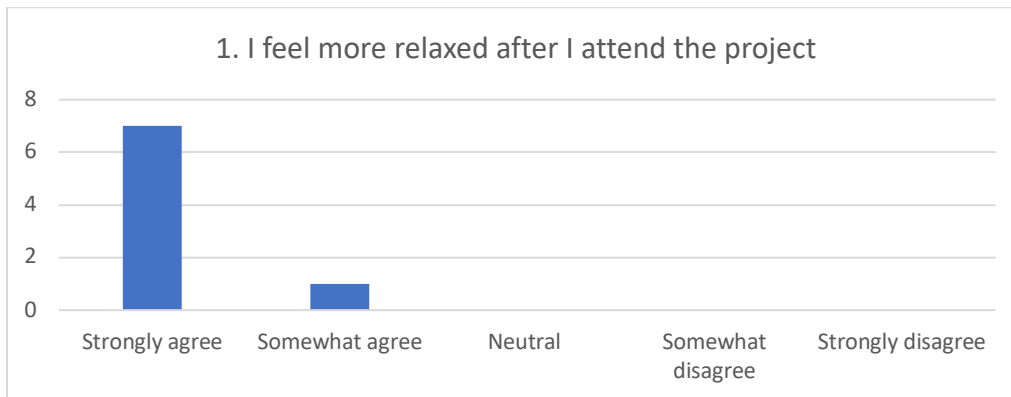


Figure 2: Responses from the statement: "I feel more relaxed after I attend the project".

All respondents reported that they felt more relaxed after they attended the project.

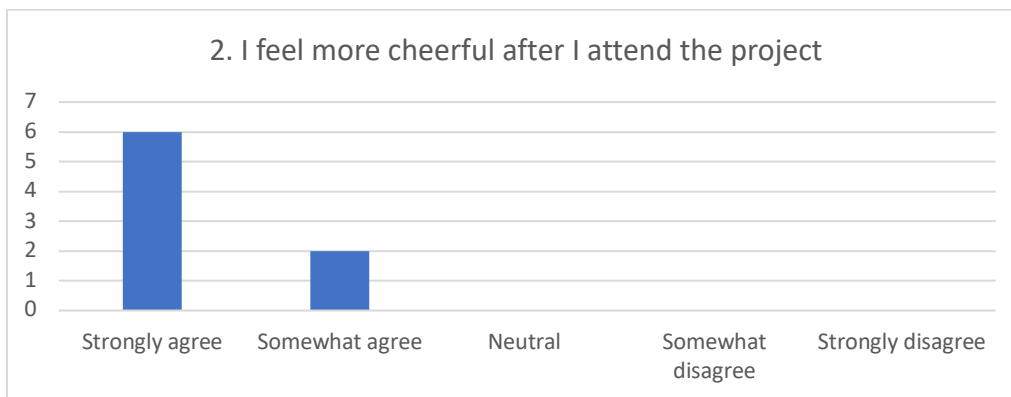


Figure 3. Responses from statements: "I feel more cheerful after I attend the project".

100% of surveyed respondents stated that they felt more cheerful after attending Ecology Island.



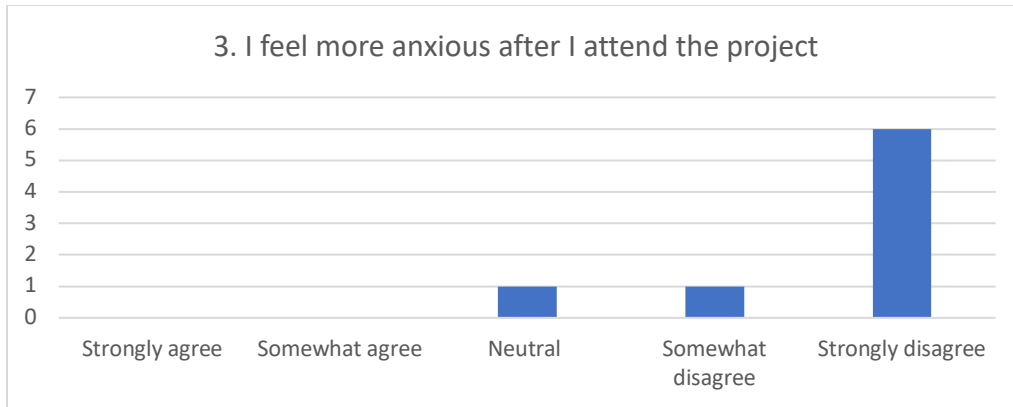


Figure 4. Responses to the statement: "I feel more anxious after I attend the project".

87.5% (n=7) of respondents reported disagreeing with the statement that they felt more anxious after attending the programme.

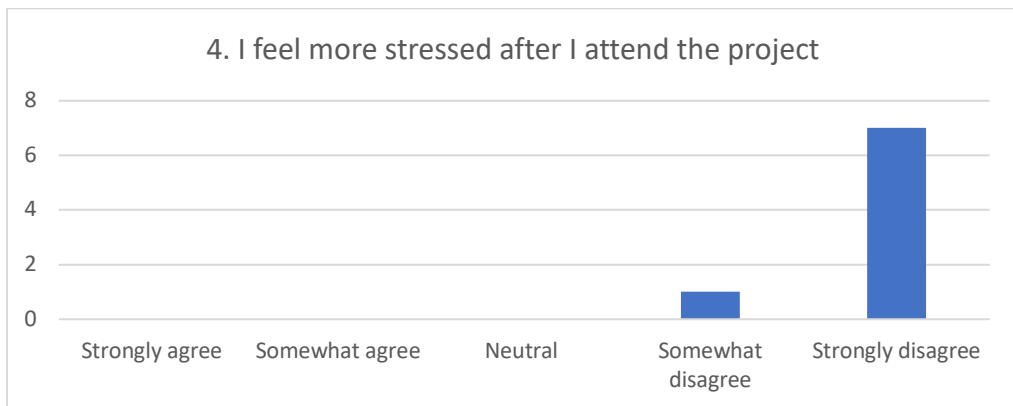


Figure 5. Responses to the statement: "I feel more stressed after I attend the project".

All the respondents disagreed that they felt more stressed after attending the project.

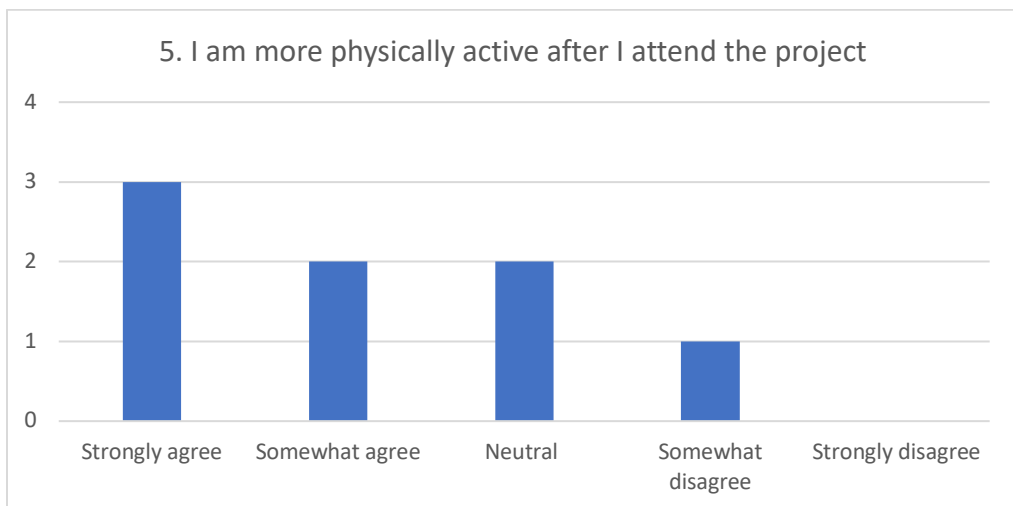


Figure 6. Responses to the statement: "I am more physically active after I attend the project".

There was a range of answers regarding respondents' likelihood to exercise after attending Ecology Island, however, a majority, 62.5% (n=5), reported that they were more likely to exercise after attending the sessions.

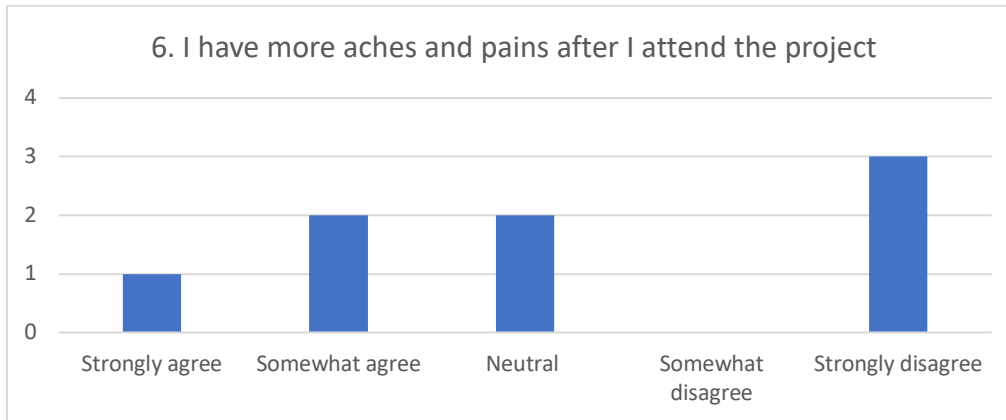


Figure 7. Responses to the statement: "I have more aches and pains after I attend the project".

There was also a range of responses to questions regarding aches and pains after attending the project. There was an even percentage, 37.5% (n=3), of respondents who both agreed and disagreed with this statement, with 25% (n=2) providing a neutral answer.

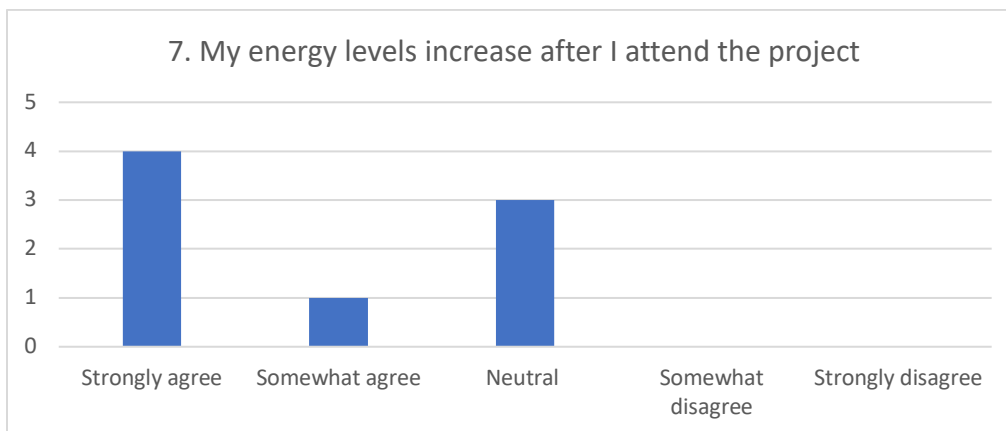


Figure 8: Responses to the statement: "My energy levels increase after I attend the project".

62.5% (n=5) agreed that they had more energy after attending Ecology Island, with no responses disagreeing with the statement.

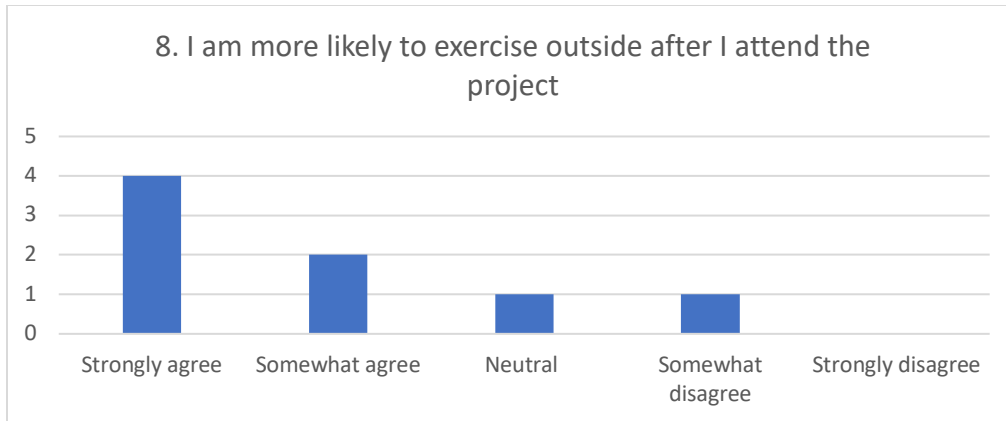


Figure 9. Responses to the statement: "I am more likely to exercise after I attend the project".

A significant number of respondents, 75% (n=6), suggested that they were more likely to exercise outside after attending the project, with 12.5% (n=1) disagreeing that they were likely to exercise.

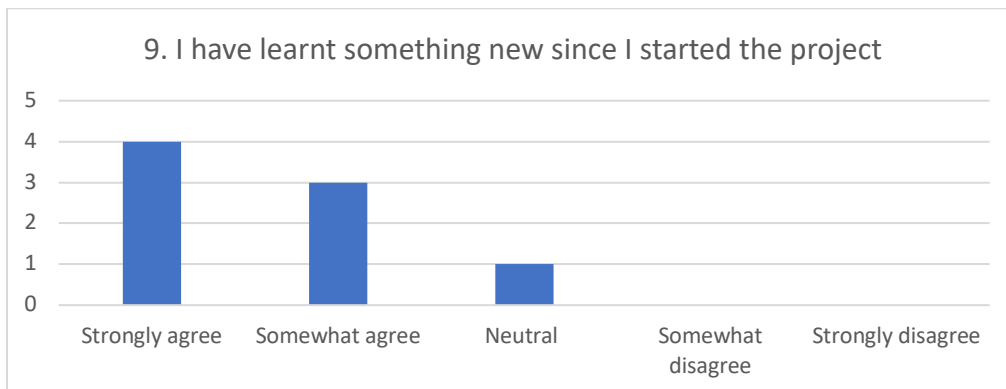


Figure 10. Responses to the statement: "I have learned something new since I started the project".

Most of the respondents, 87.5% (n=7), reported that they had learnt something new since they started the Ecology Island programme.

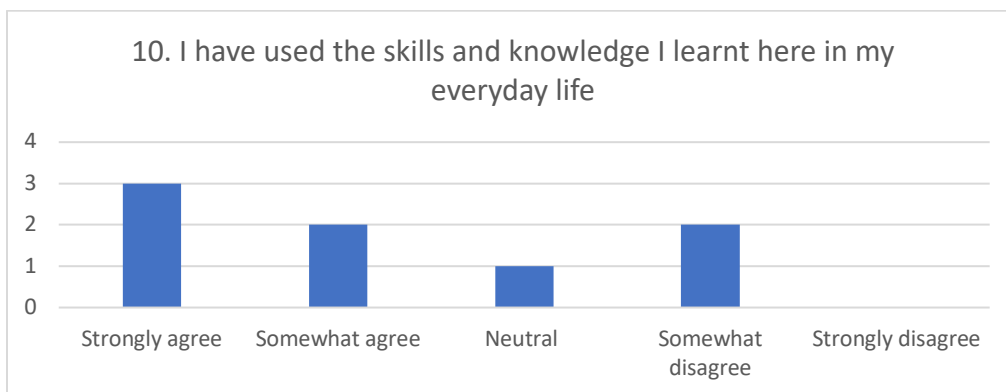


Figure 11. Responses to the statement: "I have used the skills and knowledge I learnt here in my everyday life".

Most respondents, 62.5% (n=5), found that they have been able to use the skills and knowledge they learned at Ecology Island in their everyday lives.

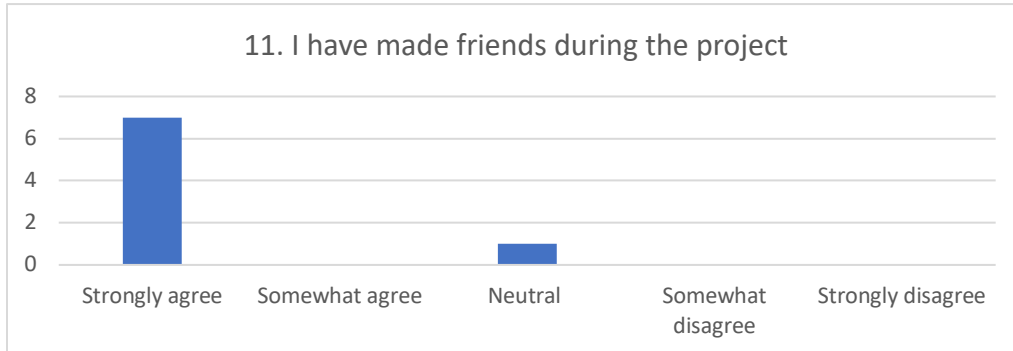


Figure 12. Responses to the statement: "I have made friends during the project".

Most of those surveyed, 87.5% (n=7), reported that they had made friends at Ecology Island.

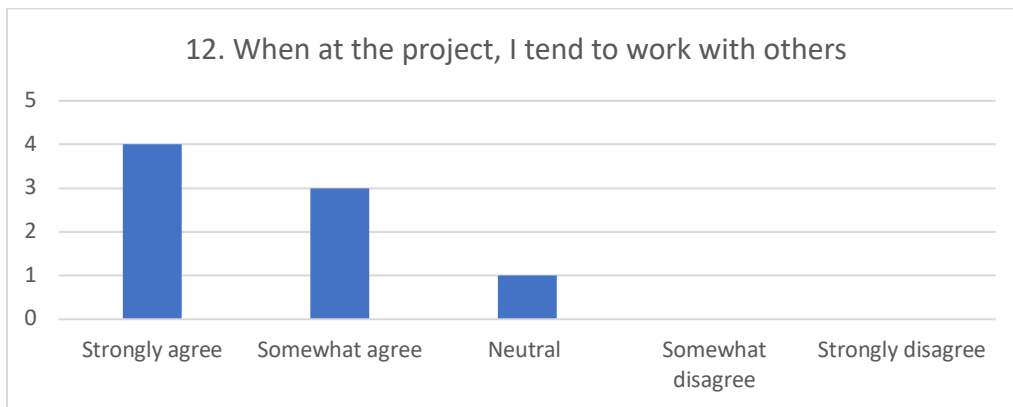


Figure 13. Responses to the statement: "When at the project, I tend to work with others".

87.5% (n=7) of respondents stated that they tend to work with others when they are on the project, representing most of those surveyed.

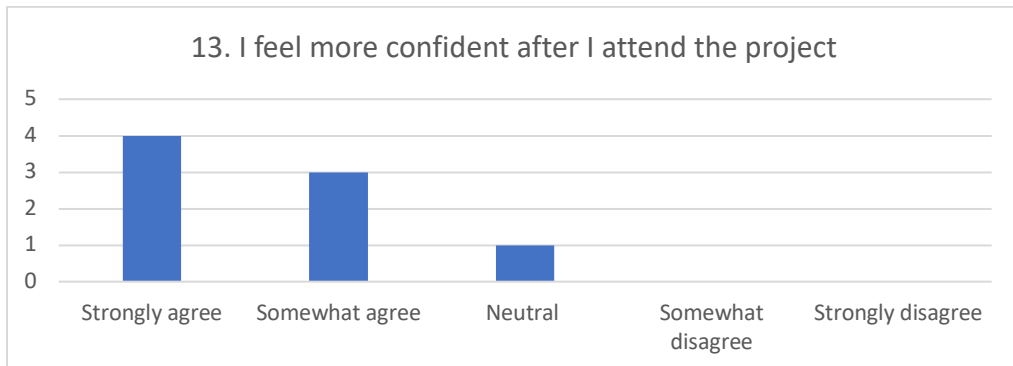


Figure 14. Responses to the statement: "I feel more confident after I attend the project".

Most respondents, 87.5% (n=7), stated that they feel more confident after they attend an Ecology Island session.

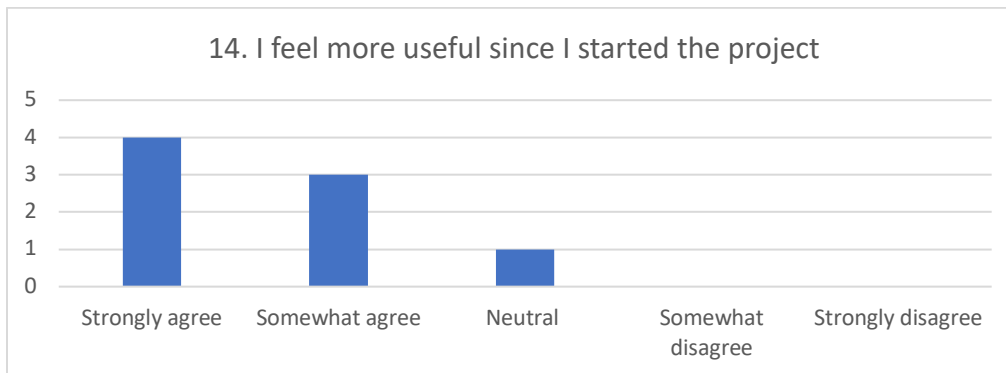


Figure 15. Responses to the statement: "I feel more useful since I started the project".

87.5% (n=7) of those surveyed reported that they feel more useful since they started attending the sessions.

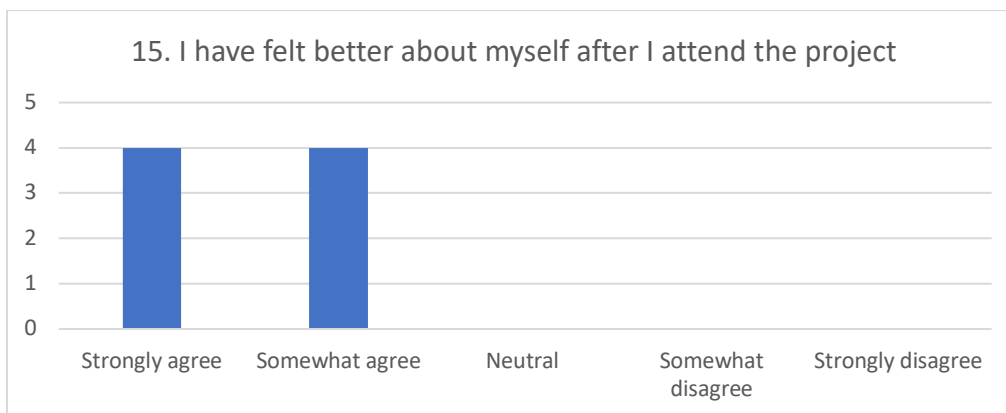


Figure 16. Responses to statement: "I have felt better about myself after I attend the project".

All those surveyed stated that they feel better about themselves after they attend the Ecology Island sessions.

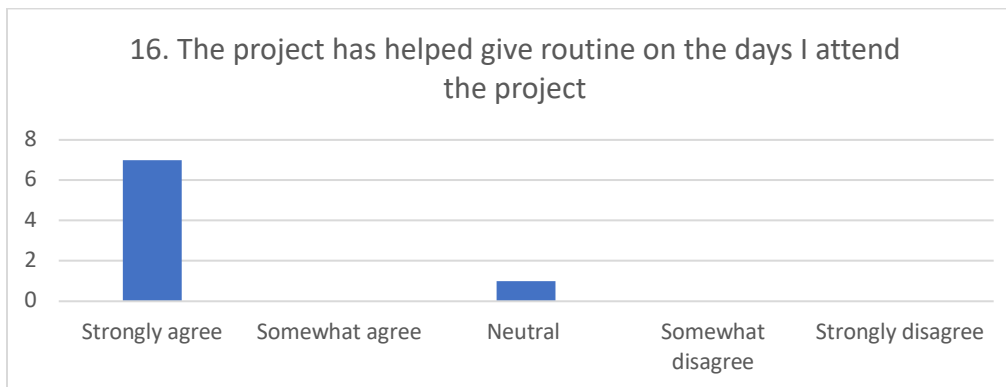


Figure 17. Responses to the statement: "The project has helped give routine on the days I attend the project".

Most of the respondents, 87.5% (n=7), reported that the programme helped give routine to their day, on days which they attend.

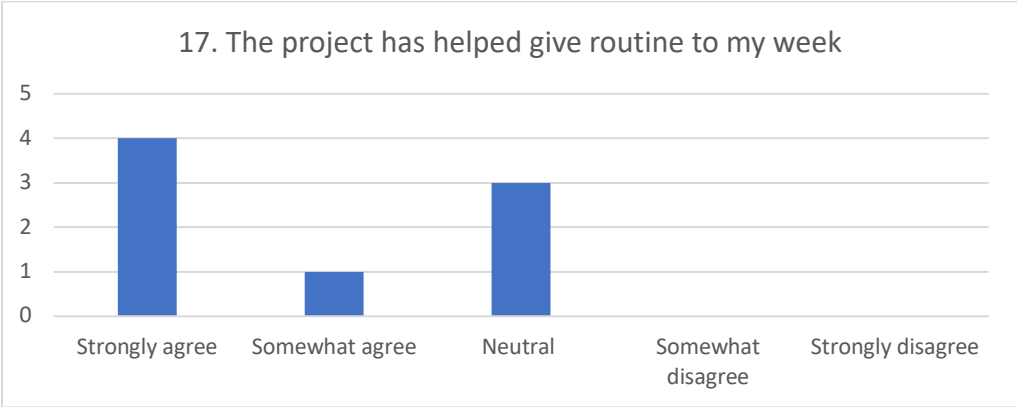


Figure 18. Responses to the statement: "The project has helped give routine during my week".

A slight majority, 62.5% (n=5), reported that the project helped give routine to their entire week.

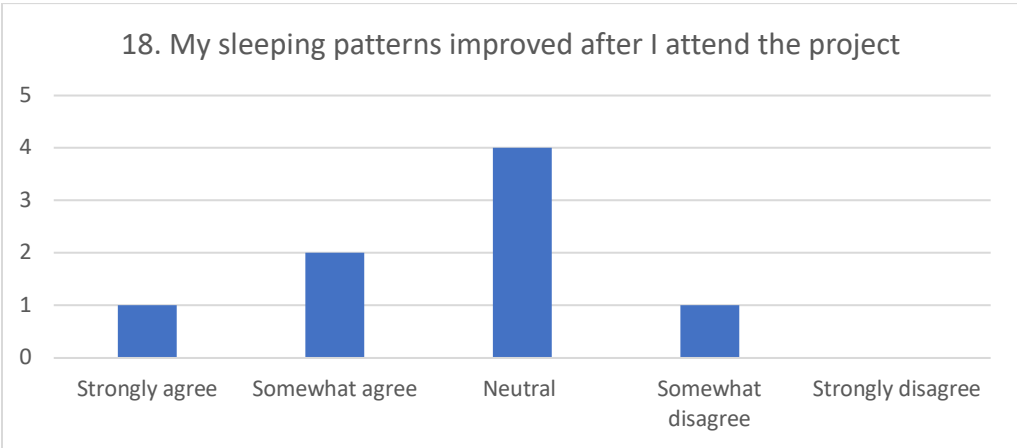


Figure 19. Responses to the statement: "My sleeping patterns improved after I attend the project".

There was a range of responses to the question regarding the impact of the project on sleeping patterns. Half (n=4) reported a neutral response, 37.5% (n=3) answered that sleeping improves when they attend, and 12.5% (n=1) disagreed with the statement.

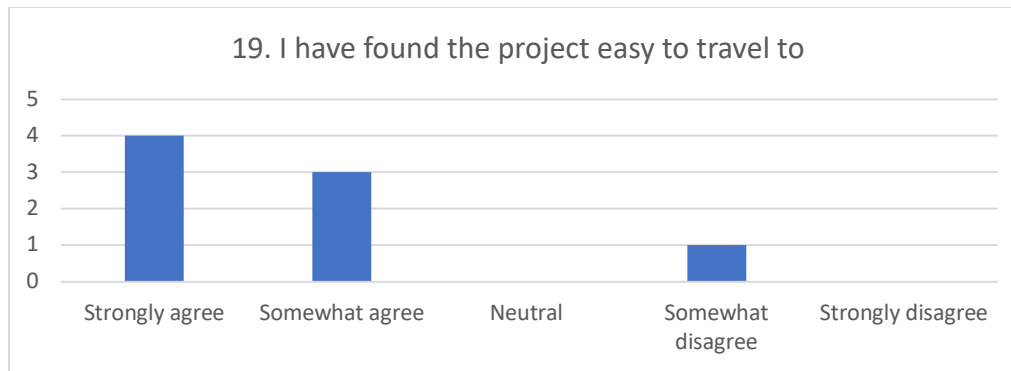


Figure 20. Responses to the statement: "I find the project east to travel to".

Most respondents, 87.5% (n=7), stated that they found the project easy to travel to.

### *Organisational evaluations*

In the original commission, the funder requested that we incorporate findings from earlier evaluations, which comprised some data from an internal organisational questionnaire and some data collected using the validated wellbeing scale, SWEMWBS (Shah et al, 2021). Due to staff changes, we were not able to access the validated data set. The internal data provided to the evaluators was collected previously by North Kent Mind/ North West Kent Countryside Partnership from seven respondents of the programme. The questionnaire asked eight questions regarding the experiences of those taking part in Ecology Island, where each section offered the opportunity for open-ended feedback. The findings from these surveys are presented below, along with any available open responses from those surveyed in this current evaluation, 2023.

Q1. How do you rate your overall enjoyment of the course?

All respondents reported positively regarding their enjoyment of Ecology Island. The open-ended responses were:

- Excellent, thoroughly enjoy coming every week. Like meeting people from all walks of life.
- New joiner and taking my time to settle into the balance between 'being here' with people and 'doing tasks'.
- I'm not much of a gardener but enjoy the open space and the chance to get out of my flat.
- I very much enjoy Ecology Island.
- I love being outside and the people that attend are very nice as are the staff, they are so helpful and understanding.

Q2. How did you rate the course activities provided by the NWCKP (North West Kent Countryside Partnership) team?

All the results to this question ranged from 'good' to 'excellent'. The open-ended responses were:

- Changes every week. Good variety.
- Enjoyable.
- I have always liked working with my hands fixing things and making things.

Q3. How do you rate your experience of the course facilitators?

All the results to this question ranged from 'good' to 'excellent'.

The open-ended responses were:

- Very easy to talk to and extremely helpful.
- Nice team, very friendly and knowledgeable.
- The course facilitators are friendly.

Q4. How did you find venue for the course?

When asked how they found the venue, all respondents responded positively.

Open-ended responses included:

- Beautiful garden and safe. In a countryside environment.
- Wondering about how to balance allowing the wildness of the plot whilst also trying to cultivate some plants.
- The venue is a perfect place for people with mental health problems.
- Our little garden is perfect.

Q5. My involvement in planning the activities.

Most responses were positive when respondents reflected on their involvement with planning activities, with 14% stating this had been 'fair'. The open-ended responses were:

- I am always consulted on planning activities on a weekly basis. I feel that my voice is heard.
- I don't always have the mind set but always feel part of the team.
- I like to get involved with planning activities.

Q6. The extent to which I felt supported.

All respondents reported they felt supported within Ecology Island. The open-ended responses were:

- I can approach course facilitators for advice if I need to.



- There is no pressure to do things if you need to be supported the team are fantastic.
- The support is great.

Q7. The extent to which I receive dignity and respect from staff/ facilitators. All respondents stated that they felt they had received dignity and respect from staff and facilitators. The open-ended responses were:

- I am asked to complete all forms with privacy away from other members of the group where possible.
- Can't fault the staff/facilitators, very nice people.
- Everyone is always supportive.

Q8. Did you achieve your personal goal set at the beginning of the course? All respondents stated they had achieved their personal goal that had been set at the beginning of the programme. The open-ended responses were:

- I have achieved more than my goals. Being a regular for a number of years I now feel this has given me confidence to start volunteering for NWKCP.
- I have trouble in the morning with motivation and my aim was to come as much as possible.
- I did half achieve my goal but it still needs a lot of work.

### *Artistic expression*

Below, in Figure 21, Figure 22, Figure 23 and Figure 24, we present photographs of the artworks created by the participants of Ecology Island who were present on 06 November 2023, and who wanted to take part in an arts-based expression of their experiences. Figure 21 was created by a participant who wanted to use some of the natural materials from the garden in which they usually worked. They also created a poem reflecting on their experiences, noting that it was their favourite place, where they could use their time to reflect on their thoughts, as well as meet new people.



*“Ecology Island*

*How I love this place.*

*My favourite place to be.*

*A place for thoughts, and to*

*Reflect, watching the seasons*

*Change, meeting new people.*

*Getting stuck in and enjoying*

*Their day”*

*Figure 21. Collage and poem- artwork and poetry created by one of the participants of Ecology Island reflecting on their experience with the project. 06 November 2023.*

Figure 22 was created by a participant who did not want to draw, instead, they chose to write down some keywords that they felt reflected their experiences of Ecology Island, using coloured pencils. These keywords were “outside; head space; my friends; blooming rose; bird song; rose hips; steaming tea; see you soon”.

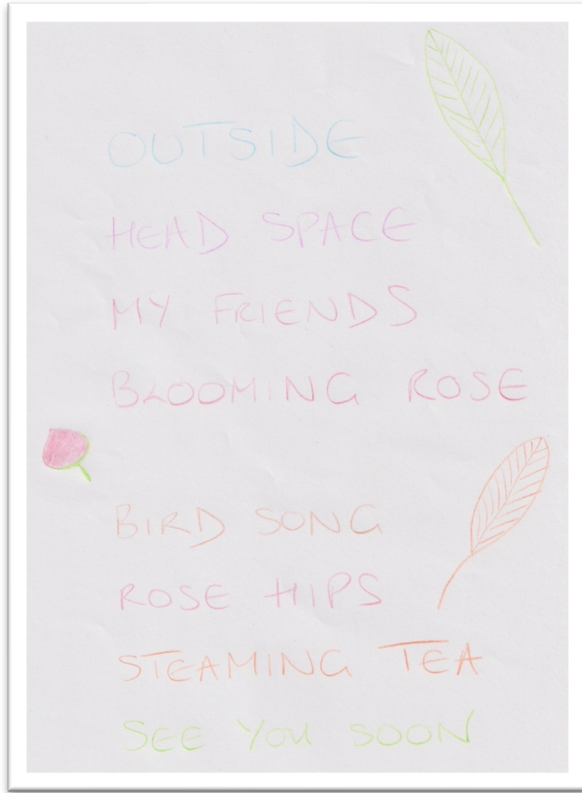


Figure 22. Keywords in colour pencil- artwork and poetry created by one of the participants of Ecology Island reflecting on their experience with the project. 06 November 2023.

Figure 23 was created by an individual who enjoyed drawing cartoons, which is reflected in the artwork they choose to create. The cartoons are varied and feature several different animals. The description for these images is: “\*\*\* [name redacted] for Ecology Island (M&F). Violet with plough, 4 elements of Ecology. Cutting reeds in waders, shepherding swans and geese. There (sic) also in a poem:

*“No man in an Island,  
We often work as one.  
To work with each other,  
Through sorrow and through fun.”*

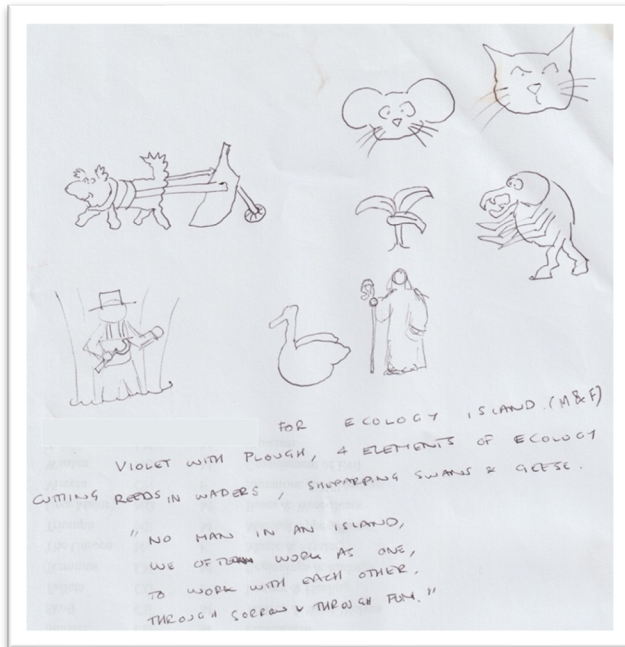


Figure 23. Cartoon drawings and poem- artwork and poetry created by one of the participants of Ecology Island reflecting on their experience with the project. 06 November 2023.

Another piece that was created is depicted in Figure 24. When describing this artwork, the participant said that the surrounding black and white around the television was like everyday life for them, quite boring. Whereas the colour television is how they felt when they came to Ecology Island.



Figure 24. Colour pencil drawing- artwork and poetry created by one of the participants of Ecology Island reflecting on their experience with the project. 06 November 2023.

## Discussion

Ecology Island is designed to address the ongoing mental health and wellbeing needs of individuals experiencing mental health struggles, working outdoors in nature where they meet weekly in the context of an open-ended attendance arrangement. This evaluation, commissioned by Kent County Council Public Health (Suicide Prevention Strategy), aims to evaluate the impact of the Ecology Island initiative. The literature review has revealed a range of positive outcomes associated with ecotherapy interventions, and the return on investment has demonstrated it is a cost-efficient intervention when compared with other NHS provision to address mental ill health. This discussion will focus on key themes illuminated by the research findings. These include the impact on recovery and wellbeing, the promotion of physical activity, the effect on social isolation, the establishment of structure and routine, and the identification of barriers hindering full engagement with the Ecology Island programme.

### *Recovery and Wellbeing: Recovery and Wellbeing*

From responses to the questionnaire developed for this report, all respondents felt more relaxed, cheerful, and better about themselves, and all reported feeling less stressed after attending the Ecology Island programme. In addition, most felt less anxious, more confident, and more useful. These are strong indicators of the impact that Ecology Island has on respondents, given the almost unanimous positive impacts reported regarding a range of key factors. The artistic expression of responses produced by several of the participants of the session on 06 November 2023 also support these questionnaire findings. Figure 21 notes that Ecology Island provides them '*a place for thoughts, and to reflect*', while Figure 22 also mentions '*head space*' as one of their key words when reflecting on their time. This demonstrates some participants' experience of the opportunities Ecology Island can provide, enabling a deeper reflection and consideration of their mental wellbeing, which may otherwise be hard to find in their everyday lives.

From the small-scale organisational evaluation previously conducted by North Kent Mind/ North West Kent Countryside Partnership, there are also promising indications that participants feel that they are treated with respect and dignity at Ecology Island, factors whose absence research has found to potentially cause increased psychological distress (Cortina *et al.* 2001) and reduced wellbeing (Taylor 2010). The fact that these results imply that the

respondents of the organisational evaluations feel they receive dignity and respect could tie in with the perceived positive impacts on their wellbeing, as shown above within the survey responses. Another piece of supporting evidence that can be found within the historic organisational evaluations relates to the increased confidence of one of the respondents. Within this dataset, one response to the question 'Did you achieve your personal goal set at the beginning of the course?' was that *'I have achieved more than my goals. Being a regular for a number of years I now feel this has given me confidence to start volunteering for NWKCP'*.

This is a promising indication of the possible longer-term impacts and the significance that increased confidence has played in their life. The overall data represented indicates that Ecology Island has had a positive impact on participants, enhancing their emotional wellbeing, fostering self-awareness through artistic expression, and suggesting potential long-term benefits, such as increased confidence and the motivation to engage in wider commitments.

### *Physical Activity*

The responses concerning physical activity were varied. Within the questionnaire, there was a range of answers regarding current physical activity or the likelihood of being physically active outside after attending a session with Ecology Island. This variation in replies could reflect the differences in physical ability and levels of those who took a survey. This is supported by the answers to the question concerning whether they experience increased aches and pains after attending the project, where there were an equal number of answers for those who agree and disagree. Also, as indicated in the historic organisational evaluations, there is evidence to suggest that the respondents feel that they have some degree of control over the activities, with most answering 'good' or 'excellent' when asked about their involvement in planning the activities. However, regarding the respondents' energy levels after attending Ecology Island, no one indicated that they had less energy after attending a session. Therefore, despite the varied responses regarding physical activity levels, historic organisational evaluations indicate a degree of participant control in planning activities, and notably, no respondents reported decreased energy levels following Ecology Island sessions.

### *Social Isolation*

Most respondents reported that they had made friends and tended to work together with others whilst at Ecology Island. This is supported by artistic expression that was undertaken by several project participants on 6<sup>th</sup> November 2023. Within Figure 21, a poem, there is a reference to 'meeting new people', and one of the keywords featured in Figure 22 refers to 'my friends'. This highlights the opportunities fostered by Ecology Island to enable participants not only to meet new people but also to nurture and sustain friendships. In addition, Figure 23 provides a poem reflecting on the interactions during the project: '*No man in an Island, we often work as one. To work with each other, through sorrow and through fun*'. The emphasis on friendship, collaboration, and the acknowledgement of the significance of social interaction, as evidenced in both survey responses and examples of artistic expression, underscore the valuable role Ecology Island plays in fostering a supportive community where participants connect to each other in meaningful ways.

### *Structure and Routine*

Regarding the impact Ecology Island has on respondent's structure and routine, the evidence suggests that it helps provide routine on project attendance days, with some indication this may extend to the rest of the week for some participants. This is important as this area may be a challenge for people experiencing mental ill-health.

### *Barriers to engagement*

The nature of the programme, which requires access to open spaces, nature and wildlife, dictates its location, currently situated in an old Victorian garden in Darenth Country Park. From the organisational evaluation findings, the garden seems well suited for the respondents, who noted that it was '*perfect*' and '*a perfect place for people with mental health problems*'. Additionally, most of the respondents to the questionnaire noted that they found Ecology Island easy to travel to. However, this data may not be accurate over a larger population, as people who find it difficult to attend are less likely to participate. For example, there was one individual who was reported to have to walk appropriately two hours each way to attend the session. While this will lead to increased activity, which is beneficial for physical health, engagement may be challenging in poor weather or for others with accessibility constraints.

When asked during the survey if there was anything that made participation difficult for them, two mentioned no barriers to taking part. However, there

was a range of responses citing persisting physical medical conditions (n=2), existing mental ill health (n=3), or both (n=1 as reasons which made it difficult to participate with Ecology Island. Despite the positive feedback on the well-suited nature location of Ecology Island, the potential challenges highlighted, such as long travel distances for some participants, underscore the need for continued consideration of accessibility issues to ensure that the benefits of Ecology Island are accessible to a broad range of individuals.

### *Limitations*

The biggest limitation to the generalisability of our findings, is the small sample size as noted above. Due to that, we cannot assume that our findings necessarily apply more widely. However, taken as a whole, this evaluation confirms that this specific programme is a positive experience for those attending and in so far as they do reflect the general picture from the wider literature are consistent with it.

During the time in which the evaluation took place, there were several staff changes across the organisations working collaboratively within and around the Ecology Island programme. Partly due to this, as noted above, we were unable to access some previous evaluation material discussed at the outset. These included several Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) measures that had previously been used. This, whilst unfortunate, did not prevent some earlier evaluation material to be incorporated, in addition to the findings of the current evaluation, with the support of the Ecology Island facilitators and participants.

### **Conclusion**

The evaluation of Ecology Island suggests positive impact on the mental health and wellbeing of individuals experiencing mental health struggles. The findings from the questionnaires and artistic expression pieces indicate emotional and psychological benefits experienced by the respondents, including increased relaxation, cheerfulness, confidence, and a sense of usefulness. Moreover, the artistic expressions that were contributed by participants provide insight into the participants' own reflections on the experience, highlighting the role of Ecology Island as a space for contemplation, connection with nature, and social interaction. The evaluation also underscores the cost-effectiveness of Ecology Island compared to traditional clinical interventions, offering a viable alternative for mental health support. The results suggest that the programme has the potential to address



diverse wellbeing needs, such as providing participants with a sense of routine and contributing to the reduction of social isolation.

Overall, Ecology Island stands as a valuable and accessible nature-based intervention, demonstrating its potential to positively contribute to the mental health and wellbeing of individuals facing mental ill health. The positive outcomes reported by participants, coupled with the cost-effectiveness of the programme, underscore its importance in the landscape of mental health interventions and highlight the need for continued funding and support for alternative and holistic approaches to wellbeing within the mental health service delivery landscape.

## Reference List

- Adams, M., & Morgan, J. (2016). *An evaluation of a nature-based intervention for people with experiences of psychological distress*. Brighton: University of Brighton.
- Bowen, D. J., & Neill, J. T. (2016). Effects of the PCYC Catalyst outdoor adventure intervention program on youths' life skills, mental health, and delinquent behaviour. *International Journal of Adolescence and Youth, 21*(1), pp. 34-55.
- Buckley, R. (2020). Nature tourism and mental health: parks, happiness, and causation. *Journal of Sustainable Tourism, 28*(9), pp. 1409-1424.
- Burls, A. (2007). People and green spaces: promoting public health and mental well-being through ecotherapy. *Journal of Public Mental Health, 6*(3), pp. 24-39.
- Chalquist, C. (2009). A Look at the Ecotherapy Research Evidence. *Ecopsychology, 1*(2), pp. 64-74.
- Choe, E. Y., Jorgensen, A., & Sheffield, D. (2020). Does a natural environment enhance the effectiveness of Mindfulness-Based Stress

Reduction (MBSR)? Examining the mental health and wellbeing, and nature connectedness benefits. *Landscape and Urban Planning*, 202, pp. 103886. Available at:  
<https://doi.org/10.1016/j.landurbplan.2020.103886>

Cornille, T. A., Rohrer, G. E., & Mosier, J. G. (1987). Horticultural Therapy in Substance Abuse Treatment. *Journal of Therapeutic Horticulture*, 2, pp. 3-7.

Cortina, L. M., Magley, V. J., Williams, J. H., & Langhout, R. D. (2001). Incivility in the Workplace. *Journal of Occupational Health Psychology*, 6(1), pp. 64-80.

Crone, D., Sellars, P., Clayton, D., & Mercer, J. (2022). 'This has just given me life back' – Mixed method evaluation of the Wild Skills, Wild Spaces ecotherapy project, Wales, UK. Paper presented at the *HEPA Europe Conference*; France, Nice, 32(2).

Curtis, L. (2014). *Unit Costs of Health and Social Care 2014*. Canterbury, UK: Personal Social Services Research Unit, University of Kent.

Curtis, L., & Burns, A. (2017). *Unit Costs of Health and Social Care 2017*. Canterbury, UK: Personal Social Services Research Unit, University of Kent.

Ibes, D., Hiram, I., & Schuyler, C. (2018). Greenspace Ecotherapy Interventions: The Stress-Reduction Potential of Green Micro-Breaks Integrating Nature Connection and Mind-Body Skills. *Ecopsychology*, 10(3), pp. 137-150.

Jones, K. C., Weatherly, H., Birch, S., Castelli, A., Chalkley, M., Dargan, A., Forder, J. E., Gao, J., Hinde, S., Markham, S., Ogunleye, D., Premji, S., & Roland, D. (2023). *Unit Costs of Health and Social Care 2022 Manual*. Canterbury, UK: Personal Social Services Research Unit, University of Kent and York, UK: Centre for Health Economics, University of York,

Kamitsis, I., & Simmonds, J. G. (2017). Using Resources of Nature in the Counselling Room: Qualitative Research into Ecotherapy Practice. *International Journal for the Advancement of Counselling*, 39(3), pp. 229-248.

Marselle, M. R., Warber, S. L., & Irvine, K. N. (2019). Growing Resilience through Interaction with Nature: Can Group Walks in Nature Buffer the

Effects of Stressful Life Events on Mental Health? *International Journal of Environmental Research and Public Health*, 16(6), p.986. Available at: <https://doi.org/10.3390/ijerph16060986>

Matise, M., & Price-Howard, K. (2020). A Pilot Study Utilizing Ecotherapy as a Therapeutic Modality for Persons with Trauma-Related Stress Disorders. *The Practitioner Scholar: Journal of the International Trauma Training Institute*, 2, pp. 26-46.

NHS England. (2015). *Improving Access to Psychological Therapies (IAPT) Waiting Times. Guidance and FAQ's*. London, UK: NHS England. Available at: <https://www.england.nhs.uk/mental-health/resources/access-waiting-time/> \t "\_blank" (Accessed 15 August 2023)

Punton, G., Dodd, A. L., & McNeill, A. (2022). 'You're on the waiting list': An interpretive phenomenological analysis of young adults' experiences of waiting lists within mental health services in the UK. *PLoS ONE*, 17(3), p. e0265542. Available at: <https://doi.org/10.1371/journal.pone.0265542>

Richardson, M., Richardson, E., Hallam, J., & Ferguson, F. J. (2020). Opening Doors to Nature: Bringing Calm and Raising Aspirations of Vulnerable Young People Through Nature-Based Intervention. *The Humanistic Psychologist*, 48(3), pp. 284-297.

Schell, L., Cotton, S., & Luxmoore, M. (2012). Outdoor adventure for young people with a mental illness. *Early Intervention in Psychiatry*, 6(4), pp. 407-414.

Shah, N., Cader, M., Andrews, B. *et al.* (2021) Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS): performance in a clinical sample in relation to PHQ-9 and GAD-7. *Health Qual Life Outcomes* 19, 260 . <https://doi.org/10.1186/s12955-021-01882-x>

Taylor, S. (2010). *Cold Looks and Hot Tempers: Individual-Level Effects of Incivility in the Workplace*. PhD Thesis. LA, USA: Louisiana State University and Agricultural & Mechanical College.

Tonkin-Crine, Sarah, Sibyl Anthierens, Kerenza Hood, Lucy Yardley, Jochen W. Cals, Nick A. Francis, Samuel Coenen, Alike W. van der Velden, Maciek Godycki-Cwirko and Carl Llor, 2015. 'Discrepancies between qualitative and quantitative evaluation of randomised controlled trial results: achieving clarity through mixed methods

triangulation', *Implementation Science*, 11(66), pp. 1-8. Available at: <https://doi.org/10.1186/s13012-016-0436-0>

Tristan, J., Nguyen-Hong-Nhiem, L., & Tristan, J. T. (1989). Horticultural Therapy and Asian Refugee Resettlement. *Journal of Therapeutic Horticulture*, 4, pp. 15-20.

Tucker, A. R., Javorski, S., Tracy, J., & Beale, B. (2013). The Use of Adventure Therapy in Community-Based Mental Health: Decreases in Problem Severity Among Youth Clients. *Child & Youth Care Forum*, 42(2), pp. 155-179.

Vujcic, M., Tomicevic-Dubljevic, J., Grbic, M., Lecic-Tosevski, D., Vukovic, O., & Toskovic, O. (2017). Nature based solution for improving mental health and well-being in urban areas. *Environmental Research*, 158, pp. 385-392.

Williams, P. N., & Mattson, R. H. (1988). Horticultural Activities and Demographic Factors Influence Children's Self-esteem. *Journal of Therapeutic Horticulture*, 3, pp. 39-54.

Wilson, N., Ross, M., Lafferty, K., & Jones, R. (2009). A review of ecotherapy as an adjunct form of treatment for those who use mental health services. *Journal of Public Mental Health*, 7(3), pp. 23-35.