

Young Wardens' Voices

An Evaluation Report for Suffolk Wildlife Trust 2023



Report authors:

Dr Fiona Holland, Dr Caroline Harvey and Rhys Furlong

Nature Connectedness Research Group



Table of Contents

Executive Summary

Acknowledgements

1. Introduction to the evaluation context

2. Evaluation Methodology

3. Results

4. Summary

5. Recommendations

6. References

7. Appendices

Executive Summary

Connecting with nature provides health and well-being benefits in adults and children such as restoration, personal growth, creativity, inspiration and happiness. Time in nature for young people also predicts the active care for nature in adulthood. Studies exploring the pathways to nature connection (contact, emotion, beauty, meaning and compassion) have indicated there may be some overlap between children's and adults' reasons for engaging with nature, however, there is a call for more robust research in this area. In smaller studies with children, it has been found that forging friendships may be important. With teens, active recreation, risk, discovery, challenge and awe may be of particular interest. Teens' use of technology is known to impede their connection with nature, and a dip in nature connectedness and Pro-Nature Conservation Behaviours (PNCBs) has been found at adolescence which does not recover until the late 30s. Currently, we see increasing concern among young people about the loss of the natural world, and this often leads to despair and disengagement from action to engage with solutions, therefore programmes that support hope, action, and provide experiences that increase empathy for nature and benefit wellbeing have been recommended.

Young Wardens (YW) is a programme offered by Suffolk Wildlife Trust (SWT) for 11-16 year olds which offers conservation and nature-based activities on a monthly basis throughout the year. The evaluation of this programme aimed to provide insight into the participants' motivations to join the programme, their perspectives on the activities provided, and experiences as part of the group.

The evaluation consisted of a survey and a reflective task. The survey responses (n=9) indicated that the YWs were mostly male, white and had attended YWs from between 6 months and 2 years. They had high levels of nature connectedness and PNCBs. Qualitative data (submissions of the reflective task) from 17 YWs revealed they joined YWs for a variety of reasons-social aspects of the group, to do activities that supported nature and to have opportunities to learn about nature. The aspects of the programme they most enjoyed were the fun, helpful activities that supported nature, the friendly group environment, and being outside. The aspects of being in nature that they liked the most were the feelings of calm and relaxation from being outside, the animals, experiences that engaged their senses, being *with* nature, working to conserve it, skill building and increasing their knowledge about nature.

A secondary analysis, using established theory (biophilia values and pathways to nature connection) as a lens, we concluded that all of the pathways were represented in the YW's data, with the compassion pathway being most apparent. Several of the biophilia values were also evident. Animals, social aspects of working with nature and skill building were also found to be important aspects of the experience for the young people- these were not explained by the pre-existing models.

Recommendations are offered including the potential value in using messages around acting to support nature, and especially animals, for increasing engagement in the programme. Using the pathways to nature as a template on which to build curricula might also be helpful, with the addition of the insights from the YWs' voices- namely around the importance of friendly social groups, skill building and knowledge building to enhance this.

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1. Introduction to the evaluation context

Connecting with nature provides health and well-being benefits in both adults (Howell, et al., 2011; Nisbet et al., 2010) and children (Wells & Evans, 2003; Davis et al., 2006) although more rigorously designed studies with children are needed (Tillman et al., 2018). Psychological rewards of nature include restoration, personal growth, creativity, inspiration (McDonald et al., 2009) and happiness (Nisbet et al., 2010). Inspired by Kellert's (1993, 2003) nine values of biophilia, recent research from adult populations has found that contact, emotion, beauty, meaning and compassion are important pathways to nature connection (Lumber et al., 2017). Concerningly, a dip in nature connectedness and Pro-Nature Conservation Behaviours (PNCBs) has been found at adolescence which does not recover until the late 30s (Richardson et al., 2019; Hughes et al., 2019).

Qualitative research with children suggests that some mapping onto Kellert's (1993) biophilia values does exist yet some notable exceptions are also found (Hallam et al., 2019), suggesting children's motivations to engage with nature may be different to adults. For example, in Hallam's sample, the children indicated that nature offered them a new place to forge friendships – and this aspect of the benefits of engaging in group nature-based programmes is still developing. Tam (2013) noted that this collective dimension of nature connection is largely missing from quantitative studies with samples across all ages.

Young people's motivations around being in or avoiding time in nature have also been explored in qualitative studies. For example, in a study with 11–16-year-olds in New Zealand, establishing a new social identity trumped desires to be out in nature (Eames et al, 2018). For others in Scotland and the USA, nature was a place for active recreation, risk, discovery and challenge (Schwab et al., 2020; Ward Thompson et al., 2006; Owens & McKinnon, 2009) whilst Taiwanese teens' most memorable experiences in nature involved awe and thrills of achievement in wild environments (Tseng & Wang, 2020). In a recent Canadian study, Michaelson et al. (2020) found that electronic screen technology was associated with lower perceived connections to nature and barriers to nature connection included perceptions of safety and comfort of staying indoors and the addictive nature of technology.

Chawla's (2020) recent review paper indicates that young people's wellbeing is enhanced by connection with and time in nature and predicts active care for nature in adulthood. However, she points to the despair some young people report around the loss of the natural world, and how this can prevent their active engagement to address such challenges. She posits that youth programming can support hope and action. Lieflander et al (2013) have suggested that environmental-based education programmes should move away from focusing on providing knowledge and turn their focus to promoting nature connectedness and increasing empathy for nature. In summary, these studies point to a complex sense of what nature means to young people, with more research needed to understand this, including their motivations for engaging with it and the benefits they gain from it. These are elements this evaluation seeks to explore.



2. Evaluation methodology

We co-created the evaluation so that it was logistically feasible for the Young Wardens (YWs) to engage with. We consulted with SWT leadership and YWs' leaders to ensure the evaluation activity was interesting, age-appropriate, and accessible to a range of young people and prioritised their 'voice'. The project was approved by the University of Derby ethics committee. An email was sent to parents ahead of the registration period for these sessions, which included an overview of the project and information about opting out of the evaluation element of the project. Parents were able to return the email to opt out if they wished to prior to the first session. Additionally, the YWs had their own consent form built into the start of the survey.

The evaluation adopted a mixed methods approach. Quantitatively, we aimed to measure nature connection and PNCBs in YWs in a cross-sectional manner to understand more about where they scored on these scales. We also wanted to gain demographic details about age, ethnicity, post code data, and length of time in the YWs programme. The online survey was an optional element for the young people, and they gave consent for this within the form. SWT acted as in loco parentis, and the project was in keeping with normal evaluation processes within the Trust.

Qualitatively, we aimed to explore the YWs' experiences within the group and their motivations for engaging with activities that take care of nature and wildlife (direct Pro-nature Conservation Behaviours (PNCBs)). As these young people represent an age group in which we see national declines in nature connection and PNCBs, we also aimed to understand their perception of the barriers to engagement for their peers. Both aspects of the evaluation were conducted within usual YW sessions.

We used a combination of an online survey which could be accessed via a mobile phone or computer, with a creative multi-modal qualitative approach to allow the young people to express their thoughts about nature and the YWs programme in a way that suited them. It was important for us to design an approach that would capture the YWs' experiences in their own words, therefore open questions that could be answered in ways that the young people would engage with were developed.

During the first session of the YWs Voices project, the leaders noted any children who had sent in opt out forms. The Young Wardens who consented to participate were given a survey link. If participants did not have a mobile phone with them, they were given a sheet of paper that had the QR code and a weblink on it to take home with them to complete prior to the next session.

For the qualitative element of the evaluation, YW leaders gave the young people options for their project. The options were to:

- Write via a personal blog post which could include photos that depict some parts of nature or of being a YW that were important to them.
- Create a video where they talk about this
- Write a 'nature and me diary' and think about these topics.
- Simply jot down their answers to the questions

The YW leaders collected these completed projects (or the written/audio elements if relevant) and sent them to the lead researcher via email. After the submission of their final project, the YWs were given a paper copy of a debrief where the purpose of the study was explained, their right to withdraw was reiterated and this included information about support should it be required. Participants' parents were also emailed a copy of the debrief sheet.

The transcribed materials and all written documentation were inductively analysed using descriptive content analysis to organise the responses into meaningful units. This first stage of analysis presents a summary of findings with the YWs' voices being highlighted. The secondary analysis employed a deductive thematic analysis (Braun and Clarke, 2006, 2022) to map the findings onto the pathways to nature (Lumber et al, 2017) and Kellert's (1993,2003) Biophilia values. This enabled us to consider how the young people's experiences map onto pre-existing understandings, and/or if gaps in understanding motivators and experiences of engaging in nature for this age group are reflected in the existing literature.



3. Results

Survey responses

Nine YWs responded to the survey, 8 identified as male, 1 as female. They ranged in age from 11-16 years (Mean = 13.22, SD=1.72) and all described their ethnicity as white. Their demographics (by post code) indicate that they lived in areas that were within the 50% (or less) least deprived areas of Suffolk.

5 attended Foxburrow, 4 attended Nettishall, 1 attended Ipswich and 1 attended Lackford Lakes.

The length of time they had attended the YW programme ranged from less than 6 months to more than 2 years, with the average attending between 6 months and 2 years.

The YWs were asked questions surrounding Nature Connectedness and Pro Nature Conservation Behaviours. The results showed a mean of 5.43 (SD = 0.58) for Nature Connectedness and a mean of 8.78 (SD = 1.09) for Pro Nature Conservation Behaviours, indicating high levels for both variables.

Qualitative Findings:

Responses to the qualitative project were received from 17 participants from 3 locations, Lackford Lakes (n=9), Knettishall (n=4) and Ipswich (n=4). Two were written projects and one was an audio project that we transcribed. The data set was analysed in two separate ways. Stage 1 analysis was a descriptive content analysis, where no assumptions were made about how the responses related to existing theories or models. The transcribed summary of all responses to the questions posed was analysed. Responses were

organised and, within responses to each question, if a sub-grouping or pattern existed (for example, motivation being sub divided into social motivation, motivation to support nature, motivation to learn about nature) these were presented as such. Not all extracts are provided below; rather those that capture the essence of the sentiment expressed have been selected. However, we have tried to use much of the data to highlight the voices of the YWs. YWs' responses such as 'I don't know' or 'it's hard to explain' have been omitted from the analysis.

Stage 1: Descriptive Content Analysis by Questions asked to the YWs.

1. What motivated you to join Young Wardens?

Motivations to join were varied and included:

- a) Social** e.g., to be with friends or family members who were already engaged in the programme. They also appreciated meeting new people once in the programme e.g.,

My brother always coming home and talking about it! Also was when there was so many friendly people when I first came.

My motivation for young warden was having friends there

- b) Supporting Nature**

The YWs also wanted to spend time in nature to help protect, preserve nature and help the wider community e.g.,

Because I enjoy nature and wanted to preserve it.

I was motivated to join young wardens due to my love of nature and want to preserve our planet

Because I enjoy nature and I would like to play my part in actually making sure it's here to stay.

My motivation to join young wardens was to benefit the community.

One YW was clear that their main motivation was *Hedgehogs*.

- c) Learning about nature**

Two of the participants noted that it was the educational element around knowledge that was an important element in motivating them to join:

I joined because I wanted to learn more stuff

I just thought I quite like nature so I thought I'd learn more about it.

One participant had a clear motivation as they saw the YW programme as a career stepping stone, and stated, *'I want to get a job here'*.

2. What have you enjoyed most about the Young Wardens group?

The YWs responses were varied and grouped below:

a) Fun and helpful activities to support nature

Several participants articulated that the activities were both fun and had a useful purpose. They highlighted this as being important for them:

*My favourite time at young wardens was when we cut dead trees down!
I enjoy coppicing and krayfishing [crayfishing] because it's fun as well as helpful'
My absolute favourite young wardens' session was when we cleared out the river. It was fun.
I quite liked making the stag beetle home and the dead hedge*

b) Friendly environment

Participants highlighted the friendly leaders and group:

*The thing that I enjoy about young wardens is the friendly staff and fun activities we do with nature.'
Learning about nature and helping nature + being outside with friends.
I enjoy socialising with other young wardens and my favourite activity is coppicing
The thing I have enjoy about the young warden's group is how friendly the staff is as well as all the other people*

c) Being outside as enjoyment

A smaller number of participants clearly simply enjoyed the time to be outside in nature, and did not specify reasons other than, 'just being outside' and 'being in nature' as being their highlights.

3. What have you enjoyed least about the group?

Most participants stated they liked all aspects of YWs, however some mentioned weather negatively impacted their enjoyment e.g., 'cold weather always ruins it especially when I'm having fun outside'. Other aspects mentioned were 'Being tired', 'I cut my head on a stone', 'weeding' and 'oiling the fences' were not their favourite activities.

4. What aspects of being in nature/being outside do you like the best and why? What aspects of working outside/to help nature do you like the best and why?

Responses to both of these questions are grouped below as there was much cross over in the responses.:

a) The calm relaxation of time in nature

Several YWs commented on the enjoyment of down time in the natural world, for example:

*The outside is so calming, its lovely to be in young wardens as you get to experience this!
Nature is relaxing and it help me enjoy the nature and you enjoy more things.*

*I just like how it's so calm and interesting like watching nature programmes
We love helping nature/wildlife because it is calming*

b) Animals

Four of the YWs highlighted that animals were of particular interest to them, and this added to their enjoyment of the programme. Birds were a particular favourite:

The aspect I like best is birdwatching

*I like the birds especially birds of prey just because they're just exciting to see especially I like seeing them
like when they're like soaring and everything*

Working with animals.

I enjoy helping birds because they are one of my favourite animals.

c) Senses in nature

In three of the YW's responses, senses were mentioned as being part of their favourite aspects of being in the programme. Their taking time to pay attention in nature using their senses is apparent in the extracts below:

I like the sound of the outside especially

The sunset over a lake in my [unreadable] in the water.

Trees look nice

d) Working with nature to conserve

Conservation was clearly important to the YWs and having a purpose for their activities to support nature was a favourite and valued part of their engagement with the programme. The following extracts highlight this:

Making things grow so that everybody else can enjoy them too

Conservation

To be outside. To do something different and to help the reserve.

I like helping natur [nature] and animals.

You need to help nature

e) Being with nature

The word 'being with' was used in several responses, and this is of note as it suggests the YWs appreciate the time in nature without always 'doing'. This was a response in particular to their favourite aspects of the programme and some responses suggests a deeper connection to nature (see secondary analysis for more on this).

I just enjoy being there with it and enjoying it actually being there.

I just um enjoyed being with nature and being happy to know it's still here

f) Skill building

Some YWs most enjoyed the hands-on tasks and highlighted the importance of new skill building opportunities:

*We love coppicing because it gives us an opportunity that we wouldn't normally get.
Coppicing because we had fun and learnt new skills
We've learnt to work as a team really efficiently and well*

g) Knowledge building

One YW highlighted the importance of learning and identifying nature-based information, and this was rated as their favourite aspect of YWs:

I quite like finding nature like at wildlife and naming it like if I see like. Yeah, it's just like identify things and that's why I like doing quite hands on things like what we're doing here.



5. Can you describe a favourite time you had in nature/outside? What was it about this time and/or place that you liked so much?

A variety of examples were given, all are shown below, and in them we can see that the YWs have memories of moments with animals, plants, senses, and feelings. This will be explored more fully in the secondary analysis below:

'Probably when a squirrel climbed up me. I was at a park, I think it was like Christchurch, not sure but it was a place where people always fed the squirrels and I just saw a squirrel kind of approach and I just stood there stills because I didn't want it to get scared and run off and it kind of came up and just went up my leg.'

I quite like going for walks with my dog outside 'cause we've got a field at the back of our house so we go down there quite often or we sometimes go obviously we go to [name] woods, so I like going there because it's quite nice and muddy [laughs].

My favourite time I've had outside or in nature is efficiently planting flowers in my garden with my family because the weather was really warm, and it made my garden look a bit more lively with all the different colour flowers once they had grown.

It has to be when we either go to Wales or the Lake District I just like the mountains and the scenery

6. What, if anything, have you learned about yourself and others by being in nature/being outside more as a Young Warden?

Six YWs responded to this question and there was a range of responses, from specific insight into career paths, to more emotional, sensory responses (see secondary analysis for more on this). The YWs stated that they had learned that:

People like hedgehogs

I've found that I want to do nature conservation as my job when I'm older.

I have learned that I'm happier and more relaxed when helping nature.

I want to look after nature and [inaudible] when I'm older.

I don't really think I've changed much

My relationship with is that I love trees

8. How do you think people your age feel about being in nature/being outside?

The YWs had mixed responses, with some considering that others would like it, some had more of a neutral response, and the majority of responses suggested that their peers would not prioritise nature or rate spending time outside as being important to them:

Positive responses

They like it, I don't know.

I think people my age like nature because they can be outside with there [their] friends

I think people like fresh air and nature walks

Neutral Responses

Kind of depends really, on how they feel and what's their personality

I don't really know because I don't talk to people.

It depends on the person

Negative Responses

Terrible, as example A here who would prefer to stay inside literally all day.'

They don't care or appreciate nature as much as we do.

They want to stay in bed and don't really care

A lot of people are like don't see it as important

Think most people would probably prefer to sit inside and you know play on their phones or something cause it's just I don't know everyone does it so it's quite addictive and they just complain that it's too cold



Stage 2: Deductive thematic analysis

In the secondary analysis we coded the YWs responses to all of the questions, according to whether they fitted with the pre-existing pathways to nature (Lumber et al, 2017) or Kellert's biophilic values (1993; 2003) - see Table 1 and table 2 respectively. We used these as a deductive lens to analyse the data, noting where the data aligned and where it did not fit. For this process we had 3 analysts code the data independently then an agreed final coding was established, and the thematic analysis of the extracts was developed by consensus.

Contact	e.g., engaging with nature through the senses (watching the sunset, smelling a flower, listening to birdsong)
Emotion	e.g., Feeling happiness and wonder, feeling an emotional bond with nature. Talking about feelings for nature.
Beauty	e.g., Appreciating the aesthetics of nature e.g. scenery, landscapes, capturing nature in art activities.
Meaning	e.g., Using language and metaphors to represent an idea, thinking about the meaning of natural phenomena e.g. the first flowers of spring.
Compassion	e.g., Extending the self to include nature, having moral and ethical concerns for nature and wishing to act upon these.

Table 1. Lumber et al.'s (2017) pathways to nature

Aesthetic	Appreciation of the physical appeal and beauty of nature
Dominionistic	Mastery, physical control, dominance of nature
Ecologistic-scientific	Appreciation of structure, function, and relationships in nature
Humanistic	Strong emotional attachment and "love" for aspects of nature
Moralistic	Ethical concern for nature
Naturalistic	Enjoyment of immersion in nature
Negativistic	Fear, aversion, alienation from nature
Spiritual	Feelings of transcendence; reverence for nature

Table 2. Kellert's Biophilia values (1993, 2003)

Findings:

The deductive analysis shows that the YWs responses align with all of the pathways and several of the values. More detail is shown in the summary of findings below.

Pathways to nature connection and the Biophilia Values in the YWs were evidenced in the verbatim extracts below:

Contact – contact with nature was evident when the YWs expressed links with their time in nature and the senses such as seeing, hearing, touching e.g.,

I like the birds especially birds of prey just because they're just exciting to see especially I like seeing them like when they're like soaring and everything

Probably when a squirrel climbed up me. I was at a park, I think it was like Christchurch, not sure but it was a place where people always fed the squirrels and I just saw a squirrel kind of approach and I just stood there stills because I didn't want it to get scared and run off and it kind of came up and just went up my leg.

I quite like going for walks with my dog outside 'cause we've got a field at the back of our house so we go down there quite often [I: uh huh] or we sometimes go obviously we go to [name] woods so I like going there because it's it's quite nice and muddy [laughs].

The pathway of contact directly linked to the Naturalistic Biophilia value (Lumber et al.'s pathways were inspired in part by this earlier work of Kellert). It was interesting to notice that animals were a clear and direct element that enabled the contact pathway to be engaged. Indeed, as we later describe, animals were an aspect of nature that the YWs were very interested in, and might, indeed offer a specific route to nature connection not currently explicit in the pathways and values.

Emotion In some cases, the YWs expressed feeling an emotional bond with nature. The responses also link with the Naturalistic value.

*Nature is relaxing and it help me enjoy the nature and you enjoy more things
I just like how it's so calm and interesting like watching nature programmes
We love helping nature/wildlife because it is calming*

Beauty

This pathway links with the Aesthetic Biophilia Value and the responses below are evidence of both of these being present in the data. These were seen in two responses:

My favourite time I've had outside or in nature is efficiently planting flowers in my garden with my family because the weather was really warm and it made my garden look a bit more lively with all the different colour flowers once they had grow [grown]

it has to be when we either go to Wales or the Lake district I just like the mountains and the scenery

The first extract can also be coded as being a social activity (with my family) and also links to the senses therefore is also evidence of the contact pathway (*feelings of warmth, the sight of the colourful flowers*), however, we have selected other examples for these.

Meaning

We coded only one response that linked to this pathway:

making things grow so that everybody else can enjoy them too

This YW harnessed nature in a way that fostered enjoyment for others, which went beyond them thus we felt this represented an idea of nature as a collective resource for sharing.

Compassion

This was the pathway that was most strongly supported by the data and is clearly important to the YWs' relationship with nature. This directly links to the Moralistic Biophilia value. They were keen to actively support positive change, help with conservation and look after nature. Supporting extracts are shown below:

*I...want to preserve our planet
I would like to play my part in actually making sure it's here to stay
I want to look after nature and [inaudible] when I'm older
You need to help nature*

Additional Values

In addition to the Naturalistic, Aesthetic and Moralistic Biophilia values already noted above, evidence of other values were also apparent in the data.

Ecologistic-Scientific

We found evidence to support this value as some of the YWs were curious about identification and naming aspects and wanted to learn more about nature. For example:

*I joined because I wanted to learn more stuff
Just thought I quite like nature so I thought I'd learn more about it.
I quite like finding nature like at wildlife and naming it like if I see like. Yeah it's just like [YW leader: it's like being about to identify things or?] yeah identify things and that's why I like doing quite hands on things like what we're doing here.*

Humanistic

We saw a couple of examples that supported this value as the YWs responses show of a sense of love for nature:

*I was motivated to join young wardens due to my love of nature

I just enjoy being there with it and enjoying it actually being there*

Utilitarian

The YW programme provided opportunities for the young people to help with tasks that supported wildlife and biodiversity. The YWs appeared to enjoy this functional and instrumental approach to helping conservation, and the practical outcome of catching crayfish such as being able to eat them e.g.,

We love coppicing because it gives us an opportunity that we wouldn't normally get
Coppicing because we had fun and learnt new skills
I have enjoyed catching crayfish and eating them

We did not see evidence of Dominionistic, Spiritual and Symbolic Biophilia values- this is perhaps unsurprising as the nature of the YW programme is not to dominate but to work *with* nature, not to instil fear or aversion to nature, and the age of the YWs perhaps limits the metacognition needed for a sense of transcendence, reverence and symbolism to be linked to nature.

Additional Codes

In addition to the pathways and values, three concepts were highlighted in the data analysis as being important to the YWs. These were as follows:

Animals

Animals were mentioned in a range of extracts (see those mentioned in the Contact pathway previously) and additionally when asked what they liked best, some YWs mentioned;

Hedgehogs
The aspect I like best is birdwatching
Working with animals
I like helping natur [nature] and animals.
I enjoy helping birds because they are one of my favourite animals

Social aspects of working with nature

Spending time with friends, YW staff and family in nature was mentioned by a range of the YWs across the questions, and was clearly an important feature of their engagement with the programme e.g.,

My motivation for young warden was having friends there
The thing that I enjoy about young wardens is the friendly staff and fun activities we do with nature
I enjoy socialising with other young wardens
being outside with friends
The thing I have enjoy about the young wardens group is how friendly the staff is as well as all the other people.
My favourite time I've had outside or in nature is efficiently planting flowers in my garden with my family

Skill building

Several YWs appreciated the skills development they gained by being part of the programme, and some saw this as being important for their future employability e.g.,

We love coppicing because it gives us an opportunity that we wouldn't normally get.
Coppicing because we had fun and learnt new skills
We've learnt to work as a team really efficiently and well I've found that I want to do nature conservation as my job when I'm older



4. Summary

This evaluation aimed to assess the motivations of YWs engaged in the SWT programmes across sites to inform future intervention design, marketing, outreach and programme content. Understanding more about who YWs were, where they were from, and what they liked, disliked and gained from the programme was important to SWT who commissioned this work.

The results shows that the sample of YWs who engaged with the survey were highly connected to nature and had strong pro nature conservation behaviours which was unsurprising as they were motivated to join the YWs and interested in nature conservation. The sample size from the survey was small, therefore may not be representative of the larger YW demographics. The results suggested that the group was predominately white and male. The YWs lived across post codes that indicated that they were from more affluent/less deprived areas (50% or less in social deprivation indices). This may be because, with the exception of the Ipswich-based group, YWs sessions are facilitated at SWT reserves that are not readily accessible by public transport and there is a charge of £7 per session to participate.

The qualitative analysis revealed a range of motivations and favourite activities. The 17 YWs who participated in this element of the evaluation revealed positive motivation and enjoyment of the programme was evident. No YWS identified barriers to overcome, other than a comment about cold weather being less than ideal at times. They felt that cold weather and the appeal of phones may be barriers to others attending. The deductive thematic analysis revealed that the YWs responses mapped onto all of the Pathways to Nature Connection, although only one example of 'Meaning' was coded. Compassion was the most prevalent pathway for the YWs. Additionally, some of the Biophilia values were also evident (Humanistic, Naturalistic, Ecologic-Scientific, Utilitarian, Moralistic). The results did not align with the Dominionistic, Spiritual and Symbolic values. Additional areas that were present that did not map onto the values or pathways were animals, social aspects of being in nature with others, and skill building. Animals have been found to be important aspects of nature for young people in previous studies with children (Harvey et al., 2020).

The findings support Lumber et als (2017) pathways to nature as being relevant for young people. Some of Kellert's biophilia values (1993, 2003) were also highly relevant for this population. Our additional codes also support recent papers (Hallam et al., 2019; Harvey et al, 2020) in that there may be additional

pathways, or concepts within the pathways that might be of particular importance to young people e.g. animals, socialisation, knowledge and skill building. Finally, although Chawla (2020) points to increasing despair in some young people around the loss of the natural world, this motivated our sample to take care of nature, thus it appears that the Young Wardens programme answers her call to create hope and action.

5. Recommendations from the findings

Compassion, and the desire to do something to protect and conserve nature was a strong motivator for the YWs, and, as animals featured strongly in the analysis, combining or using both of these messages might be helpful in future marketing. Having useful activities where the benefit for nature was clear appeared to be valued by the YWs. Ensuring social bonds are established and using nature-based activities to support socialisation among the YWs is recommended. Drawing the YWs' attention to the beauty and sensory elements of nature, highlighting key information, and allowing them time to relax and feel the calm restorative nature of being outdoors was also valued by the participants and could be drawn upon in activity building. Utilising Lumber et al.'s (2017) pathways to nature to guide programming would clearly be useful, yet, for young people, other elements such as observing, being with, and protecting animals and educational content to enhance their knowledge should, based on these findings, also be included. Framing messages around the skill building and career prospect aspect of being a YW might also be beneficial.

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7. Appendices

Appendix 1: Survey

Thank you for agreeing to take part in this research project. So we can track of your responses, we would like to record the first three letters of your birthday month and the last 3 letters of your last name e.g. JUN-ANE

First 3 letters of birthday month _____

Last 3 numbers of your last name _____

It is also helpful for us to know a little information about yourself.

Age _____ (years)

Please tick the following:

Gender Female [] Male [] Prefer to self-define [] Prefer not to say []

Ethnicity (please circle) White [] Black [] Mixed [] Asian [] Other []

What is your home postcode? _____

Which Young Warden location do you attend your session at:

Arger Fen []

Carlton Marshes []

Foxburrow Farm []

Ipswich []

Knettishall Health []

Lackford Lakes []

How long have you been a Young Warden?

Less than 6 months?

6-12 months?

12-24 months?

Over 2 years?

What other outdoor/nature/wildlife/conservation groups inside or outside school are you a member of e.g. scouts, guides, bushcraft [open text box]

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 the following:

	Strongly disagree						Strongly agree
I always find beauty in Nature	1	2	3	4	5	6	7
I always treat nature with respect	1	2	3	4	5	6	7

Being in nature makes me very happy	1	2	3	4	5	6	7
Spending time in nature is very important to me	1	2	3	4	5	6	7
I find being in nature really amazing	1	2	3	4	5	6	7
I feel part of nature	1	2	3	4	5	6	7

Please answer **yes** or **no** to the following questions:

I often put food out to feed garden birds

I have made homes for nature at school or in the garden

I put insects safely outside when I find them stuck indoors

I grow flowers and plants that birds and insects will like

I take part in events to help nature (e.g. Big Garden Bird Watch)

I am a member of a wildlife or nature group outside of school (e.g. RSPB, Wildlife Trust etc.)

I am a member of a wildlife or nature group at school.



Appendix 2: Reflective task

This project is about you telling us in **your words** how you think about nature and the programme you are involved in. We've got ten questions for you to think about. We'd really like you to tell us what you think about all of these, but ultimately you can choose if some are more interesting/relevant to you than others, or you'd like to spend more time on some.

1. What motivated you to join Young Wardens?
2. What have you enjoyed most about the Young Wardens group?
3. What have you enjoyed least about the group?
4. What aspects of being in nature/being outside do you like the best and why?
5. What aspects of working outside/to help nature do you like the best and why?
6. Can you describe a favourite time you had in nature/outside? You can use photos, drawings etc if you like to illustrate it.
7. What was it about this time and/or place that you liked so much?
8. What, if anything, have you learned about yourself and others by being in nature/being outside more as a Young Warden?
9. How do you think people your age feel about being in nature/being outside?
10. Is there anything else you'd like to add that is important to tell us about your relationship with the natural world?

You can choose a number of ways to answer them:

- 1) You can write via a personal blog post which could include photos you like that depict some parts of nature of being a Young Warden that are important to you
- 2) You could upload a video where you talk about this (you don't have to be on the video in person, you could narrate it*, and take video of interesting parts of nature/being a Young Warden
- 3) You could write a 'nature and me diary' and think about these topics.
- 4) You could simply jot down your answers to the questions!

You will have until X date to complete your project. Really think about YOUR responses, not what others think. If you need help, ask your Young Warden leader for support.

*If you do a video or vlog, we will be using the words you use in the video for the main part of the analysis, so the narration needs to be clear so we can hear what you are saying.

When you are finished please email your work, or a link to your work (it needs to be hosted on a private YouTube channel if it's a video) to your YW leader. They will send it along to the lead researcher, Fiona, who will keep the projects safe, and your project, once downloaded will not be linked to your name. No video images or photos will be kept.