

**For the Environment: Attitudes of New Zealand's Public Library Managers towards Taking an Active Role in the Promotion and Facilitation of Environmental Education in Libraries.**

**by**

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# ABSTRACT

**Research Problem:** The research sought to address the lack of studies investigating New Zealand's public librarians' attitudes towards environmental sustainability in libraries.

**Methodology:** A survey developed using the Qualtrics software was sent out to New Zealand public library managers and senior librarians. The survey collected both quantitative and qualitative data which was analysed through methods such as thematic analysis to answer the research questions.

**Results:** The study found many of the surveyed library managers and senior librarians agreed with the implementation and promotion of environmentally focused initiatives, however, some saw their role not as educators but to facilitate sustainably focused organisations. The study also found initiatives in partnership with external environmental education organisations were the most successful. Furthermore, the data identified access to partnerships, lack of funds and staffing were barriers for libraries to implement environmental education.

**Implications:** My research identified a need for resources to help librarians connect and facilitate with local environmentally focused organisations. As well as a need for targeted funding for New Zealand libraries to support the creation of environmental education services and events. The study also encourages further research, including increasing the sample size to include all New Zealand librarians or exploring topics on how to best support managers to implement sustainable initiatives.

**Keywords:** New Zealand Libraries, Environmental Education, Public Libraries, Library Managers, Sustainability

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## 1. Introduction

A 2018 study commissioned by the New Zealand Ministry for the Environment revealed that around one in three New Zealanders are worried about climate change (Ministry for the Environment, 2021). On the 3rd of August 2022, the New Zealand Government released the National Adaptation Plan to assess the effects of climate change and how to adapt to its future impacts (MBIE, 2022). As the effects of climate change have become more pronounced, more people are becoming aware of the threat it poses to our future and are looking for ways to combat the bleak future ahead. Now libraries have a chance to act.

Due to their position within society, libraries are able to make a large contribution to promoting and increasing awareness of environmental sustainability (IFLA, 2018). However, there is a lack of empirical studies investigating librarians' attitudes and perceptions towards environmental sustainability and the role libraries should play in promoting it (Ren, 2022). Due to the small body of research regarding this topic there is not enough known about the attitudes of public librarians, especially within a New Zealand context, and this is the problem I would like to address with my research. Therefore the intended objective of this research is to answer the question: What are the attitudes of New Zealand's public library managers towards taking an active role in the promotion and facilitation of environmental education in libraries? The topic will also explore what managers have contributed towards creating a sustainable library with environmental education services and the challenges faced in doing so.

I have focused on library managers and senior librarians due to their ability to lead staff and develop library practices. My research was limited to specifically 'public' libraries (excluding specialist libraries e.g. academic, church, etc...) due to their accessibility to local communities and their ability to affect change by connecting people with the information they need. I have also used the term "environmental education" as an umbrella term to address all topics regarding the protection and conservation of the environment.

To acquire my research data I developed a web-based survey in the form of a questionnaire sent to managers and senior librarians of New Zealand public libraries. The survey was informed by the relevant literature and collected both quantitative and qualitative data. In undertaking this research I wanted to develop a greater understanding of library managers attitudes regarding

environmental education in the library. This will add to the increasing literature on the development of environmental education and sustainable practices in libraries, however, from a New Zealand context. This is significant as without any localised knowledge on the topic there is only a generalised understanding of what can be done to improve the role libraries can play to help ease public fear and combat climate change in New Zealand. I hope that in completing this research I have: created more awareness of the role libraries can have in promoting environmental education, motivated managers to create more sustainability focused initiatives and environmental education opportunities in libraries and provided guidance to aid in the development of environmental education funds and grants for libraries. Additionally, I hope this research will help create a more sustainable and brighter future for the planet.

## **2. Literature Review**

Much of the current relevant Library and Information Science (LIS) literature agrees that libraries have a duty to help create sustainable communities due to the increased effects climate change and environmental waste are having on Earth (Fedorowicz-Kruszewska, 2020; IFLA, 2018; Kamin'ska et al., 2022). Even with a growing body of literature surrounding the importance of libraries tackling these issues, there is very little research reported on the attitudes of librarians or library managers about fulfilling this duty (Kamin'ska et al., 2022; Ren, 2022).

Despite the limited articles on this topic, research indicates that whilst most librarians agree that libraries have a duty to take an active role in environmental education, they believe more could be done to reach these goals (Beutelspacher & Meschede, 2020; Frederiks, 2020; Kang, 2020; Ren, 2022). In my reading of the current literature I have found no research into the attitudes of librarians in a New Zealand context and this is what I would like to address. To assist my exploration of this topic I have curated a selection of articles split into themes to analyse and critique. These articles have informed my research and aided with the development of my methodology and articulation of my definitions.

### **2.1. Theme 1: Environmental Education**

The first theme I will explore will assist in the articulation of my definition of the term Environmental Education (EE). In the 1970s UNESCO (1978, pp.25) defined the aim of EE to make:

“individuals and communities understand the complex nature of the natural and the built environments resulting from the interaction of their biological, physical, social, economic and cultural aspects, and acquire the knowledge, values, attitudes, and practical skills to participate in a responsible and effective way in anticipating and solving environmental problems, and the management of the quality of the environment.”

Simply put EE is education with the intention of teaching individuals about how they affect the environment and the importance of protection and conservation of the environment.

It is through the facilitation of EE that Environmental Literacy emerges. According to Roth (p. 10, 1992), environmental literacy is our “capacity to perceive and interpret the relative health of environmental systems and action to maintain, restore, or improve the health of those systems”. The facilitation of EE allows people to recognise the impact their personal choices have on the environment and the knowledge to create pro-environment behaviours to offset their harm to the environment (Miller, 2010). Hollweg et al. (2011) discuss the importance of environmental literacy for the future. The impact and pressure humans will have on the Earth’s natural systems will continue to worsen. The projected population growth will cause significant economic and social impacts which will change the natural and built environments. As this occurs the importance of an environmentally literate public is stressed. Only an environmentally literate population will have the knowledge and literacy to understand such issues and produce evidence-based solutions to address these challenges (Hollweg et al., 2011).

One thing to note when discussing EE is the different forms that it can take. Lucas (1979) makes the distinction between three different interpretations of EE, being education *in* the environment, *about* the environment, and *for* the environment. The distinctions can be summarised as educational programs with direct contact *in* the environment, educational programs designed to provide information *about* the environment, and educational programs to solve environmental issues or teach about the conservation of the environment *for* the environment. Fien and Gough

(1996), as cited in Thomas (2005) suggest that education *in* or *about* the environment is only helpful if they provide the knowledge and skills to support education *for* the environment. It is important to note these distinctions as they will inform me when evaluating and categorising the types of EE programs occurring. The ultimate goal for EE in New Zealand libraries should be education *for* the environment.

An important article that will help in the identification of EE practices within the context of libraries is Environmental Education in Libraries – Theoretical Foundations and Practical Implementation by Fedorowicz-Kruszewska (2020). Through an analysis of 20 case studies Fedorowicz-Kruszewska (p.1, 2020) identified library elements “that have potential in the field of environmental education” and encouraged the establishment of EE as a new research field in LIS literature. With the research conducted by Fedorowicz-Kruszewska (2020) I informed my questionnaire and data analysis identifying what services and activities provided by libraries were attempts at facilitating and promoting EE to patrons.

UNESCO (1978, pp.26-27) also set out the 5 categories of EE objectives: awareness (create an awareness of the environment and its problems), knowledge (develop an understanding of the environment and its problems), attitudes (create feelings of concern for the environment, and motivation to protect it), skills (increase competency for identifying and solving environmental problems), and participation (provide opportunity to solve environmental problems). These categories created by UNESCO provide me with an understanding of the types of objectives EE practices aim for. This enabled me to identify EE practices to note within my survey and undertaken by library managers and senior librarians.

An understanding of the Māori indigenous ideals of kaitiaki and kaitiakitanga is also essential to creating an analytical framework for evaluating EE in a New Zealand context. These ideals represent the ideals of Māori when referring to guardianship with an emphasis on the conservation and protection of the land and water (Roberts et al., 1995). Any services or practices framed within these ideals will also be considered an attempt at EE.

## **2.2. Theme 2: Green Libraries**

Libraries have contributed to EE through the Green Library movement which began in the 1990s with a focus on building and retrofitting libraries with environmentally conscious technology, materials and architectural features (IFLA, 2018). It is through this visual display of sustainability and green technologies the library building itself becomes an environmental educator, as the environmentally conscious and sustainable values embedded in the architectural design can be communicated to library patrons (Edwards, 2011). It is important to note this for my research as this encompasses the building within the framework of EE. An understanding of these features informed my understanding and analysis of the respondent's implementation of environmental initiatives through the promotion of EE and Environmental Literacy through the library building.

However, there has been a lack of consistency over the term 'green library' within the literature. Whilst some definitions focused on the sustainability of the library building and eco-friendly workplace practices (Reitz; 2017), others included advocacy as a key component (Aulisio, 2013). Fedorowicz-Kruszewska (2021) aimed to address this lack of commonly accepted definition of the term 'green library' and also define 'green librarianship'. To accomplish this Fedorowicz-Kruszewska (2021) conducted a qualitative analysis of LIS literature surrounding 'green libraries' and 'green librarianship' to abstract 'green library indicators'. These indicators were then used to create an appropriate selection of research which was subjected to content analysis to formulate definitions of what green libraries and green librarianship looked like. Fedorowicz-Kruszewska (2021) defined a 'green library' as "a library aimed at environmental sustainability", and 'green librarianship' "as a set of skills and activities that are necessary to achieve a library's objective, which is environmental sustainability." A limitation of this study is that in the second stage of content analysis (verification of green library indicators), the sample was gathered using only the LISTA (Library, Information Science & Technology Abstract) database (Fedorowicz-Kruszewska, 2021). Whilst being a robust and appropriate database to gather literature for content analysis from, the number of results was small (14). Whilst definitions of the terms 'green library' and 'green librarianship' can be drawn from this sample, they cannot be considered representative of all literature in this field, therefore a larger sample would be necessary for further research to develop a more representative definition (Fedorowicz-Kruszewska, 2021). I will utilise Fedorowicz-Kruszewska (2021) definitions to inform my understanding of the terms 'green library' and 'green librarianship', however, due to the limited scope of this research it will be important for me to analyse my research with these conceptualisations in conjunction with my understanding of EE



presented in the previous literature which will further develop my theoretical framework for the data analysis. This will allow for a more in-depth and diverse analysis of the findings.

### **2.3. Theme 3: Attitudes of Librarians Towards Providing Environmental Education**

Despite the growing field of literature surrounding the green library movement and green librarianship, there is still a relatively small amount concerning the attitudes of library staff in implementing this initiative. The following selection of research is similar to mine, however, situated in different contexts with various methodologies, sample groups and focuses. Through critical analysis of these articles I gained valuable insight into this developing field of research and better refined my methodology and framework.

Beutelspacher and Meschede (2020) set out to investigate the perception, importance and role of environmental sustainability in German public libraries. Using an online tool they designed a short questionnaire influenced by existing literature on sustainable libraries and distributed it to libraries via email. In addition to the questionnaire, an analysis of the availability of books regarding environmental sustainability was also carried out. Beutelspacher and Meschede (2020) found that whilst over a third of the 141 librarians who responded to the survey strongly agreed public libraries have a “mission to inform and raise the awareness of the community”, there was an identifiable gap between the expectation of the library to promote sustainability and the actual efforts made in the libraries. Beutelspacher and Meschede (2020) concluded that this was due to the sustainability of internal workflow practices being seen as the most important aspect instead of external efforts within the community. Beutelspacher and Meschede (2020) also noted that staff and budgets would also need to increase if libraries were to increase the promotion of sustainability.

Interested in the contribution public libraries in the Netherlands could make to the environmental literacy of their communities, Frederiks (2020) investigated how library staff perceive the libraries' contribution to sustainability. Like Beutelspacher and Meschede (2020), Frederiks (2020) also distributed a survey developed from the existing LIS literature amongst library staff of their local library organisation. Of the 227 surveys sent out there were 94 responses of only 85 were deemed usable. The data was then processed through statistical analysis software. Frederiks (2020) found that whilst respondents generally agreed that public libraries should be green and sustainable their libraries did not score high on being green and sustainable. Frederiks

(2020) also found, similarly to Beutelspacher and Meschede (2020), a noticeable gap between the respondent's expectation of the library and the actual efforts made in the library to promote environmental literacy in the community. However, unlike Beutelspacher and Meschede (2020) Frederiks (2020) found that this was due to a lack of environmental literacy and participation of responding library staff.

The attitudes of Georgia (U.S State) librarians concerning environmental sustainability in libraries were reported by Ren (2022), who investigated the perceptions around the libraries' role in developing sustainable communities, as well as what environmentally sustainable practices had been implemented in the surveyed libraries. Similar to the previously mentioned studies data was collected through an online survey influenced by the existing literature. Ren (2022) dispersed the survey through the Georgia Library Association (GLA) Listserv, providing them with a wide-ranging sample size to pull from. Similarly to Beutelspacher and Meschede (2020) and Frederiks (2020), Ren (2022) too found a noticeable difference between the agreed importance of adopting environmentally sustainable practices and the actual adopted practices. Ren (2022) found that this gap was due to the respondents not embracing a leadership role to model and educate environmentally sustainable practices in their community. However, Ren (2022) did note this could partially be explained by a lack of community partnerships, funding, and staff, and competing priorities.

All three studies identified valuable insights into the attitudes of library staff surrounding the incorporation of sustainable services and initiatives in libraries. Additionally, these studies provided insights into environmentally sustainable practices and environmental education services implemented by libraries in their local country or area. The studies also advocate for more sustainability in libraries globally, raising awareness of practising environmental sustainability in libraries and providing recommendations for library managers and senior librarians looking to implement practices in their own, further contributing to a more sustainable society. Most importantly these studies contributed empirical research to this developing area of study, providing frameworks and recommendations for future research to be conducted.

Through an analysis of the research conducted by Beutelspacher and Meschede (2020), Frederiks (2020) and Ren (2022) I was able to develop an understanding of the benefits and limitations of their research methodologies when designing my own. Beutelspacher and Meschede

(2020), Frederiks (2020) and Ren (2022) all used a questionnaire survey as the primary method to collect their data. My survey was informed by these existing surveys as they were comparable to my aims, validating my survey within the literature. All three studies have confirmed the use of Likert scales as the best method to obtain the attitudes of respondents. Furthermore, the use of open-ended questions in the Beutelspacher and Meschede (2020) survey reinforced their usefulness as their use was essential in discovering previously unnoticed topics. Whilst the surveys allowed these studies to reach a large sample size it also impacted their ability to interpret the findings.

Beutelspacher and Meschede (2020) put multiple restrictions on the sample size, focusing on only public libraries in cities with more than 100,000 inhabitants. These restrictions alongside the 60% response rate, meant they could not create a comprehensive overview of environmental sustainability in German public libraries. Similarly, Frederiks (2020) only distributed their survey among one library organisation meaning the results can only be generalised to one organisation. While Ren (2022) was unable to generalise the findings or compare library demographics or characteristics due to the varying sample size and response from each type (public, law, etc..) of library. I prevented this from happening to me by keeping a wide sample size within the targeted definition of the population and sample that I wanted to gain insight into. These studies also influenced my priori hypotheses as the gap between the perceived importance and implementation of environmental education and sustainable practices is echoed in each. This showed me that elsewhere librarians believe that they should be doing something to create environmentally literate communities, however, they are taking few actions to do so. It is also important to reiterate that none of the identified research was conducted within New Zealand, further validating my study and emphasising its importance.

#### **2.4. Theme 4: Leadership**

The final theme is the role of leadership. Kang (2020) emphasised this in their research into library directors' attitudes towards green practice initiatives in China. Kang (2020) used multiple collection methods to gather data including interviews, observation and document analysis. The combination of the three allowed Kang (2020) to have confidence in the insights gained about the participants' attitudes and behaviours. Kang (2020) emphasised the importance of library directors due to their ability to visually lead by example and take a leading role when building 'green libraries' and promoting EE focused initiatives. Kang's (2020) study echoed similar findings to Beutelspacher and Meschede (2020), Frederiks (2020) and Ren (2022), concluding that whilst directors acknowledged

and agreed with the importance of environmental protection, they ignored sustainable practices to focus on economic and social development.

The importance of leadership was also mentioned by Beutelspacher and Meschede (2020), who noted that library leaders need to take the initiative in promoting behavioural change and environmental awareness. Leadership was also prominent throughout Fedorowicz-Kruszewska's (2021) research as the key areas of green librarianship identified were predominantly managerial responsibilities, including the development of environmentally sustainable strategies, operational plans and services to raising environmental education qualifications of employees. This understanding of the role of leadership allowed me to understand the library manager's role in libraries and their ability to create change, which informed my approach to my survey creation and data analysis.

As shown in the literature review, previous studies have found that despite surveyed respondents agreeing on the importance of sustainability in libraries there was a noticeable gap between the actual efforts made in the library to implement and promote environmental literacy to the community. Each study found their own reasons for this occurrence. In German public libraries Beutelspacher and Meschede (2020) found the sustainability of internal workflow practices was seen as the most important aspect and lack of staff and budget were barriers to increasing effort. Frederiks (2020) found that in libraries in the Netherlands a lack of environmental literacy and participation among library staff prevented libraries from implementing more sustainable practices. Whilst in libraries in Georgia, Ren (2022) found respondents were not embracing a leadership role to educate their community on environmentally sustainable practices, noting competing priorities and a lack of community partnerships, funding, and staff were barriers for libraries to overcome. Kang (2020) concluded that directors were more focused on economic and social development. The findings of these previous studies provide me with valuable information as to the attitudes of librarians in other countries, as well as the personal viewpoints and logistical restrictions that affect libraries when implementing EE services. This helped form my survey and helped develop a framework for my research, validating it within the current literature.

My study aims to fill the gap that is created by the absence of research from a New Zealand context and contribute findings to this growing area of study. Previous studies were focused elsewhere in other countries and cultures with specific localised library networks and sample sizes.

Whilst this adds research to this area of study and has contributed to my framework and knowledge of the subject only limited generalisations can be made to New Zealand libraries as it lacks a localised context. Also unlike other studies, my study specifically targets library managers and senior librarians from across New Zealand. This was done intentionally to gather responses from those in charge of the library staff, space, events and programming as it is they who have decision making capabilities to impact the implementation of environmental education in libraries.

The literature I have focused on created a basis for me to develop and undertake my research. Each of these articles informed my research methodology as through critical analysis they have provided me with important insights as to the collection and analysis of my data. Through an understanding of EE, green libraries and leadership I was able to develop my definitions for articulating survey questions and data analysis, and by looking into the studies similar to my own I can situate my research within the current body of literature. By creating a theoretical context based on the existing body of literature I ensure my research is well informed and fills the knowledge gap pertaining to the attitudes of New Zealand's public library managers towards incorporating environmental education into their services.

### **3. Research Questions and Hypotheses**

My research aimed to answer the following three questions:

1. What are the attitudes of library managers in New Zealand's public libraries towards incorporating environmental education and sustainable practices as part of library services and operations?
2. What sustainable practices and environmental education opportunities have managers of New Zealand Public libraries implemented in their operations, services and outreach?
3. What challenges are faced by library managers in providing environmental education services in New Zealand Public libraries?

Due to the results of previous studies similar to the topic I expected to see a noticeable gap between the perceived importance and actual implementation of environmental education in

libraries (Beutelspacher & Meschede, 2020; Frederiks, 2020; Kang, 2020; Ren, 2022). In response to this, the survey had questions to gain insight into the reasoning behind the actions taken in New Zealand Libraries. The survey identified this gap and the reasons behind it, as well as providing valuable insight into how libraries can overcome this gap.

#### **4. Research design**

I have collected data via a survey questionnaire from New Zealand public library managers and senior librarians. The survey collected both quantitative and qualitative data which has been analysed to detect themes and patterns of association to answer my research questions (Bryman, 2016).

Due to the limitations noted by the previous literature (Beutelspacher & Meschede, 2020; Frederiks, 2020; Ren, 2022), when deciding on my sample size and method of survey dispersal I had to ensure a large enough sample was able to be gathered and a targeted approach to contact patrons maintained. To inform my survey I have utilised the studies and research within my literature review so that it fits within the existing literature. My survey was comprised of 20 questions; the first 3 were used to gain non-identifying participant information. Questions 4-8 were developed to elicit responses to answer research question 1. UNESCO (1978) and Fedorowicz-Kruszewska (2021) were used to develop my definitions of what Environmental Education and Green Libraries are, whilst Beutelspacher and Meschede (2020), Frederiks (2020) and Ren (2022) were used as inspiration when designing the roles and attitudinal statements used in question 6 and 8. Questions 9-15 were asked to answer research question 2. When developing question 12 I used Fedorowicz-Kruszewska's (2020) study to identify sustainable and environmentally focused policies, practices and initiatives. The remaining questions (16-20) were developed to gain insight into research question 3. Barriers identified by Beutelspacher and Meschede (2020), Frederiks (2020) and Ren (2022) were used when designing question 19. Due to their ability to discover previously unnoticed topics in Beutelspacher and Meschede's (2020) research, open-ended questions and options were considered essential and used throughout the survey.

#### **5. Methodology**

##### **5.1. Population and Sample**

My identified population is New Zealand library managers and my sample is specifically managers of 'public' libraries, excluding specialist libraries (e.g. academic, church, etc...). Due to the roles of senior librarians, I have also included them in the survey as they too have the ability to create and inspire change through the development of programmes, events and activities. According to Black (2019), there are more than 300 public libraries in New Zealand. Of this sample size, the assumption was made that not all library managers and senior librarians would respond and a manager can manage more than one library. There is also the potential for the library manager to not see themselves as suitable to answer the survey and forward it to their senior librarians to answer. This provided the survey with a greater targeted outreach and potentially more than one response from a library.

## **5.2. Data Collection**

My data was gathered through an online survey in the form of a questionnaire emailed to the identified sample. The questionnaire was developed through the Qualtrics online survey software, and informed by literature surrounding environmental education and sustainable practices in libraries (Beutelspacher & Meschede, 2020; Fedorowicz-Kruszewska, 2020; Frederiks, 2020; Ren, 2022). Interviews were considered for the data collection as they would provide a wealth of qualitative data, however, the lack of anonymity could influence the interviewee's answers and due to the time constraints of the research only a limited amount of participants could be interviewed. This would limit my ability to create a comprehensive overview of New Zealand library manager's attitudes towards environmental education. Content analysis of publicly available library policies regarding environmental education and sustainability was also considered, however, due to the availability of internal policies online and the number of libraries this was not viable due to the time constraints of the research.

The survey is divided into sections to gather information on participant and library demographics, attitudes to environmental education and sustainability, green library practices and services already implemented, and barriers to providing environmental education (See Appendix A. for the complete Survey). The closed pre-coded questions gathered quantitative data in the form of multiple choice questions and Likert scales, which are suitable when evaluating behaviour and

attitudes (Leedy & Ormrod, 2020). The open-ended questions allowed me to gather qualitative data and ask questions about respondent's personal perceptions and implemented services.

The survey was published and emailed out on the 30th of November 2023 and was closed on the 20th of January 2024. The survey was distributed to a total of 73 New Zealand public libraries and library networks. There was one case where one large library network had no publicly available email to send the survey to. As a result of this, I had to send it through the 'Contact Us' page on their website in hopes that it would be passed on to the appropriate people. My survey was opened a total of 42 times with only 36 attempts, however, two participants did not complete the survey past Question 7. These were have been removed resulting in a total of 34 responses for analysis. I was made aware of two situations that affected my sample size from correspondence with the responders. The first involved the manager answering the survey as well as forwarding it on to appropriate senior staff members, increasing the targeted outreach of my survey and potentially increasing responses. The second involved the appropriate manager answering the survey on behalf of a network of libraries, decreasing the overall outreach of the survey and access to other senior librarians in that network.

A virtual survey was the most efficient data-gathering method for my research. They tend to have fast response times, are low cost, capture the response electronically and can illicit higher response rates due to the ease and convenience of filling them out, which when done in the respondent's own time can also result in more honest responses (Tanner, 2002). A high response rate will allow me to make empirical conclusions based on the responses. However, Tanner (2002) also notes some limitations of email surveys which I have addressed in my own. Firstly, they need to be relatively short as longer surveys have a reduced response rate. To address this I kept my survey purely focused on answering my research questions and predominately used multiple-choice questions and Likert scales. Secondly, it can be difficult to specify particular people without knowing who they are or their emails. To overcome this I used the publicly available email for each library and specified I was looking for "Library Managers and Senior Librarians, those specifically in charge of the creation and implementation of the library space, services, programmes and events" to participate, in the hope that this is who the survey would be passed on to (See Appendix B. for the Survey Email).

### **5.3. Ethical Considerations**



When collecting data involving participants ethical considerations need to be made. Pickard (2013) identifies three criteria to ensure research is conducted in an ethical manner: informed consent, participant protection and anonymity, and confidentiality. To ensure my data collection and analysis aligns with these ethical criteria I addressed each in the creation of my survey.

The survey had an information statement that informed the participant of the purpose of my research and how the data would be handled and privacy maintained. This allowed participants to decide whether they were comfortable answering the questions due to their attitude focused nature. This was essential as introspection can cause negative responses from participants and interpretation and representation of research findings can also cause harm (Pickard, 2013). The information statement also allowed for informed consent to be implied through the voluntary participation of completing the survey. To maintain the anonymity of the participant and their library I did not include any specific identifying personal questions such as name, age or workplace in the questionnaire. Through the Qualtrics software's strict safety and privacy features the confidentiality of the data collected was able to be maintained.

As the research was conducted in a New Zealand context an understanding of an ethical research framework concerning Māori is also required. To adhere to this I utilised the Te Ara Tika - Guidelines for Māori Research Ethics to further inform my data collection and analysis (Hudson, n.d.). This impacted my research from ensuring the information sheet is clear about any risks to participating and the use of the data, to maintaining the privacy and dignity of participants and treating any Māori values and concepts referenced in the research with sensitivity and respect.

#### **5.4 Data Analysis**

The research data will include both quantitative and qualitative data. The comparison and analysis of both forms of data allowed me to formulate trends and characteristics of environmental education in libraries and deduce valuable insights into my research topic. Before analysing the quantitative data the results of multiple choice questions were assessed and consolidated where appropriate. For example, if participants' answers within an 'other' option were similar to an option already provided they would be included in the relevant category if not already selected by the respondent. If answers provided by participants were frequent enough in each 'other' option, they too were noted and

included as their own category. Responses from multiple choice questions were then used to create bar charts and stacked bar charts when necessary to best clearly convey the data. Open-ended questions were included to provide participants with a place to share their own observations and comments. Thematic analysis was then used when interpreting the qualitative data collected from these answers as it allowed me to look for patterns in the respondents' answers which I then corroborated into themes to better interpret the results (Guest et al., 2012). In doing this I developed a greater understanding of the attitudes of library managers regarding environmental education and the barriers faced in providing it. I was also able to use the verbatim quotes in tables to support my interpretation of the data, increasing the validity of my research (Guest et al., 2012). Answers from both multiple choice and open-ended questions were compared to identify correlations in the responses of participants. This allowed me to make empirical, accurate and valid observations within my discussion.

## **6. Research Findings**

Of the 36 respondents that began the survey, 2 did not complete the survey past question 7, these surveys have been removed from the final responses, leaving 34 responses for analysis. As the survey was anonymous and distributed to a total of 73 libraries via email or equivalent channels and most likely forwarded to appropriate participants I am unable to calculate an exact response rate. The survey was comprised of 20 questions; the first 3 were used to gain non-identifying participant information on their role in the library, where the library was situated and what qualifications and affiliations they held. The remaining questions were then broken into 3 categories each with the aim of answering the research questions. A final question was also asked to give respondents a final opportunity to add any further comments.

### **6.1 Participants' Profiles**

Of the 34 respondents, 70%, were Library Managers, 18% were Senior Librarians, 9% were self-identified as Team Leaders and 1 (3%) was a Collection Co-ordinator. Just over half (56%) of respondents worked at a library in an urban setting, whilst 29% were situated in suburban locations, followed by the remaining 15% located in rural settings. Most respondents held a qualification, whether it was a Master of Information Science (21%), a Bachelor of Library and Information Studies (18%), a Diploma or Certificate in Information or Library Studies (24%), or in Education/

Teaching (9%). In regards to affiliations, 41% were either registered or subscribed to LIANZA (Library and Information Association of New Zealand Aotearoa). However, 32% of participants shared that they had no qualifications or affiliations.

## **6.2 Questions Related to the Attitudes of Library Managers Towards Environmental Education in Libraries**

Questions 4 and 5 were asked to gauge whether or not the participants were aware of the concepts of the Green Library and Environmental Education. Upon answering ‘yes’ the respondents were given a brief definition of the concept and asked to confirm if that was their understanding. They were also allowed to provide their definition if it differed from mine. This was done to confirm that participants understood my definition and that it aligned with their comprehension of the topic. If the original question was answered ‘no’, the respondent was then given the same definition to give them context for the following survey questions. When asked if they were aware of the concept of a Green Library 47% of respondents were aware of green libraries, whilst 35% said they were unsure and 18% stated they were unaware of the concept. When asked if they were aware of environmental education the awareness rate rose to 76%, with only 6% being unaware and 18% being unsure. In both instances, my definition fitted with 100% of the respondents’ understanding of the concepts.

Participants were asked what role they thought libraries should play in developing a sustainable, environmentally conscious community. Several generic roles were provided based on roles identified in the literature review (Ren, 2022; Fedorowicz-Kruszewska, 2020; Beutelspacher and Meschede, 2020). When analysing the data from the ‘other’ option, answers that fit into roles already identified were consolidated and noted within the results accordingly. One respondent answered “Unsure”, which has been added to Figure 1. as their own column. Over half (59%) of those surveyed agree that libraries should fulfil all three roles of facilitator, leader, and motivator when developing a sustainable, environmentally conscious community.

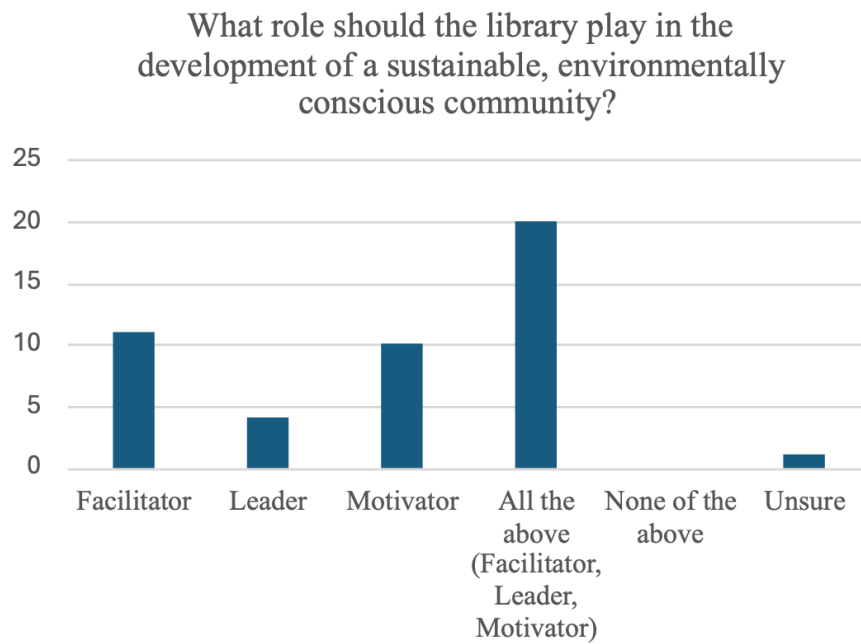


Figure 1: The role libraries should play in developing a sustainable, environmentally conscious community.

Question 7 asked respondents if they thought their library did enough to provide environmental education services. Figure 2. shows the disparity in answers and that over half of those surveyed (58%) think their library is definitely or probably not doing enough.

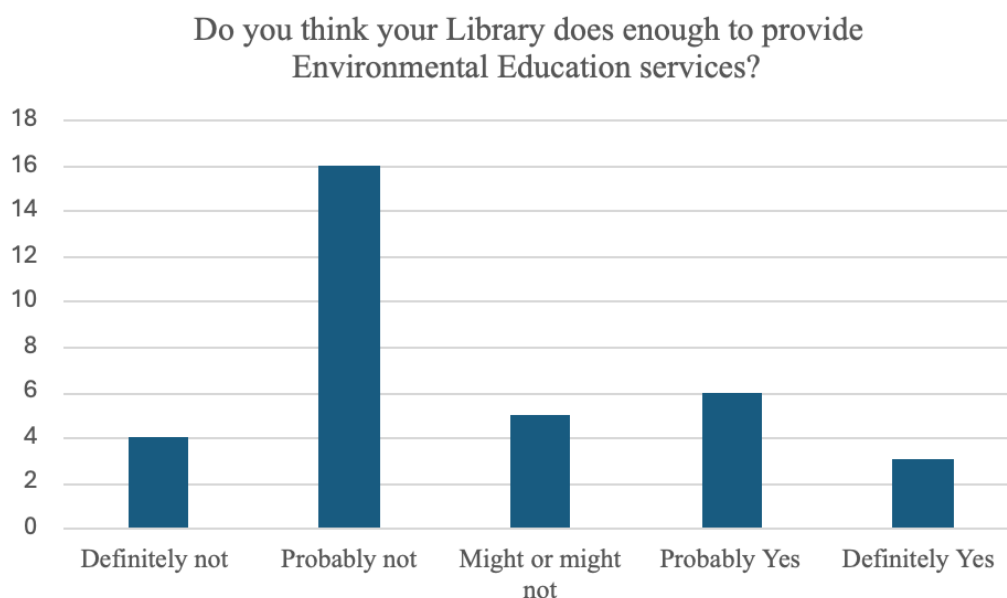


Figure 2: Surveyed librarians responses to if their library is doing enough to provide environmental education services.

Participants were also asked to react to a series of attitudinal statements. These statements were developed from previous studies (Beutelspacher and Meschede, 2020; Frederiks, 2020; Ren, 2022) and intended to gauge the participant's attitudes towards Sustainability and Climate Change and the way they should affect the library's operation and role within the community. Each statement had an accompanying 5-point Likert scale with options ranging from "strongly disagree" to "strongly agree." Question 1 establishes whether the respondents thought sustainability and climate change were important topics of today. Questions 2 and 5 are focused on library staff and operations concerning sustainable initiatives. The remaining questions are focused on the role respondents believe libraries should have regarding sustainability in their community. Figure 3. represents these findings.

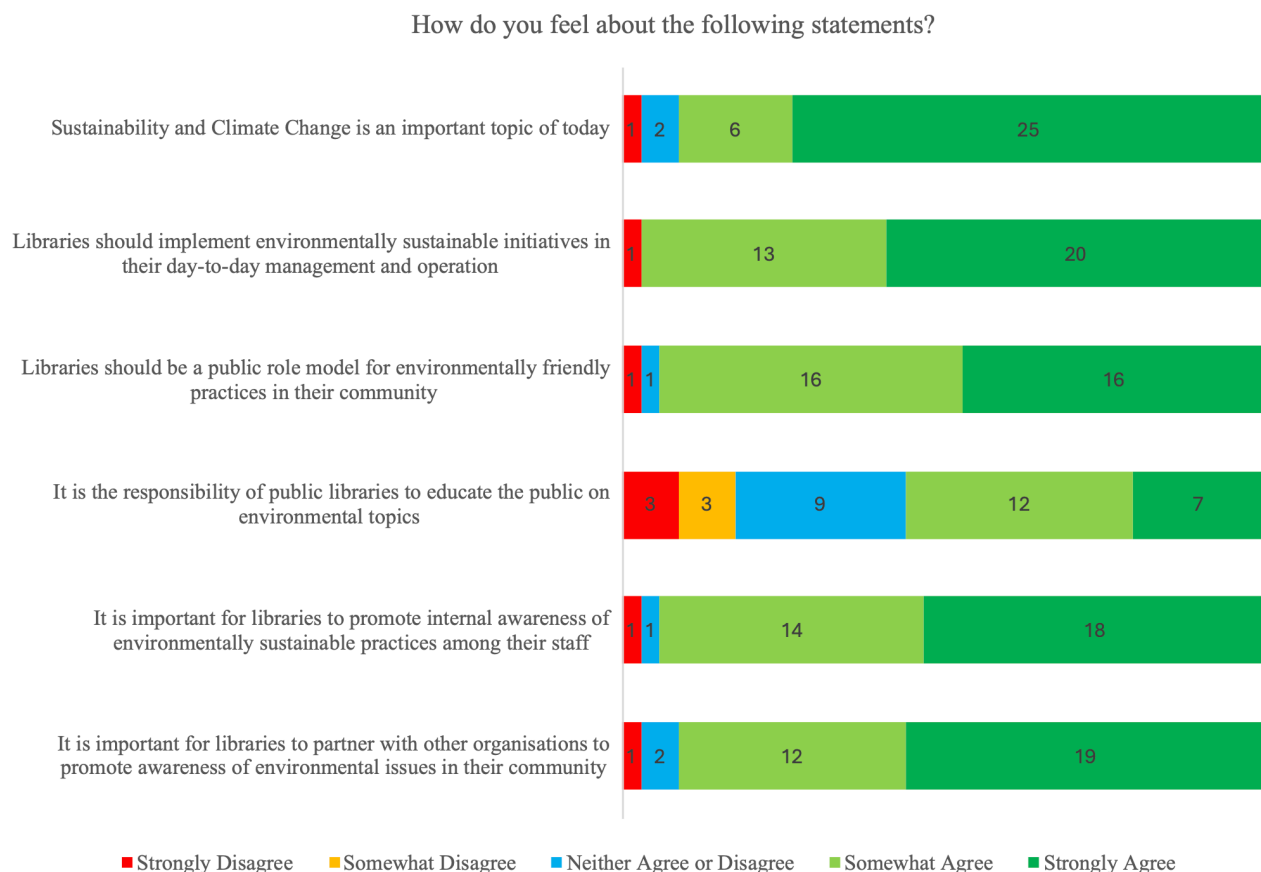


Figure 3: The attitudes of Library managers and Senior Librarians towards Sustainability and Climate Change within the library.

### **6.3 Questions Related to the Environmental Education Opportunities Implemented in Libraries**

Due to there being many people who collaborate when library directives are set and what initiatives are run, when participants were asked who was responsible for giving the library programming and events directives the responsibility was shared by multiple people and teams in collaboration. This was different across the participants' libraries making it difficult to establish a consistent answer across respondents. After consolidating 'other answers' to appropriate titles already given, 71% of participants indicated the "Library Management Team" is responsible for giving Library directives, followed by "The Manager" (53%) and the "Local Board" (21%). From the participant's answers, the "Library Management Team" and the "The Manager" tended to be responsible together, however, this could be due to the manager being considered part of the "Library Management Team". When asked if the person/organisation responsible for giving your Library directives values the environment as an important focus of resources 65% of respondents believed they did, 32% were unsure and just 1 respondent (3%) believed no.

Question 11 was asked to find out how many of the respondents worked in buildings with any green accreditations, such as a Green Star Design rating. When assessing the 'yes' answers I had to interpret and recategorise answers to 'unsure' as some answers didn't indicate they had an accreditation. One participant took the opportunity to mention that a new library building in the design phase will be accredited, whilst another was unsure if the library had any environmental building accreditations, however, noted the building had "sustainable features, e.g. thermal mass concrete, natural ventilation, shade structures, grey water", and won an Award. In total 1 (3%) responder worked over a network of libraries and had at least 1 building with an environmental accreditation, whilst 59% said they did not work in a library with environmental credentials, and the remaining 38% were unsure.

Respondents were also asked to identify what sustainable or environmentally focused policies, practices, resources or initiatives had been implemented in their Library. Participants were given a selection of pre-identified options developed from the literature (Fedorowicz-Kruszewska, 2020), and an opportunity to submit answers that had not been provided. These responses were consolidated into the pre-identified options when appropriate. In doing this due to the 2 answers referring to no longer covering books with plastic for environmental reasons, I decided to

consolidate these two answers within the "Collection policies that include an emphasis on Digital Formats" category. Two respondents mentioned they had seed libraries at their library, this has been added to Figure 4. due to the frequency.

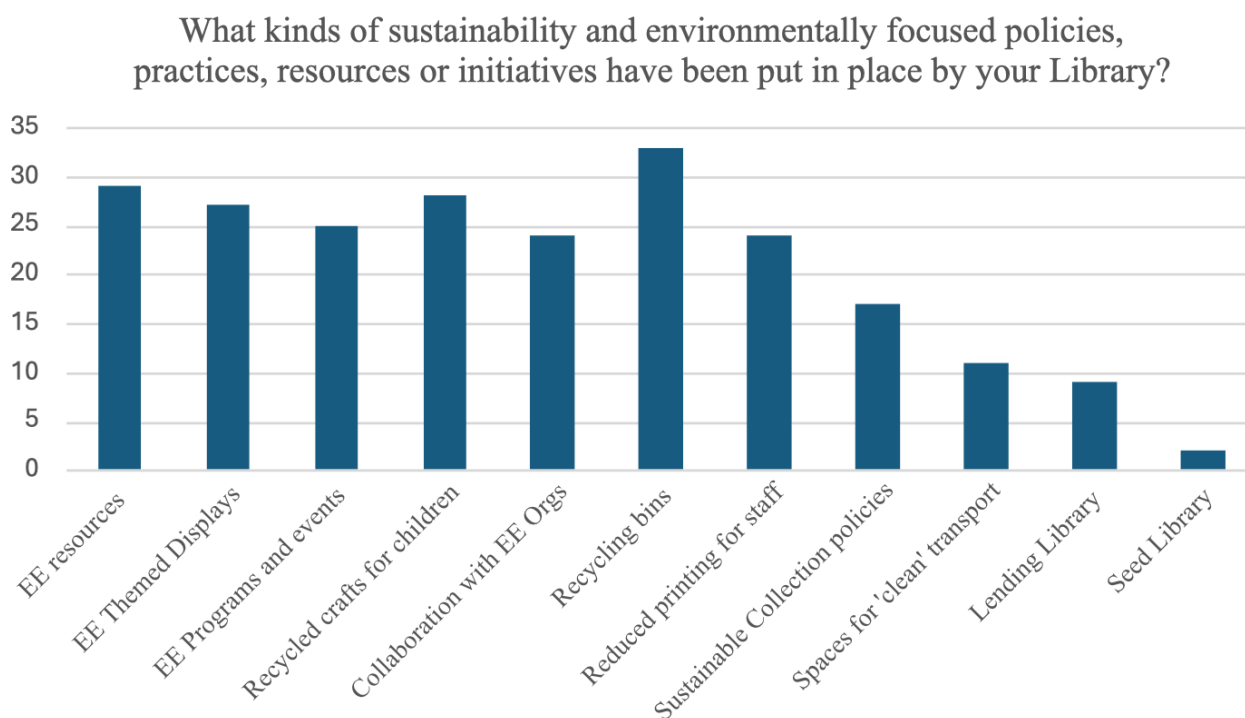


Figure 4: Types of sustainability and environmentally focused initiatives in libraries.

Figure 5. shows participants' responses to being asked how often their library runs environmental education focused events. 65% of libraries only hosted events several times a year, with 15% saying they never hosted EE events.

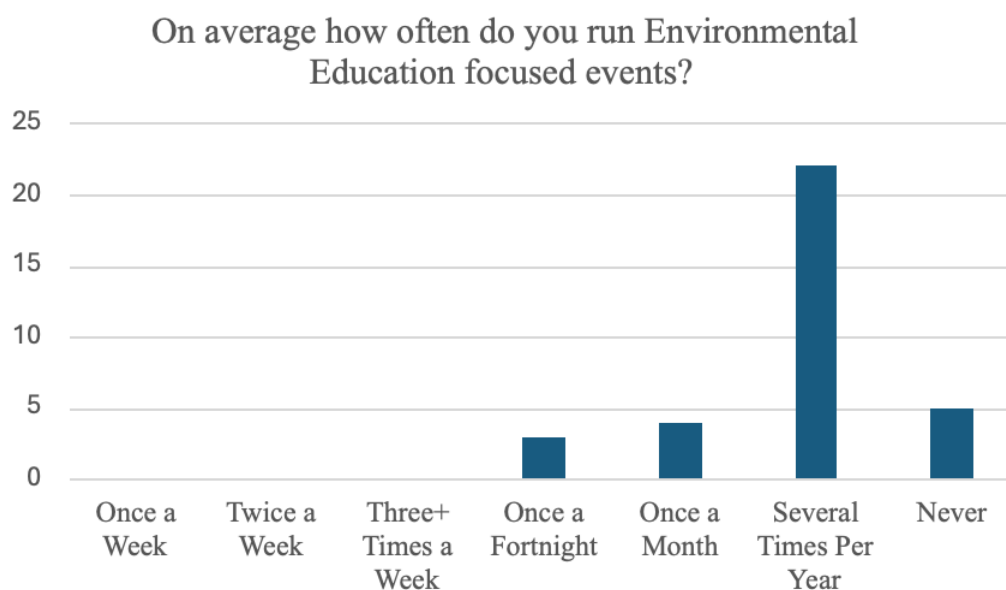


Figure 5: How often Environmental Education events are run in libraries.

Respondents were also asked which policy, practice or initiative had the most successful outcome in either being sustainable or teaching environmental education. Using thematic analysis to codify answers, common themes surrounding the most successful initiatives began to emerge. Out of the 27 answers this question garnered many responses that discussed more than one initiative they had implemented in their library. In these cases each different category of practice noted within an answer was treated as its own success, however, only one count was added to a category per each response. Table 1. shows the most noted initiatives ranked by the number of occurrences identified in respondents' answers. The most successful initiatives noted by respondents were those that were in partnership or prompted by other entities or organisations. These initiatives were noted 17 times and could include collaboration with local environmentally focused organisations to themed displays with national environmentally themed celebrations. This was followed by providing resources and recycling collection points for patrons (7 respondents), sustainable library procedures (5 respondents), and environmentally focused children's programs (4 respondents). Names and places identifying where the respondent was from have been redacted to protect their anonymity.

Table 1: Most successful initiatives run by libraries in teaching Environmental Education.

Theme Categories	Count	Selected Examples
Partnerships and Annual Days	17	<p>“We run events in co-ordination with other local organisations such as [Redacted] which is a festival about environmental issues, and this works well each year, so does Sea Week. They run their events here and we add to it with themed craft or story time sessions. It works well, we share the publicity and they use our space.”</p> <p>“Rat traps - Lots of rats about, we had the support of [Redacted], a local org who supply traps. Locals who have compost bins outside their houses were interested in these.”</p> <p>“Partnerships with other local environmentally focused community-led groups. They contribute in an ongoing way to events such as Repair Cafes, environmental film screenings, Waste Art competitions, trap libraries, food resilience and planting workshops, talks, etc. ... These kinds of groups are often looking for a platform and space to work with, and we can offer that in a way that positions us as collaborators and enablers.”</p>



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“...We also run a series of "green" workshops, where we work with local partners to deliver workshops, seminars, or activities around sustainability and environmental education. Our composting workshops are particularly popular... In essence, any practice that works with local partners are successful - it means that we do not compromise staffing and library operations to deliver these sessions...”

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“...We also have a number of local groups that have Local Board funding to deliver education and other neighbourhood initiatives such as pest free networks and Kauri Dieback groups. The library led Sustainability Day brings together these and other organisations under the one roof for the community to learn about different sustainable practices. I feel the day is successful as there is a interest in eco matters in the community, as well as more people are wanting to understand how they can environmentally take action and implement things to do at home.”

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“Aligning our programmes with NZ awareness days eg Keep NZ Beautiful week & Sea Week.”

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“...we do facilitate sustainability groups to host their own workshops, which are often better promoted, which have a higher turn out. These are usually about recycling, gardening, taking care of nature etc....”

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“Probably collaboration workshops with other organisations/guest speakers on topics like making do with less. People are interested in ideas to save money as well as help environment.”

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“Food waste education sessions with an external provider reached the largest audience”

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Providing  
Resources and  
Collection Points

7 “Practical initiatives such as selling recycling bins, being the drop off place for batteries etc Customers have commented that this is a very good environmental initiative even if they have no batteries to recycle.”

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“... We share the relevant information in our Eco Corner ... We share and recycle stuff in our ECO corner. EG. clean glass jar, seeds, collect used batteries ...”

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“We have a "Green Space" in our library that contains a wealth of information about sustainability, particularly within our local board...”

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“Our topical displays are valued by the community. Always high check out for books on display and discussions had.”

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In Library  
Sustainability  
Initiatives

5 “... we brought in several measures, compost bins, buying plastics for our work such as cd covers and book covers that were recyclable , teaching our staff what to put in bins, reusable cups...”

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		“No longer covering fiction books. Triggered by a wish to be more sustainable. It has also meant cost savings. This was a staff initiative.”
		“Working with the Green Libraries Manifesto has had a big impact on the team. It encourages us to use a 'Green Lens' when we plan or evaluate anything we do and to then prioritise improving/practicing/ implementing more sustainable choices. All staff can engage with this at any level - from choice of materials in crafting programs and activity packs to switching to a bio-plastic book covering product...”
Children’s Events	4	“...environmental education in school holiday programmes. Teaching the kids who then teach the adults.”
		“Children focused events because they are likely to make a change in our future.”
		“...any practice that involves tamariki, and then in extension their whānau are most successful.”

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When asked what the expected outcome of their most successful sustainable or environmental education initiative was, there was inconsistency in the participant’s answers making interpretation of the results difficult. Through thematic analysis looking for phrases that indicated success or pushback such as “supported” or “pushback” I was able to identify that 44% of participants had no pushback when implementing their most successful sustainable or environmental education initiative. Whilst 64% indicated that their initiative was either successful, supported or created positive change. However, there is the possibility that due to the inconsistency and brevity of respondents’ answers, these results could be higher.

#### **6.4 Questions Related to the Challenges Faced Providing Environmental Education in Libraries**

When asked how prepared they thought their library is to provide environmental education services 41% of respondents thought they were ‘somewhat prepared’, whilst only 14% of respondents thought they were ‘well prepared’. 21% said their library was not prepared. Some respondents took the opportunity to elaborate on their answers, however, 6 respondents took the opportunity to express how they believed libraries were better suited to partner with organisations to facilitate services or emphasise that they thought it wasn’t their role to educate. A selection of these responses is shown in Table 2.

Table 2: Responses expressing libraries are better suited as facilitators and not educators.

Selected Question 16. "Other" responses:

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“We don't need to be particularly prepared ourselves because we work with other experts and passionate people to do the delivery. It doesn't really matter that we don't have experts, we just need experts at collaborating with the people who are.”

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“We are not educators but facilitators we will run programmes that could be along these lines but never claim to be educators.”

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“I would hold that our role is not education but we do contribute to community learning.”

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“This is a space I believe that we would be better-placed to partner with others, who have more knowledge and experience, in a similar way we do with Mātauranga Māori.”

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Question 17 asked about staff interest in providing environmental education services and events 70% of responses reported that some staff were motivated, followed by 18% reporting that all staff were motivated, with only 2 (6%) participants indicating no staff were motivated. When asked about patron interest in environmental education services and events over half (53%) of the respondents had had a moderate amount of interest from patrons, with 21% of respondents even reporting having had a lot of interest from patrons. However, 23% of responses indicated they had ‘very little’ to ‘no interest’ from patrons when providing Environmental Education services.

When asked what barriers prevented participants from providing Environmental Education services only 6% (2) responded they didn't face any barriers. Provided answers such as lack of funds, staff and knowledge were common barriers for over half of the libraries, as shown in Figure 6. The option to note their barriers identified two other barriers which have been added to Figure 6, limited access to partnerships and higher priority objectives. Table 3. shows the answers that prompted their inclusion in Figure 6.

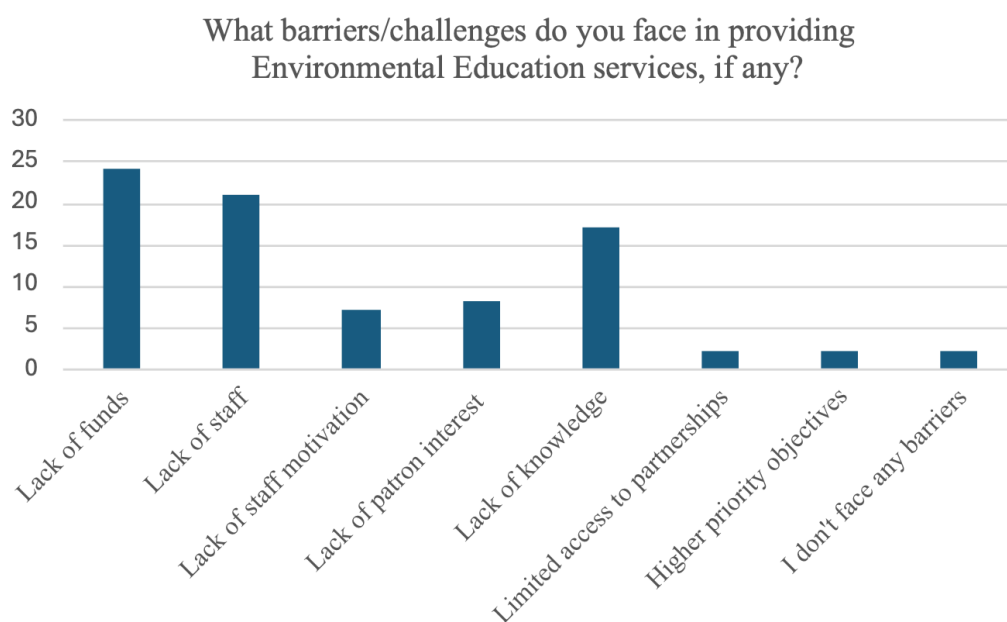


Figure 6: Barriers to providing Environmental Education services.

Table 3: Barriers to providing Environmental Education services

Theme Categories	Count	Selected Examples
Limited Access to Partnerships	2	<p>“As we are a small rural library we don't have the access to resources and a wide variety of organisations who will assist with offering education.”</p> <p>“We rely on volunteer speakers and facilitators and in a small community, they are pretty tapped out already. I would love to bring educators to deliver events and programmes but don't have funds to pay for guests and I'm not sure who is available or what they could deliver.”</p>
Higher Priority Objectives	2	<p>“...We aim to do this across all we do, but sometimes there will be other primary objectives which we consider alongside or ahead of environmental outcomes.”</p> <p>“While environmental education has value, it is only one of a myriad of topics for them to plan and deliver. Topics with more importance are literacy, life-long learning and reading. Where they can include environmental education, they will, but its not the most important.”</p>

The final question asked respondents what resources would they need to overcome any barriers to providing environmental education services. Through thematic analysis of the responses three common and distinct categories began to emerge. The most requested resource needed for libraries to help provide environmentally focused educational services was access to partnership and

informational resources. This was closely followed by funding, and staff and staff knowledge. Table 4. shows the recurring answers expressed within the identified thematic categories.

Table 4: Resources needed to overcome barriers to providing Environmental Education services

Theme Categories	Count	Selected Examples
Access to Partnership and Informational Resources	18	<p>“...More information. If programmes were designed and put together by an organisation that is passionate and has the knowledge then it could be implemented by staff...”</p> <hr/> <p>“Information - Ideas - Resources”</p> <hr/> <p>“A list of people and organisations willing to travel and deliver events with their charges...”</p> <hr/> <p>“...I think it's a case of educating ourselves and finding the right partners in the community to collaborate with...”</p> <hr/> <p>“We would love to support knowledgeable individuals or groups to run events or programmes, being connected to the right people who are interested in using us as a venue (with library support for promotion, and perhaps some resources) would be ideal.”</p> <hr/> <p>“Partnership with external groups.”</p>
Funding	13	<p>“...budget to fund such initiatives.”</p> <hr/> <p>“...more budget to engage with community and pay for resources and presenters or staff hours.”</p> <hr/> <p>“...A fund to support environmental education initiatives.”</p> <hr/> <p>“...We also have a very limited budget for programming, which doesn't extend to bringing in paid facilitators very often.”</p> <hr/> <p>“Specific central government funding for dedicated staff in this area like NZLPP.”</p> <hr/> <p>“...Budget freed up to be dedicated to this initiative.”</p>
Staff and Staff Knowledge	9	<p>“Staff don't have the capacity to create and run the sessions/workshops themselves...”</p> <hr/> <p>“More staff resourcing...”</p> <hr/> <p>“Public libraries are already stretched WAY beyond capacity and expected to pick up all sorts of services that we do not receive increased staffing for. If we are to deliver enviro-initiatives properly we simply need more people. We don't have enough staff to do the basics.”</p>

## 7. Discussion

### 7.1 Attitudes of Library Managers Towards Environmental Education in Libraries

Many of the surveyed library managers and senior librarians agreed with most of the attitudinal statements posed in the survey. 91% of respondents somewhat or strongly agree that climate change is an important issue of today and that it is important for libraries to partner with organisations to promote awareness of environmental issues in their community. 94% of participants also somewhat or strongly agreed that it is important for libraries to promote internal awareness of environmentally sustainable practices among their staff and be a public role model for environmentally friendly practices in their community. All but one respondent somewhat or strongly agreed libraries should implement environmentally sustainable initiatives in their day-to-day management and operation. Furthermore, over half (59%) of library managers and senior librarians surveyed agree that libraries should fulfil all three roles of facilitator, leader, and motivator when it comes to developing a sustainable, environmentally conscious community. However, despite agreeing with the implementation and promotion of environmentally focused initiatives half of the participants (58%) think their library is definitely or probably not doing enough to provide environmental education services. This gap was similarly identified by Beutelspacher and Meschede (2020) who found that whilst over a third of the librarians surveyed strongly agreed public libraries have a “mission to inform and raise the awareness of the community”, there was a gap between the expectation of the library to promote sustainability and the efforts made in the libraries. Beutelspacher and Meschede (2020) noted that a lack of budget and staffing was preventing the libraries from increasing sustainability.

A possible reason in my study related to the attitudes of librarians for this gap is their attitudes towards being environmental educators for the community. When proposed the statement “It is the responsibility of public libraries to educate the public on environmental topics” the results varied drastically more than the other statements. 18% of respondents strongly or somewhat disagreed with the statement, 26% felt unsure and 56% somewhat or strongly agreed with the statement. This divide was further emphasised when 6 respondents asked about how prepared they thought their library was to provide environmental education services took the opportunity to express how they believed libraries were better suited to partner with organisations to facilitate services or emphasise that they thought it wasn’t their role to educate. Responses like “We are not

educators but facilitators we ... never claim to be educators” and “I would hold that our role is not education but we do contribute to community learning” show how strongly some librarians hold this view. The research shows some of the library managers and senior librarians surveyed believe their role is not to educate but to partner with organisations and facilitate services. Ren (2022) also found this in their study as respondents did not embrace a leadership role to model and educate environmentally sustainable practices in their community.

## **7.2 Environmental Education Opportunities Implemented in Libraries**

Library managers and senior librarians have implemented a myriad of environmental education opportunities in their local communities. From providing recycling points, environmental education themed resources, displays, programs, events and recycled crafts for children, to collaborating with environmentally focused organisations. The most successful initiatives noticed by respondents were those that were in partnership or prompted by other entities or organisations. These initiatives were noted 17 times and could include collaboration with local environmentally focused organisations to themed displays with national environmentally themed celebrations. The reason behind the popularity of partnerships can be seen in the respondent’s answers, with participants noting they get publicity from sharing their space and these partnerships allow them to work with experts and passionate people to deliver services without compromising “staffing and library operations.” Children’s events were also seen as very successful as some participants noted the reach these events have. This was due to children being “likely to make a change in our future”, or able to “teach the adults.” The success of sustainable children’s programs and events is also beneficial for the future, as it aids in developing the environmentally literate population Hollweg et al. (2011) stresses Earth will need when addressing the challenges population growth will have on the environment in the future.

A recommendation for any manager or senior librarian looking to bring more environmental education into their library would be to investigate the local community groups and organisations the library can collaborate with. As shown by the success of these partnerships in other libraries, these are effective ways to deliver quality events and services without compromising staff and resources.

It is through the facilitation of these environmentally focused opportunities that people can recognise the impact their choices have on the environment and provide them with the knowledge to create pro-environment behaviours to offset the harm they are doing to the environment (Miller, 2010). Respondents noted that their community members are interested in helping the environment. Comments like “practical initiatives such as selling recycling bins, being the drop off place for batteries” have customers remarking on how they are “very good environmental initiative[s] even if they have no batteries to recycle”, and people are “wanting to understand how they can environmentally take action and implement things to do at home” show that these services are having an effect and benefitting the communities. It is also the implementation of these initiatives that Lucas (1979) would describe as education *for* the environment as they solve environmental issues and teach about environmental conservation.

Through the visual display of sustainability and green technologies, the library building itself becomes an environmental educator as well, communicating the environmentally conscious and sustainable values embedded in its design to library patrons (Edwards, 2011). My findings show this is not the case for the libraries of at least 59% of library managers and senior librarians surveyed. However, this could be changing as 1 (3%) respondent worked over a network of libraries and had at least 1 building with an environmental accreditation and another took the opportunity to mention that a library in the design phase will be accredited.

### **7.3 Challenges Faced Providing Environmental Education in Libraries**

My survey found that over half of those surveyed (58%) think their library is definitely or probably not doing enough to provide environmental education services to their communities. As discussed previously, one of the reasons for this was some of the library managers and senior librarians surveyed clearly believe their role is not to educate but to partner with organisations and facilitate services. The success and importance of partnerships are clearly shown in the findings as they allow for passionate and knowledgeable people to use the library space and educate the community whilst using minimal library staff and resources. However, having access to these opportunities, either through knowledge of or availability, was also identified as a barrier. This was especially harder for rural libraries who noted they didn’t “have the access to resources and a wide variety of organisations who will assist with offering education”.



The second and third barriers commonly noted by respondents were funds and staff. These too affected the participant's ability to engage in partnerships. This can be seen in a participant's answer stating: "I would love to bring educators to deliver events and programmes but don't have funds to pay for guests and I'm not sure who is available or what they could deliver." Without funds, libraries can not only not pay for partnerships, but they are also unable to pay for resources for self-planned events or the third barrier staff. This limits the ability of staff to allocate time for the development of services and educate themselves on environmental education or seek partnerships. The development of environmentally sustainable strategies and services and raising the awareness of environmental education qualifications of employees are key areas of 'green librarianship' identified by Fedorowicz-Kruszewska (2021). These areas tend to be managerial responsibilities indicating managers require support and resources when developing 'green librarianship' within their libraries to overcome the identified barriers, especially regarding the allocation of staff time and funds for sustainable initiatives. My findings also mimic that of Beutelspacher and Meschede (2020) who identified a lack of funding, and staff obstacles, and Ren (2022) who additionally found a lack of community partnerships were barriers to libraries when promoting sustainability.

Without access to partnerships, funds and staffing, as one respondent put it "Public libraries are already stretched WAY beyond capacity and expected to pick up all sorts of services that we do not receive increased staffing for". When put in this situation, where resources are limited, and staff are not able to allocate time to educate themselves or develop environmental education services or events, they have to prioritise. Whilst respondents indicated environmental education has value, other topics traditionally focused on by libraries such as "literacy, life-long learning and reading" are higher priorities for resources. Kang's (2020) study discovered this too as library directors were focusing on economic and social development over sustainable practices. Ren (2022) also found this noting that competing priorities for patrons also impacted where resources were allocated and the types of services prioritised.

The results of my survey provided me with sufficient data to answer my research questions. Whilst some of my findings echo that of previous studies, my research is significant as it has brought about new knowledge pertaining to the needs of libraries in New Zealand. My survey identified the success and importance of partnerships when implementing environmental education in New Zealand libraries and recognised a need for resources to help librarians connect and facilitate with local environmentally focused community-led groups. My research also found a need for targeted

funding and grants for libraries to support the creation of environmental education services and events in New Zealand. With two respondents specifically mentioning a need for “Specific central government funding for dedicated staff in this area...” and “...A fund to support environmental education initiatives” these funds would be welcomed. Both of these insights can be valuable when determining the needs of New Zealand Libraries when creating policy and operational plans. My research also addresses the lack of empirical research surrounding environmental education in libraries by adding the first identified research in a New Zealand context investigating library managers’ and senior librarians’ attitudes towards environmental sustainability in libraries. As well as identifying valuable insights into what environmentally sustainable practices and environmental education services have been implemented by New Zealand libraries.

## **8. Limitations**

The sampling method used allowed me to send my survey to library managers and senior librarians across New Zealand, however, it did have limitations. Due to sending emails to the generic library email addresses it made it hard to specify who received the email and how it was treated. Whilst some communications teams replied and let me know that the email would be passed on to the relevant staff, there was one situation where the survey was sent to the person who had oversight of a network of libraries and answered on behalf of the whole network. This had the potential to significantly reduce my sample size as other potential respondents weren't given the opportunity to respond. The small sample size has restricted the generalisability of my results as they can not be considered representative of all New Zealand library managers and senior librarians. However, the results are still relevant as they provide valuable insights into environmental education in New Zealand’s public libraries and the attitudes of library managers and senior librarians towards implementing it in their processes and initiatives. Whilst the anonymity of the respondent protected their confidentiality it restricted my ability to ensure I had gathered results from around many New Zealand libraries. This means my results could potentially have come from several appropriate people from a limited number of libraries. This was somewhat negated though as the majority of survey respondents were library managers, therefore most likely the only person from that library in charge, whilst the potential for multiple responses from a library could occur from responses by senior librarians.

## **9. Future Research**

Future research on this topic could include increasing the sample size to include all librarians. This would create an understanding of all library staff towards Environmental Education in libraries. Further exploration on how to best support managers in their managerial duties when it comes to the implementation of sustainable initiatives and strategies in libraries would also be beneficial. There is also scope to focus on the popularity of partnerships between external organisations and libraries. The popularity and success of these partnerships could be beneficial to libraries who are needing to increase services in this area and examining outreach and partnering methods could multiply this success. My research also identified a need for resources to help libraries connect with potential partners. Future research to develop resource packs for libraries that collate Environmental Education services and organisations in New Zealand would be very beneficial to libraries.

## **10. Conclusion**

Through the use of a survey, my research was able to identify the attitudes of library managers and senior librarians towards the promotion and facilitation of environmental education in New Zealand public libraries. The analysis of the data found many of the surveyed library managers and senior librarians agreed with the implementation and promotion of environmentally focused initiatives, however, some see their role as not to educate but to facilitate partnerships with environmental education services. My survey also found amongst the many kinds of environmental education opportunities libraries provide to their local communities the most successful initiatives were those that were in partnership or prompted by external entities or organisations. Furthermore, the data identified access to partnerships, lack of funds and staffing were barriers for libraries when implementing environmental education. My paper also mentions future research avenues including increasing the sample size to include all librarians or developing much needed resources to help connect environmentally focused organisations to New Zealand libraries. My research is significant as it decreases the lack of empirical research surrounding Environmental Education in libraries by adding the first identified research in a New Zealand context investigating librarians' attitudes towards environmental sustainability in libraries. In completing this research I hope that it serves as a inspiration for more environmental education in libraries and for further research in this field.

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## **Appendix A: Survey**

### **Attitudes of librarians towards taking an active role in the promotion and facilitation of Environmental Education in libraries.**

#### **Introduction**

My name is Matthew Evans and I am a Masters student in Information Studies at Te Herenga Waka — Victoria University of Wellington. I am also currently employed as a Library and Council Services Assistant. This research project is work towards my dissertation.

The purpose of this project is to explore the attitudes of librarians towards taking an active role in the promotion and facilitation of Environmental Education in libraries. By undertaking this study I will be able to add to the growing small body of literature and shed light on how to better support efforts made by libraries in regards to environmental sustainability in New Zealand. Your participation will support this research by providing valuable insights into the attitudes of librarians towards implementing Environmental Education services in libraries. This will allow me to gain knowledge on the topic in a New Zealand context and allow us to improve the role libraries can play in combating climate change in New Zealand.

This survey should roughly take 15-20 minutes to complete.

#### **Library Size and Demographic / Participant Information**

1. What position do you hold in your Library?

Library Manager

A Senior Librarian position

Other, please state:

2. What setting is your Library located in?

Urban



Suburban

Rural

3. Do you hold any Library Qualifications or Affiliations?

Masters of Information Science

Bachelor of Library and Information Studies

PGDipIS

PGCertIS

LIANZA

RIMPA

IFLA

No qualification or affiliation

Other:

**Questions relating to RQ1.**

4. Are you aware of the concept of a Green Library?

Yes

No

Not sure

4.Yes. For this study I have defined a 'green library' as a library aimed at environmental sustainability.

Does this definition fit with your understanding?

Yes

No

4.No. For this study I have defined a 'green library' as a library aimed at environmental sustainability.

5. Are you aware of Environmental Education?

Yes

No

Not sure

5.Yes. For this study I have defined Environmental Education as education to teach the importance of protection and conservation of the environment.

Does this definition fit with your understanding?

Yes

No

Not sure

5.No. For this study I have defined Environmental Education as education to teach the importance of protection and conservation of the environment.

6. What role should the library play in the development of a sustainable, environmentally conscious community?

Facilitator

Leader

Motivator

All of the above None of the above Other:

7. Do you think your Library does enough to provide Environmental Education services?

Definitely not

Probably not

Might or might not

Probably yes

Definitely yes

8. How do you feel about the following statements?

Sustainability and Climate Change is an important topic of today

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

It is the responsibility of public libraries to educate the public on environmental topics

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

Libraries should be a public role model for environmentally friendly practices in their community

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

It is important for libraries to promote internal awareness of environmentally sustainable practices among their staff

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

Libraries should implement environmentally sustainable initiatives in their day-to-day management and operation

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

It is important for libraries to partner with other organisations to promote awareness of environmental issues in their community

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

**Questions relating to RQ2.**

9. Who is responsible for giving your Library directives as to what events and programmes will run?

Library Management Team

Local Board

Me (The Manager)

Other:

10. Does the person/organisation responsible for giving your Library directives value the environment as an important focus of resources?

Yes

No

Not Sure

11. Does your Library building have any environmental building accreditation i.e. Green Star Design rating?

Yes, can you please tell me about it

No

Not sure

12. What kinds of sustainability and environmentally focused policies, practices, resources or initiatives have been put in place by your Library? (Choose all that applies.)

Environmental Education resources i.e. Books, DVDs, energy kits, etc

Book displays or themed exhibits based around Environmental Education resources

Programs, workshops or outreach events on Environmental Education topics

Usage of recycled materials in children's programmes

Collaboration with external organisations to promote Environmental Education

Recycling bins

Emphasis on reduced printing for staff

Collection policies that include an emphasis on Digital Formats

Spaces for patrons using environmental modes of transport (ie. bike spaces, electric car docks, etc..)

Lending Library (i.e. things to borrow such as tools etc....)

Other:

13. On average how often do you run Environmental Education focused events?

Once a week

Twice a week

Three+ times a week

- Once a fortnight
- Once a month
- Several times per year
- Never

14. Which policy, practice or initiative has had the most successful outcome in either being sustainable or teaching Environmental Education and why? Please take a moment to describe. You can also consider questions like: What triggered the initiative? Why was the initiative so successful? Who was predominantly interested in this initiative?

15. What was your expected outcome of this initiative? Were you surprised at how successful the initiative was? Was there any pushback to this initiative?

**Questions relating to RQ3.**

16. How prepared do you think your Library is to provide Environmental Education services?

- Well prepared
- Somewhat prepared
- Not prepared
- Not sure

If you'd like to elaborate please tell me more:

17. How much interest have you had from staff in providing Environmental Education services/events? (Choose a situation that represents your library)

- All staff are motivated
- Some staff are motivated
- No staff are motivated
- Other:

18. How much interest have you had in Environmental Education services/events from patrons?

A lot

A moderate amount

Very little to none

Other:

19. What barriers/challenges do you face in providing Environmental Education services, if any?  
(Choose all that apply.)

Lack of funds

Lack of staff

Lack of motivation from staff

Lack of interest from patrons

Lack of knowledge to organise and deliver such initiatives

Other, Please tell me about these barriers/challenges:

I don't face any barriers

20. What resources would you need to overcome these barriers/challenges and how would they help?

### **Final Thoughts Question**

If there is anything else that you wanted to say? Please feel free to leave your thoughts:

**Appendix B: Survey Email**

**Subject Heading:** Environmental Education in your Library

**Body:**

Kia ora,

My name is Matthew and I am emailing you today to ask for your help.

I am undertaking research for my Masters of Information Studies concerning the *Attitudes of New Zealand's Public Library Managers towards Taking an Active Role in the Promotion and Facilitation of Environmental Education in Libraries*.

I am looking for Library Managers and Senior Librarians, those specifically in charge of the creation and implementation of the library space, services, programmes and events, to complete an anonymous survey. More information about the survey can be found in the Participant Information Sheet attached.

If appropriate could you please consider answering my survey or forwarding it on to someone who is suitable.

The survey should roughly take 15-20 minutes, and the link can be found here: [https://vuw.qualtrics.com/jfe/form/SV\\_3107I7wkg5NexIG](https://vuw.qualtrics.com/jfe/form/SV_3107I7wkg5NexIG)

If you decide to participate, thank you. If you decide not to participate, thank you for considering this request.

Kind regards,

Matthew Evans



## Appendix C: Participant Information Form



### *For the Environment: Attitudes of New Zealand's Public Library Managers Towards Taking an Active Role in the Promotion and Facilitation of Environmental Education in Libraries*

#### INFORMATION FOR PARTICIPANTS

Hello

You are invited to take part in this research. Please read this information before deciding whether or not to take part. If you decide to participate, thank you. If you decide not to participate, thank you for considering this request.

#### **Ko wai ahau / Who am I?**

My name is Matthew and I am a Masters student in Information Studies at Te Herenga Waka— Victoria University of Wellington. I am also currently employed as a Library and Council Services Assistant. This research project is work towards my dissertation.

#### **He aha te whāinga mō tēnei rangahau / What is the aim of the project?**

The purpose of this project is to explore the attitudes of librarians towards taking an active role in the promotion and facilitation of Environmental Education in libraries. By undertaking this study I will be able to add to the growing small body of literature and shed light on how to better support efforts made by libraries in regards to environmental sustainability in New Zealand. Additionally, I hope to create more awareness of the role libraries can have in promoting environmental education and help create a more sustainable and brighter future.

Your participation will support this research by providing valuable insights into the attitudes of librarians towards implementing Environmental Education services in libraries. This will allow me to gain knowledge on the topic in a New Zealand context and allow us to improve the role libraries can play in combating climate change in New Zealand. This research has been approved by the Te Herenga Waka—Victoria University of Wellington Human Ethics Committee 0000031243.

#### **Ka pēhea tō āwhina mai / How can you help?**

You have been invited to participate because as a Library Manager or Senior Librarian you are in charge of the creation and implementation of the library space, services, programmes and events. If you agree to take

part, you will complete a survey. The survey will ask you questions about your library and your attitude towards Environmental Education in Libraries. The survey will take you 15-20 minutes to complete.

### **Ka ahatia ngā kōrero ka tukuna mai / What will happen to the information you give?**

This research is anonymous. This means that nobody, including the researchers, will be aware of your identity. By answering it, you are giving consent for us to use your responses in this research. Your answers will remain completely anonymous and unidentifiable. Once you submit the survey, it will be impossible to retract your answer. Please do not include any personal identifiable information in your responses.

### **He aha ngā hua o te rangahau / What will the project produce?**

The information from my research will be used in my Masters dissertation and potentially academic publications.

### **Mehemea ngā pātai, he raruraru rānei, me whakapā ki a wai / If you have any questions or problems, who can you contact?**

If you have any questions, either now or in the future, please feel free to contact me:

**Student:**

**Name:** Matthew Evans

evansmatt4@myvuw.ac.nz

**Supervisor:**

**Name:** Maja Krtalic

**Role:** Learning and Teaching Director

**School:** Information Management

**Phone:** +6444636915

maja.krtalic@vuw.ac.nz

### **He kōrero whakamārama mō HEC / Human Ethics Committee information**

If you have any concerns about the ethical conduct of the research you may contact the Te Herenga Waka—Victoria University of Wellington HEC Convenor, Associate Professor Rhonda Shaw, by emailing [hec@vuw.ac.nz](mailto:hec@vuw.ac.nz).