Styx River tourism opportunities and barriers

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Table of contents

Executive summary

- The Styx River Corridor is currently used to assist with advocating for cultural, recreational, and ecological qualities present throughout the catchment.
- Given the location of the Styx River begins at Nunweek Park and winds across approximately 25km through ecologically significant land to Brookland's Lagoon there is significant potential to incorporate a 'source-to-sea' tourism experience to promote a 'living laboratory'.
- Our research question for our project is: What are the opportunities and risks associated with promoting the Styx River Corridor as a tourist destination?
- A qualitative data collection approach was used to investigate what stakeholders considered opportunities and risks of using tourism to promote the Styx River.
- Ecotourism and educational tourism were considered the most desirable type of tourism stakeholders were interested in to promote the Styx River. Whereas adventure and sustainable tourism were among the least desired types of tourism.
- Environmental sustainability was considered the most important value of tourism, whilst stakeholders acknowledged financial gain as the least significant tourism value.
- Stakeholders considered interesting fauna as the most significant value, with other intrinsic values considered the least significant value of the Styx River.
- Limitations of our research centered around time. Time constraints meant we were unable to conduct a larger number of surveys and interviews with stakeholders. The time frame we were given also meant we were unable to survey effectively international tourists' opinions of tourism.
- Future research will need to include ongoing monitoring to mitigate environmental impacts like over-commercialization. Community engagement would also need to continue as a part of future tourism development and promotion of the Styx River.

1. Introduction

Our community partner, the Styx Living Laboratory Trust, describe themselves as a "local river care group established… to develop a 'living laboratory' in Pūharakekenui (Styx) River catchment" (Styx Living Laboratory Trust, n.d.). They advocate for maintaining the river's cultural, recreational, and ecological qualities. The Styx Living Laboratory Trust have organized an array of projects throughout the river corridor. These include afforestation research, community restoration and engagement activities, eDNA projects, and an educational hub which supports their advocacy of the Styx River as a 'living laboratory'. Preserving the quality of the Styx River, "for future generations to use and enjoy" is central to the Trust's vision for the river corridor.

Our brief was to determine what opportunities and risks are to promote the Styx as a tourism destination. Our community partners, the Styx Living Laboratory Trust, and Christchurch City Council, are both interested in the river's potential as a low-carbon nature-based tourism destination. They emphasize community engagement must be at the forefront of this. Given the Styx flows 25km from Nunweek Park to Brookland's Lagoon, there are a diverse range of locations throughout the catchment for potential development that could be used to market a 'source-to-sea' experience to promote a 'living laboratory'. These include ecologically significant sites like the Styx Mill Conservation reserve, Te Waoku Kahikatea Reserve, Janet Stewart Reserve, and the Styx Living Laboratory field center, as illustrated below in Figure 1. The proximity to Christchurch International Airport (1.5km from the river source) opens the possibility for domestic and international tourism.
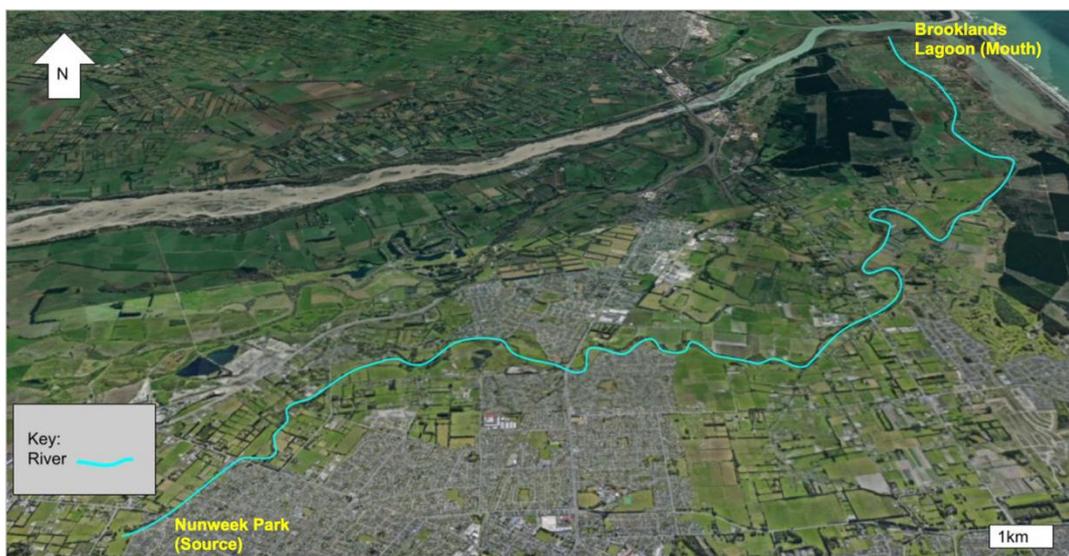

Figure 1: Outline of the Styx River Corridor

Our research aims to examine how effective different types of tourism would be in promoting the Styx as a tourism destination. Specifically, we hope to determine what opportunities and risks exist. This includes the impact tourism will have on the community and existing businesses. We will achieve this by investigating relevant literature as well as collecting and analyzing data from stakeholders.

Our research question is to investigate the opportunities and risks associated with promoting the Styx River Corridor as a tourist destination.

2. Literature Review

2.1 Adventure tourism

Janowski et al., (2021) mentions adventure tourism can be considered an "umbrella term" which can range "from taking a walk in the countryside to… a flight in space" (Swarbrooke et al., 2003, p. 4). One opportunity we identified is providing people with experiences they wouldn't usually experience. Gračan et al., (2018) believe nature evokes emotion and excitement which allows for this separation from everyday life. People are increasingly seeking this. Janowski et al., (2021) attribute this to growing urbanisation and digitalization which makes it harder to achieve a work-life balance.

Adventure tourism also presents the opportunity of creating a sense of guardianship over the environment. Fisher, (2002) found participants of nature-based adventure activities have shown heightened appreciation for the natural environments they engage with. This is because engagement generates a sense of responsibility (Gračan et al., 2018). The same goes for cultural appreciation, which is another adventure tourism opportunity. By interacting with spaces, rather than just observing them, tourists have a stronger sense of place and acknowledgement of cultural ties.

In terms of risks, economic viability is one of the most significant. Adventure tourism often requires investments in infrastructure. This will degrade the environment over time, exacerbating the financial implications. Another risk for adventure tourism is safety. As they gain experience and competence, tourists' risk perception decreases. Because tourism on the Styx River would likely be low risk, people may exercise less caution than they should.

2.2 Educational tourism

Educational tourism involves activities and experiences directly related to the site or environment. These can serve a diversity of visitor interests like culture, nature, and adventure (Haukeland et al., 2013).

Nature provides numerous opportunities for both short and long-term educational tourism. These provide tourists with a direct understanding of flora, fauna, and supporting ecosystem processes (Walter, 2016). Educational activities within nature may also provide cultural experiences, including passing on local knowledge and engaging with community projects. These deepen spiritual and emotional connections and inspire innovation. Adventure-based activities that induce fear, excitement, and exhilaration are another educational opportunity. They create body-sensory learning and influence a desire to learn and appreciate nature (Mocior & Kruse, 2016).

One risk associated with educational tourism is people prefer to go at their own pace when participating in activities. This is crucial for their overall experience and satisfaction (Van Winkle & Lagay, 2012). Another risk is individuals engaging negatively with learning. Being placed in environments where they lack knowledge or are exposed to danger influences negative engagement from tourists (Coles et al., 2015).

2.3 Sustainable tourism

The United Nations World Tourism Organization, (n.d.) describe sustainable tourism as encompassing "current and future economic, social, and environmental impacts" which addresses visitor, environmental, and local community needs.

Implementing sustainable tourism along the Styx River would improve the Trust's advocacy of a 'living laboratory' through low impact environmental activities. This opportunity would raise awareness of protecting nature (Palazzo et al., 2022). Low environmental impact activities like "trails, visitor centers, [and] resting places" (Pan et al., 2018, p.459) directly connect tourists to nature. This supports advocacy efforts for preserving nature. Preserving cultural heritage sites is another opportunity of sustainable tourism (Dans & González, 2019). This includes recognising cultural and historic community values through authentic educational experiences (Hatipoglu et al., 2014). Diversifying local economies is another opportunity. This involves encouraging community-driven projects that strengthen social connectedness amongst tourism businesses (Matiku et al., 2020).

Two risks associated with sustainable tourism are over-commercialization and a lack of understanding around sustainable practices. These influence environmental degradation (Midgett et al., 2019). Lack of community involvement in tourism development is another risk. This results in dissatisfaction amongst local communities (Kapera, 2018; Wu et al., 2021). A third risk is unequal distribution of profit. Future community development is hindered when tourism revenue is unequally distributed into local communities (Tatyana et al., 2021).

2.4 Māori tourism

Māori tourism provides opportunities to uphold sustainability and preserve the environment through upholding Māori values (Howison & Higgins, 2019; Mika & Scheyvens, 2022). Māori waka and jet boat experiences along the Whanganui River have exemplified this, forgoing additional tourists to remain sustainable (Mika & Scheyvens, 2022). Improving economic empowerment is another opportunity for Māori tourism. Historically, 70% of the Māori population in Kaikōura were involved in tourism ventures, like the Māori-run Whalewatch (Simmons & Fairweather, 1998). These initiatives support local employment, empowering the economy (Mika & Scheyvens, 2022; Puriri & McIntosh, 2013; Tretiakov et al., 2020). A third opportunity is the wider socioeconomic benefits and the adaption of whanaungatanga in business. These inform standards of reciprocity and support for the environment, marae, and local communities (Amoamo et al., 2018; Curtin, 2003; Howison & Higgins, 2019; Hoyt, 2001; Mika & Scheyvens, 2022).

A risk of Māori tourism is lack of knowledge regarding the economic sector (Horn & Tahi, 2009). NZ Māori Tourism (2020) briefed a Minister on "complete lack of data on Māori economic activity and performance" (NZMT, 2020, pg. 16). This has influenced an inability to provide tourism operators future recommendations. Another risk is the long-term viability of Māori tourism businesses. This stems from a dissonance regarding business growth and the embedding of Māori values and cultural authenticity in society (Horn & Tahi, 2009; Puriri & McIntosh, 2013). While Māori tourism operators follow a different framework to non-Māori operators, some Māori tourism businesses face viability challenges resulting in termination after 5 years of establishment (Colmar Brunton, 2004).

2.5 Ecotourism

Ecotourism supports opportunities for producing strong domestic economies that do not have to rely solely on international investment. Supporting local economies ensures long-term sustainability, well-being, and development (Wunder, 2000). Ecotourism also presents the opportunity to advocate for environmental preservation. Direct interactions with, exposure to, and educational experiences in nature all help achieve this. This also ensures members of local communities have access to spaces that provide enjoyment and support well-being. Recently, the number of tourists seeking enjoyment from nature has increased. Equally, this has increased the need for environmental preservation (Stem et al., 2003).

A core risk of ecotourism is managing the needs of stakeholders (Oviedo-García et al., 2017). Lack of communication with stakeholders, particularly regarding environmental preservation, will be detrimental for producing an effective example of a 'living laboratory.' A second risk is the inability to provide long-term environmental sustainability and prosperity. This impedes on tourist enjoyment, which is essential in providing effective, interactive education regarding sustainability measures (Lee & Jan, 2018).

3. Methods

3.1 Data collection

We collected data using qualitative research methods. Namely, we conducted a survey and interviews, both of which are common methods of qualitative research (Horn & Tahi, 2009; Mika & Scheyvens, 2022). Adopting a qualitative research approach allowed us to specifically gather data from residents and businesses whom we classed as our stakeholders. This was crucial, given they would be most impacted by tourism developments along the Styx Corridor. Engaging with local communities in this way allowed us to understand their vision for the river, which assisted us in answering our research question.

Primary research strategies applied in our study were based on breaking down each activity into manageable parts, which facilitates science (Tang et al., 2010). For our survey, this meant using programmes like Excel, and Qualtrics XM (an online tool used to develop and collect survey responses). Prior to sharing our survey with stakeholders, we liaised with our supervisor Daniela Liggett to ensure it met ethical guidelines. Open and closed questions were used in our survey to obtain the primary data for our report. After survey responses were received, data was transferred to an Excel spreadsheet for analysis.

Interviews were conducted as supplementary data for our report. These gave us more in-depth understandings of stakeholder opinions towards the Styx Corridor (Clifford et al., 2016). Before contacting stakeholders, we consulted with our supervisor to produce a consent form and information sheet (shown in Appendix A and B) to ensure ethical guidelines were met. We conducted three interviews with mana whenua and other stakeholders who had pre-existing interests in the corridor using convenience sampling. They took approximately 40 minutes and were recorded using the app Otter, alongside a written record of key notes. A semi-structured interview method was used. This allowed the interviewer to divert and ask probing questions which we could not in our survey, providing a broader understanding (Secor, 2010).

3.2 Data analysis

Once survey data was transferred to Excel, we organised it and produced three graphs reflecting our 34 survey responses. The first graph analysed responses where participants had to rank their interest from 'very interested' to 'not interested' in using different, specified types of tourism to promote the Styx. Our second graph analysed stakeholder rankings of what they considered the most and least important tourism values. The third graph reflected what participants considered the most important tourism values when asked to select at least one.

Following each interview, responses were transcribed and grouped into themes to reflect the consensus. Themes included whether the interviewee was interested in tourism, what tourism would look like for them, how tourism could be an opportunity, and what risks were perceived.

3.3 Results

Survey results gave us useful insight around what opportunities and risks stakeholders expected from tourism promotion along the Styx River. Our first graph, shown in Figure 2 below, shows ecotourism and educational tourism were the most preferred types of tourism among respondents. In contrast, adventure, sustainable, and indigenous tourism were the least preferred.

TOURISM TYPES STAKEHOLDERS ARE INTERESTED IN

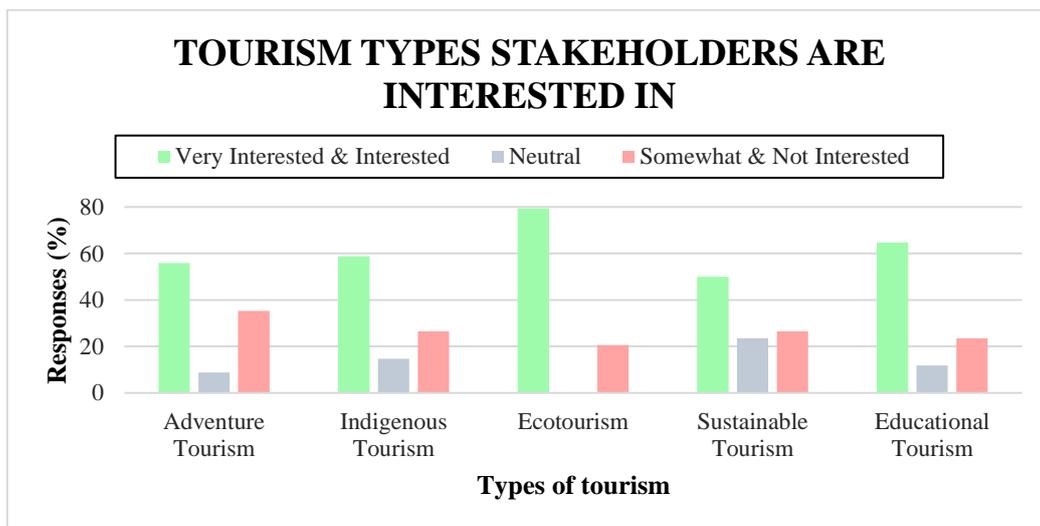■ Very Interested & Interested   ■ Neutral   ■ Somewhat & Not Interested

Figure 2: Relationship between stakeholder responses and types of tourism

Our second graph, shown below in Figure 3, highlights environmental sustainability as the most important value stakeholders believed tourism in the Corridor should encompass. Community engagement and tourist enjoyment were ranked second most important, whereas financial gain was ranked as the least important tourism value.

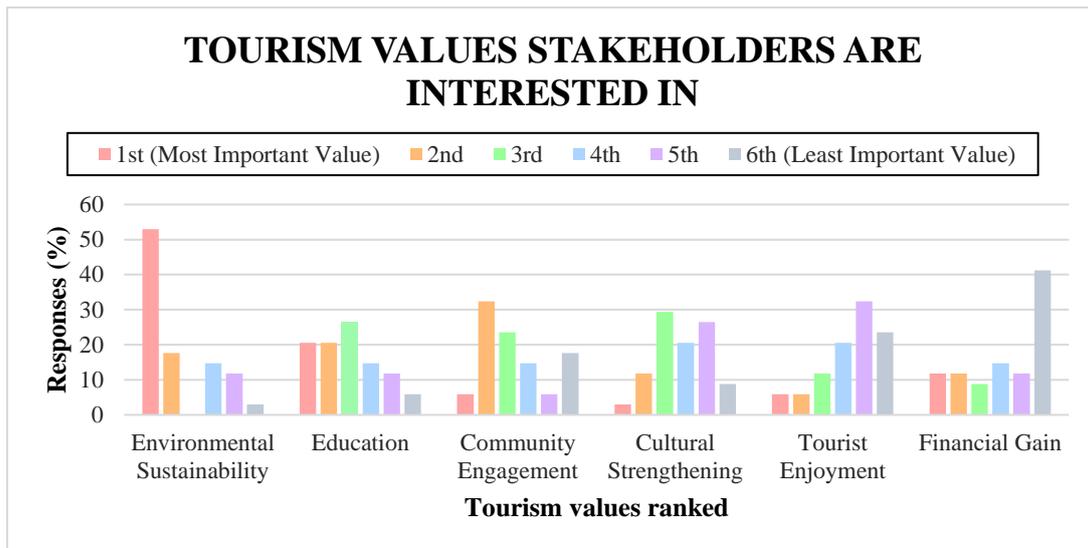**TOURISM VALUES STAKEHOLDERS ARE INTERESTED IN**

Figure 3: Relationship between stakeholder responses and tourism values

Our third graph conveys which values stakeholders considered important for promoting tourism on the Styx, as shown below in Figure 4. They determined interesting fauna was the most important value, followed by interesting flora and natural resources. In contrast, other intrinsic values were considered least important for promoting the river as a tourist destination. Participants were also given the opportunity to include additional values they felt were important for the Styx River. Responses included setting aside spaces for wellbeing, the river having a strong relevance to today, and a river system with riparian margins that have not been commodified.

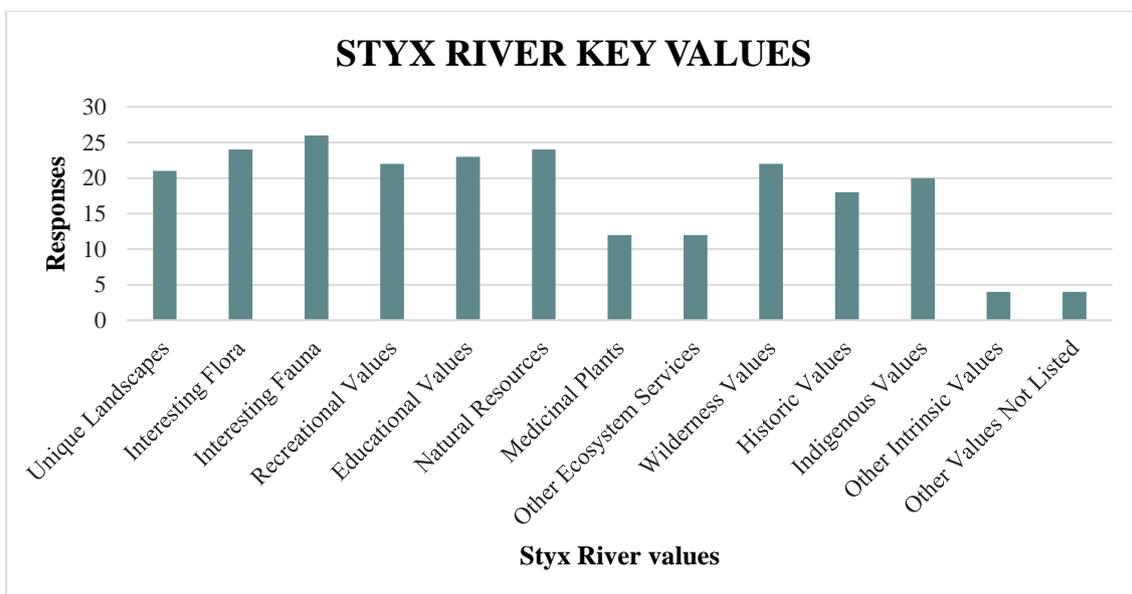**STYX RIVER KEY VALUES**

Figure 4: Relationship between stakeholder responses and values of the Styx River

Interview analysis found interviewees were generally in favour of tourism along the Styx River, especially in the form of passive tourism. This support for tourism is rooted in the opportunities and benefits it would generate. However, interviewees were also aware of the associated risks. Tourism

opportunities mentioned included the ability "to help sustain the Styx Living Laboratory Trust financially" and to provide job opportunities within local communities. Educational tourism was also considered a key opportunity to promote environmental and cultural values. It was felt this would generate improvements in the river environment of the Styx, as well as the tourists' home regions. Tours, signage, carvings, audio, and wānanga to share the wairua of the land and "who we are" were among the proposed ways of fostering these values. Engaging with youth was another opportunity highlighted within our interviews. This is seen as a way of maintaining community support for the Styx, ensuring future generations will continue protecting the river corridor. Overall, nature-based ecotourism was considered the most desirable form of tourism, along with Māori and educational tourism.

Risks mentioned during interviews included fears adventure tourism and over-commercialisation would see the Styx mirror "dare devil Queenstown," spoiling the environment. Specifically, there were fears around increased traffic and over commodification of the environment. Additionally, concerns were raised regarding potential opposition from the community who neighbour the river. Community engagement is one way to counter this, including interacting with youth through field days, education, and newsletters. This was recommended alongside confining tourism operations to specific areas of the corridor and limiting the scale of developments so to "not turn the place into a theme park." Most interviewees felt the Trust must be prepared for tourism, as tourism is "inevitable."

4. Discussion

4.1 Tourism opportunities along the Styx River

Results indicate ecotourism, Māori, and educational tourism are the most preferred to promote the Styx River. Survey responses also highlighted stakeholders considered environmental sustainability as the most important value of tourism. Findings from our results have been used to produce four different scenarios based on incorporating different types of tourism to promote the Styx River. While international tourists would be worthwhile considering in the future, these scenarios target local tourists. Stakeholder responses from interviews and the survey felt local tourism would be of greater benefit to promote and protect the river, as per the Trust's aims. This is likely because local tourism generates lower visitor numbers who are less likely to contribute towards environmental degradation. Our four scenarios include, ecotourism restoration camps, a national park, cultural experiences, and adventure experiences.

4.2 Ecotourism restoration camps

The first scenario which we recommend could be incorporated to promote tourism along the Styx River is ecotourism restoration camps. Types of tourism ecotourism restoration camps incorporates includes, educational, sustainable, Māori, and ecotourism. Whereas adventure tourism does not necessarily directly relate to ecotourism restoration camps. What ecotourism restoration camps would encompass is to provide sites where tourists can stay for extended periods and can participate in workshops and wānanga to connect with nature through an educational or cultural perspective. Shown in Figure 5 below, a site which we believe would be relevant for this scenario to take place is the Styx Mill Conservation Reserve. The opportunity ecotourism restoration camps provide is assistance with raising awareness to protect the environment and understanding of a 'living laboratory'.

Figure 5: Outline of proposed ecotourism restoration camp site

4.3 National Park

Another recommendation for promoting the Styx River as a tourist destination is the idea of a 'National Park within an urban city,' as shown in Figure 6 below. This scenario would incorporate all five types of tourism we have examined – Māori, adventure, educational, sustainable, and eco-tourism. We suggest implementing this as part of a long-term plan to promote tourism along the corridor. 'Off the beaten track' trails, cultural sites, sculptures, signage, and guided tours could be used to promote culture and sustainability throughout the park. In turn, this embraces education. Creating a 'national park within an urban city' would help protect the environment by promoting education in a way that embraces adventure and culture.

Figure 6: Outline of proposed National Park

4.4 Cultural experiences

A third scenario we recommend could be used to promote the river is cultural experiences. Types of tourism this scenario would consider includes, educational, sustainable, and Māori tourism. The best location for cultural experiences to take place we believe is the Janet Stewart Reserve and Rongoā Māori Demonstration site as highlighted below in Figure 7. This scenario would incorporate workshops to educate visitors of spiritual and medicinal practices present, and to promote relationships between the environment and Māori culture through carvings, harakeke weaving, and hāngī. Opportunities of cultural experiences is the ability to educate tourists on the importance manaakitanga and food in relation to historical and natural values of the Styx River.

Figure 7: Outline of proposed site for cultural experiences

4.5 Adventure experience

Our fourth scenario expresses the Styx Corridor's capacity to offer both 'soft' and 'hard' types of tourism (Cloke & Perkins, 1998). This scenario would incorporate using adventure tourism nearby Brooklands as shown below in Figure 8. Opportunities this scenario would provide includes the opportunity to educate tourists by facilitating kayaking along the river or lagoon to understand water safety and to respect environmental surroundings like flora and fauna. There would also be an opportunity to promote sustainable tourism by incorporating pre-existing businesses like adrenalin forest and Icelandic horse treks.
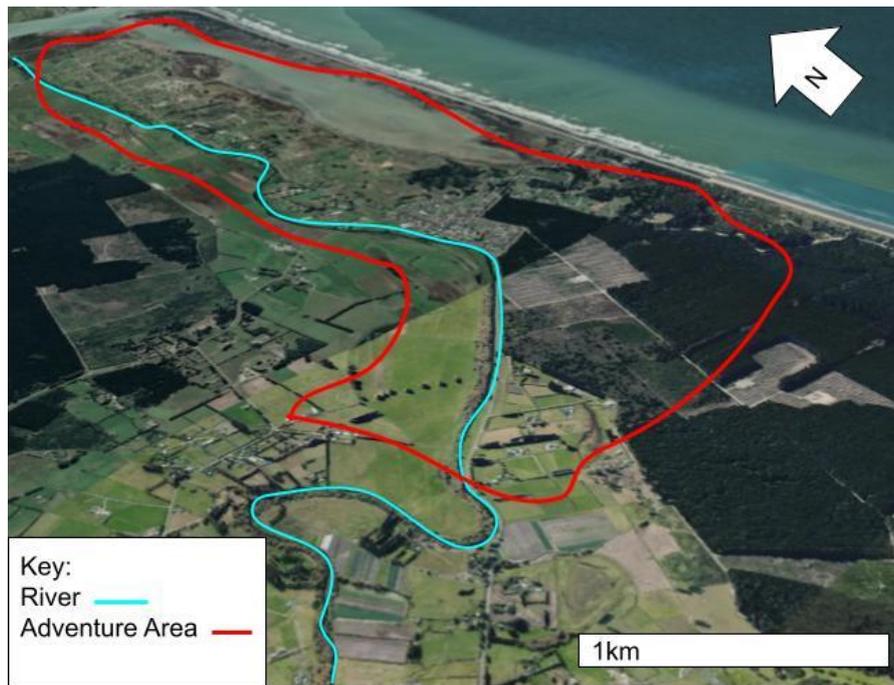
Figure 8: Outline of proposed Adventure Area

4.6 Limitations

Several limitations have impacted our research. Our survey only generated 34 responses and was heavily influenced by a limited timeframe. This meant we were unable to effectively engage with international tourists. Out of convenience, we surveyed local stakeholders. Our findings reflect this limited population. It is unlikely they accurately represent the diversity of opinions in the greater Christchurch community. Our interviews were also subject to limitations. Due to time constraints, we were only able to conduct three interviews. While these encapsulated perspectives from both mana whenua and other stakeholders, they do not reflect the wider community. Despite these limitations, we have gained a holistic overview of the opportunities, risks, and types of tourism stakeholders most associate with the promotion of tourism along the Styx River.

4.7 Future research

Conducting further research will prove beneficial in tailoring the design of future tourism developments along the Styx River. An important area of focus would be determining the length of time tourists would like to spend at the river. Activities like educational workshops and walking trails could be adjusted to cater for these preferences. Further research should also assess the viability for the Styx corridor as a destination for international tourism. We focused on local tourists because we felt they would have a lower impact on the environment, and due to temporal and fiscal limitations. However, it would be useful to understand whether overseas visitors share the same values and desires as locals. Stanford, (2009) suggests, with the right information and guidance, international visitors can responsibly explore the natural environment. A final opportunity for further research would be seeing if there is a market for virtual tours. El-Said & Aziz, (2022) discuss virtual tours as a post Covid-19 tourism solution. It would be interesting to see whether this technology could be applied to the Styx catchment to promote it as a living laboratory for people around the world, without compromising the physical environment.

5. Recommendations to the Styx Living Laboratory Trust

Recommendations we would put forward to the Trust includes ensuring local tourists are considered given they are less likely to impact the environment which was considered a risk mentioned in the results above. Another recommendation to the Trust is ensuring a variety of tourism types are used to promote the river given that majority of the types of tourism investigated in our report coincide with one another. This would also encourage diversity amongst tourism opportunities for the environment and local communities along the Styx River likely to be influenced by the presence of tourism.

6. Conclusion

Ultimately, stakeholders supported tourism promotion along the Styx River corridor. Most stakeholders were interested in tourism with low-environmental impacts. Largely, this was to ensure the river was preserved for future generations, given stakeholders agreed environmental sustainability was of the utmost importance. Key risks mentioned by stakeholders included over-commercialisation and environmental degradation. To mitigate this risk ongoing monitoring and community engagement would need to continue.

7. Acknowledgments

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Department: Geography, School of Earth and Environment, University of Canterbury

GEOG309 Styx Living Laboratory project

Consent Form for Participants

By signing below you agree to the following:

□ I have been given a full explanation of this project and have had the opportunity to ask questions.

□ I understand what is required of me if I agree to take part in the research.

□ I understand that participation is voluntary, and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.

□ I agree to the interview being audio-recorded.

□ I understand that any information or opinions I provide will be kept confidential to the research team and that any published or reported results or direct quotes will not identify the participants unless prior consent have been given.

□ I understand that information collected will be used in a research report as well as be presented at a conference in front of our Geography class, members of the community partners, and to other guests from the city and UC.

□ By signing below, I agree to participate in this research project.

Name: _____ Signed:_____ Date:_____

Department: Geography, School of Earth and Environment, University of Canterbury

GEOG309 Styx Living Laboratory project
Information Sheet for participants

Dear participant,

You are invited to participate in a research study on the Pūharakekenui/Styx River. This study is being conducted by students Jemma Boyce, Emil Collins, Sarah Jorgensen, Thomas Blakie and Tessa Rayner under the supervision of Associate Professor Daniela Liggett from the University of Canterbury ǀ Te Whare Wānanga o Waitaha (UC). The study is being conducted as a requirement for GEOG309.

What is the purpose of this research?

This research aims of exploring the possibility of developing the Pūharakekenui/Styx River area as a low-carbon nature-based tourism destination that offers community-based tourism services. We are interested in finding out about the opportunities and risks are associated with promoting the Pūharakekenui/Styx River corridor as a tourist destination.

The information collected in interviews with stakeholders will inform our examination of the risks and opportunities of promoting the Pūharakekenui/Styx River corridor as a tourist destination. It will also allow us to understand what kinds of tourism people might want to see within this area.

Why have you received this invitation?
You are invited to participate in this research because you are a key stakeholder in the Pūharakekenui/Styx River area. Participation in interview is voluntary, and you have the right to withdraw at any stage.

What is involved in participating?
Participating in this research, means that you agree to an interview in which we talk about your perspectives in relation to potential tourism developments along the Pūharakekenui/Styx River corridor. This interview will take place face-to-face or online via Zoom, and should take no longer than 30-40 minutes. You may choose not to answer any questions with which you are not comfortable. Any information or thoughts you provide will be kept confidential to the research team, and published or reported results or direct quotes will not identify you unless prior consent have been given.

Will the interview be recorded?
With your permission, the interview will be audio-recorded. The recording will be used to create a written transcript of the interview, which I will analyse as part of the research.

What if you change your mind during or after the study?
You are free to withdraw at any time. To do this, please let me know either during the interview or after the interview has finished. I will remove any information you have provided up to that point from the dataset provided you inform me of your wish to withdraw prior to 20 October.

Will the results of the study be published?
The research findings will be presented at a formal conference on 8 October to our Geography class, members of the community partners, and to other guests from the city and UC. After this conference, we will be using the interview responses to write up a group report that will be shared with the coordinators of this course.

Who can you contact if you have any questions or concerns?
If you have any questions about the research, please contact: Thomas Blakie: tbl322uclive.ac.nz. If you have concerns of the project, please contact: Daniela Liggett: daniela.liggett@canterbury.ac.nz.

What happens next?
Please review the consent form. If you would like to participate, please sign the consent form. Scan and return by email if interview by zoom, or a copy will be supplied in-person on the day on the interview.